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New Orleans Corps of Engineers
LiDAR Acquisition for the Hurricane and Storm Damage Risk Reduction System (HSDRRS),
Contract # W912P8-08-D-0028, Task Order 0020
Job # Atlantic-08-0020

Final Survey Control Report

April, 2012

Atlantic Group
2223 Drake Avenue
Suite 200
Huntsville, Alabama 35805
(256) 971-9991
www.theatlgrp.com

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1 Narrative

1.1 Introduction

A survey was performed to support the acquisition of Light Detection and Ranging (LiDAR) data for the New Orleans Corps of Engineers to be utilized for a variety of purposes. The project entails the acquisition of LiDAR for approximately 418.4 square miles in the Parishes of Jefferson, Orleans, St. Bernard and St. Charles. The data will be used to support interior drainage modeling. The purpose of this project is to obtain measurements of the bare ground surface, as well as top of surface feature elevation data for providing geometry input to USACE hydrodynamic and other numerical models as well as for performing economic related assessments.

1.2 Applicable Standards

The following standards apply to this geodetic control survey:

GPS Control Part 1, "Reporting Methodology (FGDC-STD-007.1)," and Part 2, "Standards for Geodetic Networks (FGDC-STD-007.2)," of the Geospatial Positioning Accuracy Standards, published by the FGDC in 1988 will be used for determining and reporting the accuracy of horizontal and vertical coordinates for geodetic control points (survey monuments).

NOAA Technical Memorandum NOS NGS-58, "Guidelines for Establishing GPS-Derived Ellipsoid Heights (Standards: 2 cm and 5 cm)," dated November 1997.

2 Ground Network Control Survey

2.1 Network Survey

2.1.1 Network Monumentation

A GPS control network was performed for the purposes of establishing three-dimensional coordinates on each ground control point. The control network included a combination of eight (8) National Geodetic Survey (NGS) Control Monuments **S 188 (PID AU0520), A 148 (PID AU0429), V 375 (PID AT0760), L 278 (PID AT0332), G 95 (PID BJ0710), C 189 (PID BH119), B 369 (PID AU2163), 5720+98.12=PLMS 597 (PID DH3214)** and eight (8) National Geodetic Survey (NGS) CORS stations **BVHA, COVG, ENG5, HOUM, LMCN, LWES, MSSC, NOLA** as primary network control and Twenty (20) Temporary Control Points (TCP) set as secondary control. All Temporary Control Points (TCP) are set with an 18" long; ½" rebar, and capped with a 2" aluminum cap and located on the HSDRRS levees within the project area except L LAKEFRONT. Each point except LAKEFRONT was stamped using with its own unique name upon each cap. LAKEFRONT was set at the Lakefront Airport for the LiDAR calibration flight over the airport only. All NGS Monuments being used as primary control are Louisiana Height Modernization Survey Stations.

The following Table presents a summary of the input NGS control monuments as documented by NGS datasheets in Appendix D.

2006.81 Adjustment						
Designation	**PID**	**Latitude**	**Longitude**	**Ortho Height (meters)**	**Ellipsoid Height (meters)**	**Geoid Height (meters)**
S 188	AU0520	29 58 00.31254	090 13 45.30476	2.31	-23.754	-26.06
A 148	AU0429	29 59 20.98723	090 05 14.21505	1.75	-24.384	-26.1
V 375	AT0760	29 55 01.55072	089 58 18.04269	0.68	-25.235	-25.9
L 278	AT0332	29 52 34.17140	089 53 45.38533	2.07	-23.706	-25.74
G 95	BJ0710	30 00 02.35266	090 25 44.92711	8.25	-17.923	-26.16
C 189	BH1119	30 04 24.49882	089 50 25.90036	0.61	-25.68	-26.29
B 369	AU2163	29 46 05.46850	090 06 01.68883	1.80	-23.67	-25.45
5720+98.12=PLMS 597	DH3214	29 56 24.28492	090 19 29.10957	8.33	-17.678	-25.99

Positioning data shown above are existing published values from the NOAA's National Geodetic Survey (NGS) Database as adjusted 2006.81. The 2004.65 Adjustment for each NGS monuments (except 5720+98.12=PLMS 597) can be obtained from the NGS Datasheets located in Appendix D

A graphical representation of all primary control points is provided in Figure 1A and a graphical representation of all control points is provided in Figure 1B:

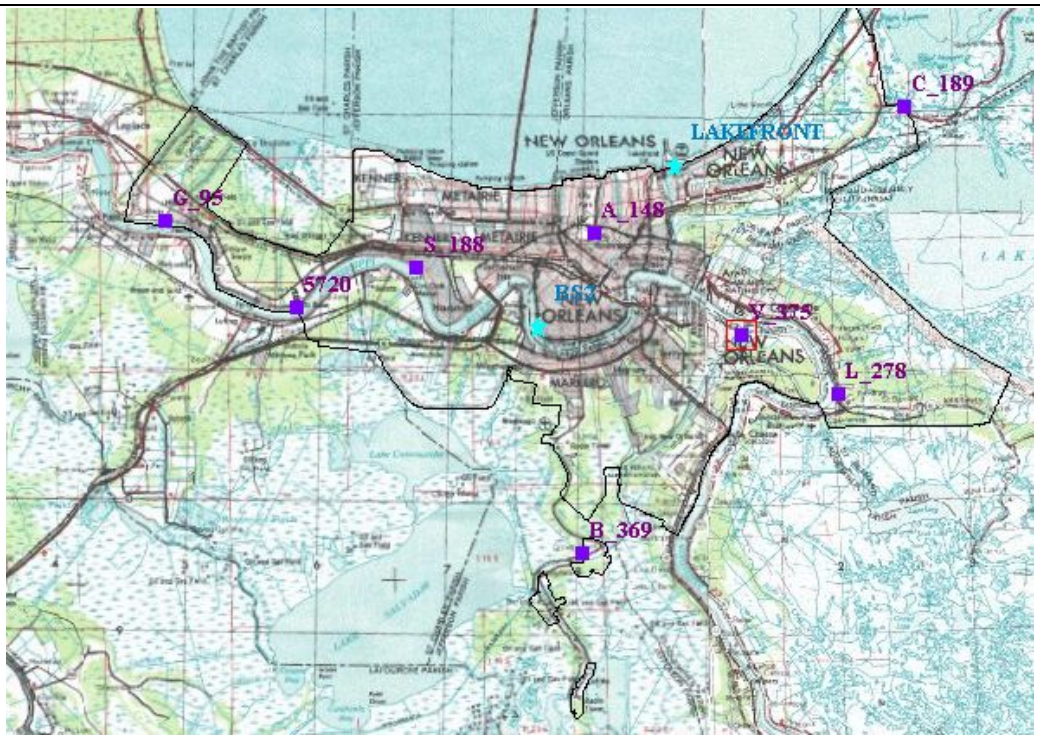

Figure 1A: Primary Control Points

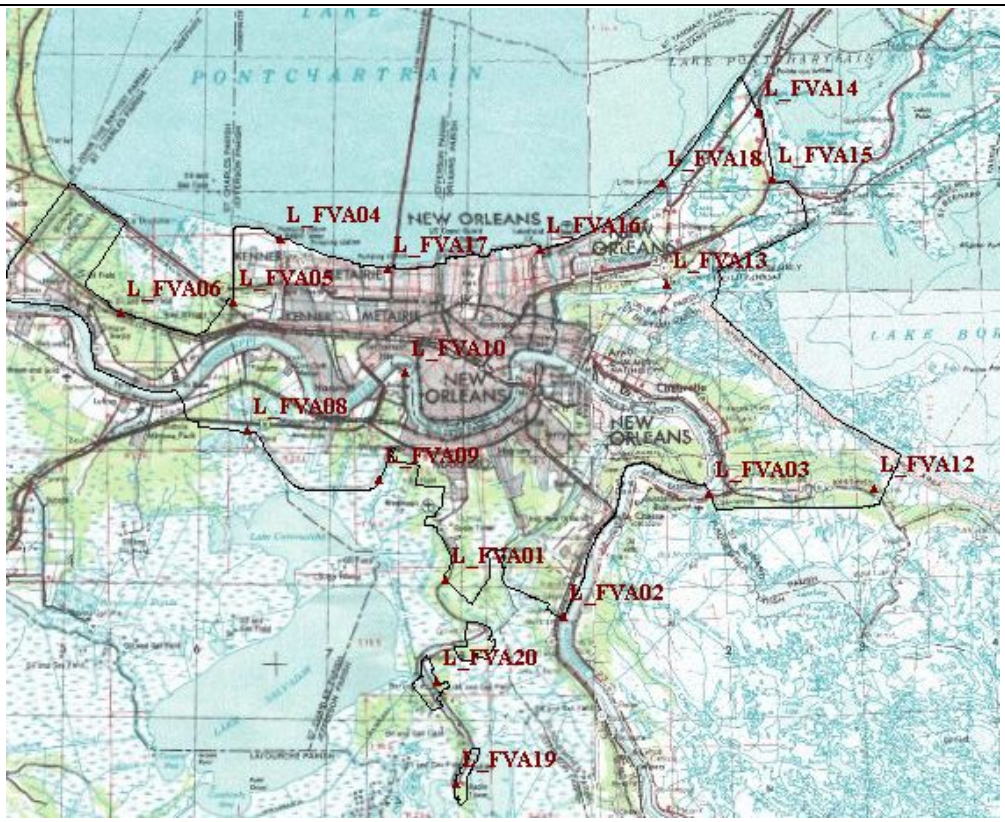

Figure 1B: Secondary (TCP) Control Points

2.1.1 Network GPS Station Collection

GPS observations at all ground control points in the network were made with Leica System 500 dual-frequency GPS-receivers w/ Leica AT502 antenna configured to log data at 1 Hz, and at 10 degrees mask between February 19, 2012 and March 25, 2012. Session lengths were based upon the distance between points and were set for a minimum of one hour per every 10 km. Some baselines were collected during LiDAR acquisition, and therefore, are much longer than typically required.

GPS Session Forms of each control point used may be found in Appendix B.

2.1.2 Data Processing and Analysis

Data collected for each GPS session was post processed using GrafNet 8.30.2105 with their respective GPS antenna type, and antenna height reading. The RMS values for the latitude, longitude and ellipsoid heights for all results was reviewed to ensure that they are within acceptable limits. Tabulated summaries of the output station coordinates resulting from the survey are listed below in sections 2.1.2.1 and 2.1.2.2.

Two adjustments were made during the network development. Each adjustment reports baseline RMSE and residual values at the control points.

The network development involved performing a minimally constrained adjustment, holding NGS Monument **A 148** as a horizontal and vertical control point. This minimally constrained adjustment allowed for blunders and errors to appear within the network. These blunders were analyzed and the baselines were rejected if they had high residuals against other redundant baselines. In all, a total of one hundred and twenty-seven (127) baselines were kept in the minimally constrained adjustment.

Seventeen (17) control points within the network were then fully constrained for a final network adjustment, holding NGS Monuments/CORS **5720+98.12=PLMS 597, A 148, B 369, BVHS, COVG, ENG5, GRIS, HOUM, L 278, LMCN, LWES, MSSC, NOLA, S 188** and **V 375** as horizontal controls, and NGS Monuments **A 148, B 369, C 189** and **G 95** as vertical controls. Geoid09 was utilized during GPS processing and all baselines were re-evaluated. In all, one hundred and thirty-one (131) baselines were kept in the fully constrained adjustment after the final network analyses. Final results are referenced to the current Geoid09 model and output values provided in NAVD88 (2004.65) and NAVD88 (2006.81) Epoch.

The complete network adjustments (minimally and fully constrained adjustments) can be found in Appendices E and F. A tabulated summary of the final output station coordinates resulting from the survey are listed below in sections 2.1.2.1 and 2.1.2.1.

2.1.2.1 Output Station (State Plane Coordinate System)

The control in Louisiana South Plane Coordinate System (SPCS) US Feet; NAVD88 (Geoid09) Orthometric US Feet, are listed below:

Station	Easting	Northing	Elev 2004.65
5720+98.12=PLMS 597	3600268.958	525107.395	27.360
A_148	3675283.440	543696.075	5.661
B_369	3671973.640	463295.898	5.855
BS2	3660675.408	520128.687	22.221
BVHS	3894798.421	309482.265	32.167
C_189	3752992.497	575287.012	1.873
COVG	3670759.043	720676.121	73.286
ENG5	3721846.559	504152.168	28.696
G_95	3567032.567	546859.228	26.950
GRIS	3719590.146	281033.483	27.226
HOUM	3474618.920	397729.355	45.541
L_278	3736367.061	503313.629	6.789
L_FVA01	3667033.542	477464.465	14.227
L_FVA02	3696100.898	468427.521	21.950
L_FVA03	3732038.409	498622.057	19.492
L_FVA04	3625916.679	561944.883	16.407
L_FVA05	3614365.366	546441.424	3.627
L_FVA06	3586432.821	543454.333	15.608

L_FVA08	3617550.134	514342.334	13.016
L_FVA09	3650266.538	502393.805	12.822
L_FVA10	3656805.383	529060.011	25.858
L_FVA12	3773235.593	500151.352	9.846
L_FVA13	3721720.385	550579.877	15.043
L_FVA14	3744219.411	593458.613	17.768
L_FVA15	3747915.089	576615.435	18.720
L_FVA16	3690354.765	559208.586	18.780
L_FVA17	3652364.729	554734.271	16.169
L_FVA18	3720344.823	575774.327	18.612
L_FVA19	3669321.789	426983.208	5.010
L_FVA20	3664647.398	452184.545	6.777
LAKEFRONT	3695106.084	560653.058	2.720
LMCN	3495143.390	275191.110	31.804
LWES	3592587.460	510595.842	33.472
MSSC	3823032.866	686018.638	50.871
NOLA	3665080.659	523659.530	84.797
S_188	3630421.594	535086.141	7.626
V_375	3712188.566	157858.377	2.208

2.1.2.2 Output Station (State Plane Coordinate System)

The control in Louisiana South Plane Coordinate System (SPCS) US Feet; NAVD88 (Geoid09) Orthometric US Feet, are listed below:

Station	Easting	Northing	Elev 2006.81
5720+98.12=PLMS 597	3600268.958	525107.395	27.413
A_148	3675283.440	543696.075	5.713
B_369	3671973.640	463295.898	5.826
BS2	3660675.408	520128.687	22.277
BVHS	3894798.421	309482.265	32.223
C_189	3752992.497	575287.015	1.998
COVG	3670759.043	720676.121	73.338
ENG5	3721846.559	504152.168	28.751
G_95	3567032.564	546859.231	27.016
GRIS	3719590.146	281033.483	27.282
HOUM	3474618.920	397729.355	45.597
L_278	3736367.061	503313.632	6.861
L_FVA01	3667033.542	477464.468	14.234

L_FVA02	3696100.898	468427.521	21.989
L_FVA03	3732038.405	498622.054	19.551
L_FVA04	3625916.679	561944.883	16.463
L_FVA05	3614365.366	546441.424	3.683
L_FVA06	3586432.821	543454.333	15.667
L_FVA08	3617550.134	514342.334	13.059
L_FVA09	3650266.541	502393.805	12.851
L_FVA10	3656805.383	529060.011	25.910
L_FVA12	3773235.597	500151.349	9.921
L_FVA13	3721720.385	550579.880	15.148
L_FVA14	3744219.414	593458.613	17.873
L_FVA15	3747915.093	576615.438	18.835
L_FVA16	3690354.765	559208.590	18.859
L_FVA17	3652364.729	554734.271	16.225
L_FVA18	3720344.823	575774.331	18.721
L_FVA19	3669321.792	426983.208	5.036
L_FVA20	3664647.402	452184.545	6.803
LAKEFRONT	3695106.084	560653.058	2.776
LMCN	3495143.390	275191.110	31.860
LWES	3592587.460	510595.842	33.528
MSSC	3823032.866	686018.638	50.923
NOLA	3665080.659	523659.530	84.849
S_188	3630421.594	535086.141	7.678
V_375	3712188.570	517907.025	2.264

3 GPS Control – Airborne Acquisition Support

3.1 Airborne Control Points (Base Station)

During airborne acquisitions, two (2) or more GPS Units were collecting observations concurrently during all flights. Ground control points used during airborne acquisitions were National Geodetic Survey (NGS) Monuments **S 188 (PID AU0520), A 148 (PID AU0429), V 375 (PID AT0760), G 95 (PID BJ0710), B 369 (PID AU2163)** and Atlantic Group set points **BS2** and **LAKEFRONT**. All GPS observations on NGS Monuments were made with a Leica SR530 dual-frequency GPS-receivers w/ Leica AT502 antenna configured to log data at 1 Hz or less, and at 10 degrees mask, for a minimum duration of fifteen (15) minutes prior to flights and a minimum duration of fifteen (15) minutes post flights.

A graphical representation of all the control points is provided in Figure 2:

Figure 2: Airborne Control Points

4 LiDAR Test Points and FVA Check Points

4.1 Ground Cover Categories Test Points

Fundamental Vertical Accuracy (FVA), Supplemental Vertical Accuracy (SVA), and Consolidated Vertical Accuracy (CVA) test points were collected using the following ground cover in the study area:

- Bare-earth and low grass
- High grass and ag/crops
- Cheniers and low trees
- Wetland shrub/scrub and wetland forests
- Fully covered by trees
- Urban areas
- HSDRRS levees

A minimum of 20 test points were collected for each land cover (except the HSRDDS Class 7) which were spread throughout the project area to achieve an even distribution of points. A minimum of 50 test points were collected for the HSRDDS Class 7. FVA Check Points were also collected throughout the area to achieve an even distribution.

4.1.1 Real Time Kinematic (RTK) Test Point Collection

All ground cover category test points were collected using Real Time Kinematic (RTK) method. A Leica SR530 dual-frequency GPS-receivers w/ Leica AT502 antenna configured as a master reference station logging data at 1 Hz, and at 10 degrees mask, in conjunction with a Pacific Crest base radio occupied two (2) NGS Control Monument (**A 148** and **V375**) and eleven (11) Atlantic Group set points (**LFVA1, LFVA3, LFVA5, LFVA6, LFVA8, LFVA9, LFVA12, LFVA13, LFVA15, LFVA17** and **LFVA20**) providing master reference positioning for the rover GPS system. A second Leica SR530 dual-frequency GPS-receivers w/ Leica AT502 antenna configured as a rover system logging data at 1 Hz, and at 10 degrees mask was used to collect GPS observations for test points. Additional Temporary Control Points (TCP) were set upon the HSDRRS levees within the project area and positioning data was collected using Real Time Kinematic (RTK). Ten (10) shots were collected on each point and re-collected ten (10) additional shots two (2) hours later using a different satellite configuration. All Temporary Control Points (TCP) set were with an 18" long; ½" rebar, and capped with a 2" aluminum cap and stamped with its own unique name upon each cap.

All observations were conducted between February 26, 2012 and March 5, 2012.

Test Point Final Solutions may be found in Appendix H.

A graphical representation of all RTK Test Points is provided in figure 3:

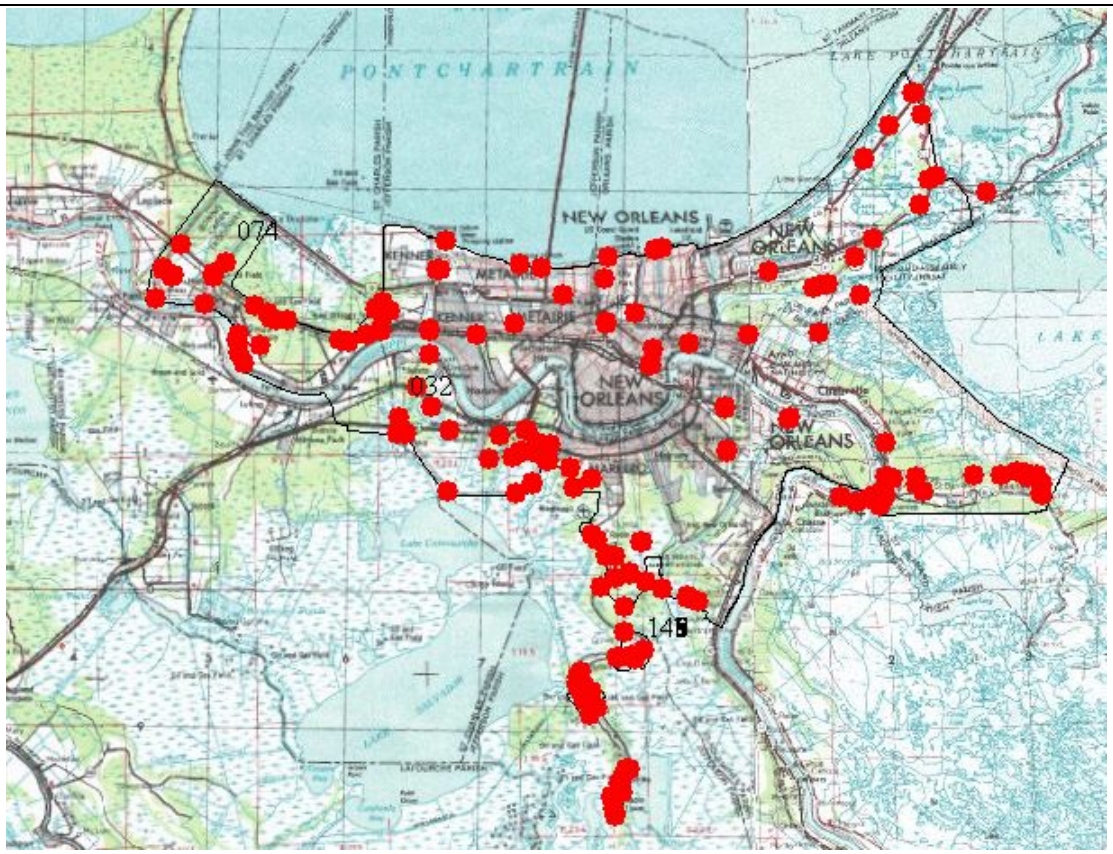

Figure 3: Ground Cover Category Test Points

4.1.2 Real Time Kinematic (RTK) Test Points Data Processing and Analysis

Data collected was processed using Leica Geosystems SKI-Pro Version 3.0 with their respective GPS antenna type, and antenna height reading. Final coordinates were output in Louisiana South State Plane Coordinate System (SPCS), NAVD88, Orthometric and may be found in Appendix H.

Results obtained from post processing of Temporary Control Points (TCP) were then averaged to provide final position for each point. A tabulated summary of the final coordinates are listed below in sections 4.1.2.1 and 4.1.2.2.

4.1.2.1 Output Station (State Plane Coordinate System)

The control in Louisiana South State Plane Coordinate System (SPCS) US Feet; NAVD88 (Geoid09) Orthometric US Feet, are listed below:

Station	Easting	Northing	Elev 2004.65
LFVA7	3646374.67140	500051.41310	13.10630
LFVA11	3630018.51340	500691.34520	14.04970
LFVA21	3733362.30700	499688.76070	19.42200
LFVA22	3735768.11230	499789.38700	19.27280
LFVA23	3735650.19040	504211.37880	19.67710
LFVA24	3728587.98570	497975.85850	20.08700
LFVA25	3724794.46460	499153.22350	19.59090
LFVA27	3772170.46200	504286.30610	9.41020
LFVA28	3769756.74520	504958.82260	9.46230
LFVA29	3767598.79070	505372.21580	9.11980
LFVA31	3613232.59710	545165.14020	10.83190
LFVA32	3614305.88520	542856.50540	8.83650
LFVA33	3591212.53200	541957.86330	15.51750
LFVA34	3583466.12530	545174.50050	15.42350
LFVA35	3579104.76730	537148.72720	27.24660
LFVA36	3571155.15010	545656.84090	28.33410
LFVA37	3664819.44030	489960.45210	13.87440
LFVA38	3677698.50150	478720.95070	12.61750
LFVA39	3681558.62030	476823.73100	13.36540
LFVA40	3659565.10620	506199.44150	13.65650
LFVA41	3619829.82670	514301.27080	13.73310
LFVA42	3647325.60170	555216.03640	16.32330
LFVA43	3629297.00400	560902.23430	16.47690
LFVA44	3742333.76580	596879.47090	17.86030
LFVA45	3719659.63180	550097.76650	13.90390
LFVA46	3718091.35080	549730.06960	14.88400
LFVA47	3681668.52360	559409.64960	18.44270

LFVA48	3680030.75090	559087.14980	18.16660
LFVA49	3668494.40090	557267.01670	18.78300
LFVA50	3712654.57210	518218.37450	19.54750

4.1.2.2 Output Station (State Plane Coordinate System)

The control in Louisiana South State Plane Coordinate System (SPCS) US Feet; NAVD88 (Geoid09) Orthometric US Feet, are listed below:

Station	Easting	Northing	Elev 2006.81
LFVA07	3646374.67140	500051.41310	13.13590
LFVA11	3630018.51340	500691.34520	14.09230
LFVA21	3733362.30710	499688.76070	19.48110
LFVA22	3735768.11230	499789.38700	19.33190
LFVA23	3735650.19230	504211.37640	19.73780
LFVA24	3728587.98570	497975.85850	20.14600
LFVA25	3724794.46470	499153.22350	19.65000
LFVA27	3772170.46200	504286.30610	9.48570
LFVA28	3769756.74520	504958.82260	9.53780
LFVA29	3767598.79070	505372.21580	9.19530
LFVA31	3613232.59710	545165.14020	10.88770
LFVA32	3614305.88520	542856.50540	8.89220
LFVA33	3591212.53190	541957.86330	15.57660
LFVA34	3583466.12530	545174.50050	15.48250
LFVA35	3579104.76730	537148.72720	27.30560
LFVA36	3571155.15380	545656.83710	28.39040
LFVA37	3664819.44030	489960.45210	13.88100
LFVA38	3677698.50150	478720.95070	12.62410
LFVA39	3681558.62030	476823.73100	13.37200
LFVA40	3659565.10620	506199.44150	13.68600
LFVA41	3619829.82670	514301.27080	13.77580
LFVA42	3647325.60170	555216.03640	16.37910
LFVA43	3629297.00410	560902.23430	16.53270
LFVA44	3742333.90810	596879.41250	17.94170
LFVA45	3719659.63180	550097.76650	14.00890
LFVA46	3718091.35080	549730.06960	14.98900
LFVA47	3681668.52360	559409.64960	18.49520
LFVA48	3680030.75090	559087.14980	18.21910
LFVA49	3668494.40090	557267.01660	18.83550
LFVA50	3712654.57210	518218.37450	19.60330

4.2 Fundamental Vertical Accuracy (FVA) Check Point Collection

GPS observations for the Fundamental Vertical Accuracy (FVA) Check Points were made with Leica SR530 dual-frequency GPS-receivers w/ Leica AT502 antenna configured to log data at 1 Hz, and at 10 degrees mask, for a minimum duration of twenty (20) minutes. All check points were a 60d nail set flush with the existing ground and a witness wood stake placed near the point for future recovery.

All observations were conducted between March 8, 2012 and March 25, 2012.

GPS Session Forms and Field Sketches for FVA Check Points may be found in Appendix B, and Appendix C.

A graphical representation of all RTK Test Points is provided in figure 4:

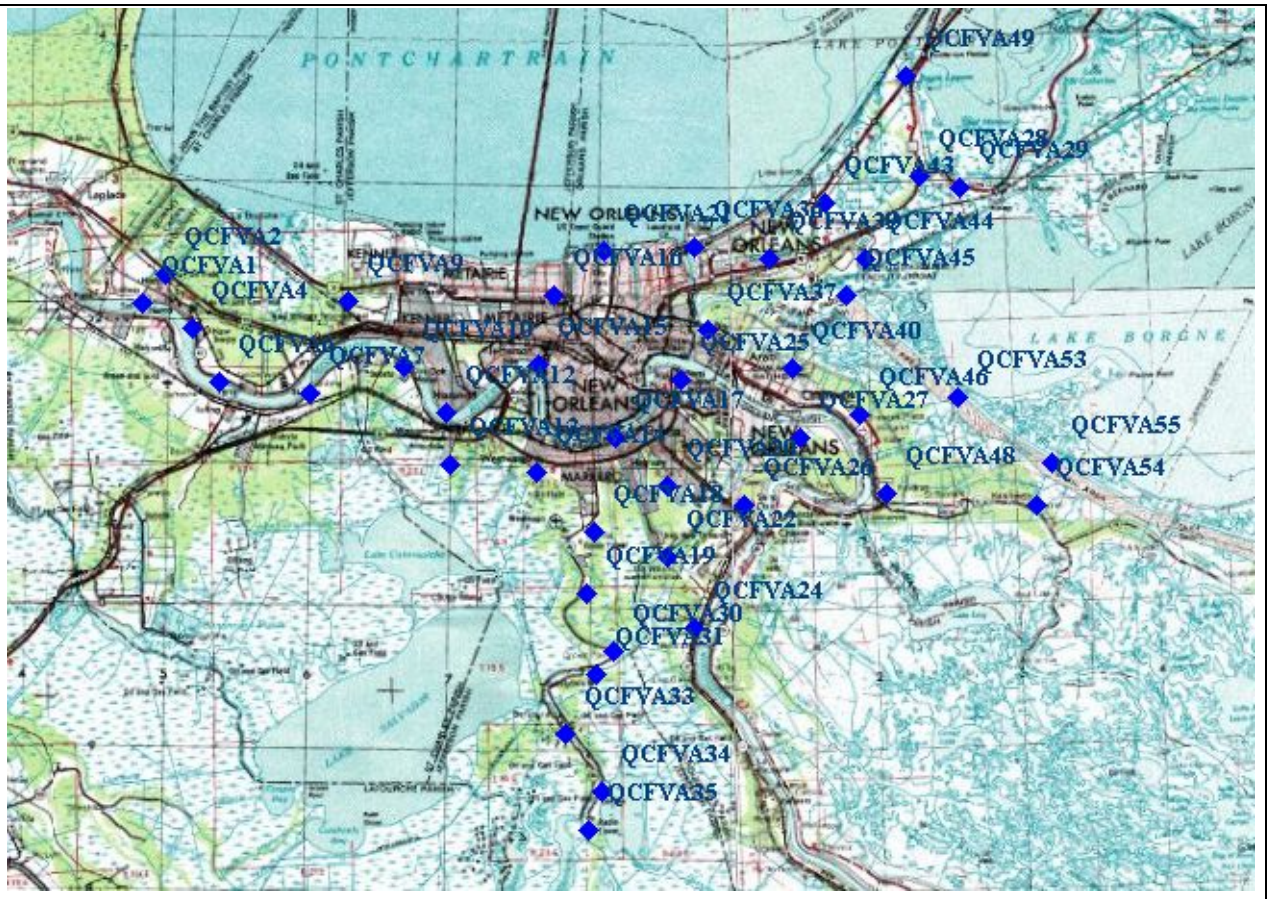

Figure 4: FVA Check Points

4.2.1 Fundamental Vertical Accuracy (FVA) Check Points Data Processing and Analysis

Data collected during each Fundamental Vertical Accuracy (FVA) Static GPS session was uploaded to the National Geodetic Survey's (NGS) On-Line Positioning User Service (OPUS-RS) server with their respective GPS antenna type, and antenna height reading. The resulting OPUS-RS solution for each observation referenced to NAD-83 (North American Datum) and can be found in Appendix H. The standard deviation values for the latitude, longitude and ellipsoid heights for each result were reviewed to ensure that they are within acceptable limits. Ellipsoidal elevations were transformed into orthometric heights utilizing Geoid09 supplied by NGS. The final results were then uploaded to the National Geodetic Survey's (NGS) Horizontal Time Dependent Positioning (HTDP) software to obtain coordinate values for Epoch dates 2004.65 and 2006.81. A tabulated summary of the final output station coordinates resulting from the survey are listed below in sections 4.2.1.1 and 4.2.1.2.

4.2.1.1 Output Station (State Plane Coordinate System)

The control in Louisiana South State Plane Coordinate System (SPCS) US Feet; NAVD88 (Geoid09) Orthometric US Feet, are listed below:

Station	Easting	Northing	Elev 2004.65
QC FVA1	3566884.087	545977.563	18.924
QC FVA2	3572369.909	553015.896	5.925
QC FVA4	3578464.212	540256.053	8.198
QC FVA6	3584719.586	528168.188	14.238
QC FVA7	3605735.258	525454.671	7.934
QC FVA9	3614539.389	546739.628	-4.995
QC FVA10	3627203.685	531521.191	9.654
QC FVA12	3637163.765	520682.019	16.981
QC FVA13	3637942.181	508742.885	-3.626
QC FVA14	3657800.568	507073.685	-2.630
QC FVA15	3658616.559	531936.590	5.678
QC FVA16	3661822.686	547994.963	-4.427
QC FVA17	3676114.825	515204.850	22.589
QC FVA18	3671311.528	493450.621	0.870
QC FVA19	3669321.920	479236.944	2.397
QC FVA20	3688215.566	504171.376	-4.492
QC FVA21	3673407.585	558268.292	6.478
QC FVA22	3688279.140	487682.963	4.647
QC FVA24	3694578.645	471162.252	-0.401
QC FVA25	3691504.180	528478.634	4.049
QC FVA26	3705958.080	499691.241	-2.749
QC FVA27	3718857.911	515218.158	-2.135
QC FVA28	3746272.036	575690.677	2.267
QC FVA29	3755531.162	572947.556	2.238
QC FVA30	3675651.850	465671.588	2.418
QC FVA31	3671536.558	460303.064	1.781

QC FVA33	3664723.462	446554.412	2.430
QC FVA34	3673086.024	433290.845	0.135
QC FVA35	3669910.403	424638.792	0.473
QC FVA36	3694345.302	559268.836	-3.091
QC FVA37	3697669.764	539871.254	-4.982
QC FVA39	3711562.064	556318.846	-7.436
QC FVA40	3717121.118	531165.622	-1.160
QC FVA43	3724626.139	569297.435	-2.258
QC FVA44	3733992.721	556586.993	0.024
QC FVA45	3729264.934	547942.732	7.325
QC FVA46	3732503.316	520513.120	-0.051
QC FVA48	3738916.440	502186.531	5.526
QC FVA49	3743336.276	598389.556	8.266
QC FVA53	3755022.200	524537.569	9.847
QC FVA54	3773610.719	499498.681	2.021
QC FVA55	3777004.162	509458.490	11.024

4.2.1.2 Output Station (State Plane Coordinate System)

The control in Louisiana South State Plane Coordinate System (SPCS) US Feet; NAVD88 (Geoid09) Orthometric US Feet, are listed below:

Station	Easting	Northing	Elev 2006.81
QC FVA1	3566884.098	545977.561	18.918
QC FVA2	3572369.920	553015.894	5.919
QC FVA4	3578464.223	540256.051	8.191
QC FVA6	3584719.597	528168.186	14.231
QC FVA7	3605735.270	525454.668	7.927
QC FVA9	3614539.401	546739.625	-5.001
QC FVA10	3627203.696	531521.188	9.648
QC FVA12	3637163.777	520682.016	16.974
QC FVA13	3637942.192	508742.882	-3.632
QC FVA14	3657800.578	507073.683	-2.636
QC FVA15	3658616.570	531936.587	5.672
QC FVA16	3661822.697	547994.960	-4.433
QC FVA17	3676114.836	515204.847	22.582
QC FVA18	3671311.539	493450.618	0.864
QC FVA19	3669321.931	479236.941	2.390
QC FVA20	3688215.577	504171.373	-4.498
QC FVA21	3673407.597	558268.289	6.472

QC FVA22	3688279.151	487682.960	4.641
QC FVA24	3694578.656	471162.249	-0.407
QC FVA25	3691504.192	528478.631	4.042
QC FVA26	3705958.090	499691.239	-2.755
QC FVA27	3718857.922	515218.155	-2.142
QC FVA28	3746272.047	575690.674	2.260
QC FVA29	3755531.173	572947.553	2.232
QC FVA30	3675651.860	465671.585	2.411
QC FVA31	3671536.569	460303.061	1.774
QC FVA33	3664723.473	446554.409	2.423
QC FVA34	3673086.034	433290.842	0.129
QC FVA35	3669910.414	424638.789	0.466
QC FVA36	3694345.314	559268.833	-3.098
QC FVA37	3697669.775	539871.252	-4.988
QC FVA39	3711562.075	556318.843	-7.442
QC FVA40	3717121.130	531165.619	-1.166
QC FVA43	3724626.151	569297.433	-2.265
QC FVA44	3733992.733	556586.990	0.017
QC FVA45	3729264.946	547942.729	7.319
QC FVA46	3732503.328	520513.117	-0.057
QC FVA48	3738916.451	502186.528	5.519
QC FVA49	3743336.288	598389.553	8.260
QC FVA53	3755022.211	524537.566	9.840
QC FVA54	3773610.730	499498.678	2.015
QC FVA55	3777004.172	509458.487	11.018

5 National Geodetic Survey (NGS) Network Accuracies

Coordinate accuracies are the standard deviations reported by single baseline analysis using Rapid Static GPS (RSGPS) software. RSGPS employs more aggressive algorithms to resolve carrier phase ambiguities but has more stringent data continuity and geometry requirements.

5.2 OPUS-RS Network Accuracy

OPUS accuracies are reported as peak-to-peak error for STATIC or standard deviations estimates for RAPID-STATIC (OPUS-RS). Absent of any warning messages, the best estimates of coordinate accuracies for RAPID-STATIC are the standard deviations reported by single baseline analysis. NGS experiments indicated that the actual error is less than these estimated accuracies more than 95 percent of the time, RSGPS statistics.

5.2.1 Station Accuracies

OPUS-RS Network Accuracies are provided within the extended output for each network result. The following table is a tabulated summary of the horizontal and vertical accuracy of each network as specified by NOAA's National Geodetic Survey (NGS).

The network accuracies:

CONTROL POINT	Horizontal (m)	Vertical (m)
QC FVA1	0.00424	0.05839
QC FVA2	0.00516	0.03217
QC FVA4	0.00324	0.02488
QC FVA6	0.00589	0.03195
QC FVA7	0.00393	0.03247
QC FVA9	0.00281	0.01649
QC FVA10	0.00318	0.05117
QC FVA12	0.00449	0.03726
QC FVA13	0.00451	0.02388
QC FVA14	0.00441	0.03138
QC FVA15	0.00376	0.02358
QC FVA16	0.00445	0.03404
QC FVA17	0.00400	0.03433
QC FVA18	0.00364	0.02685
QC FVA19	0.00591	0.03822
QC FVA20	0.00346	0.03541
QC FVA21	0.00418	0.02165
QC FVA22	0.00531	0.04381
QC FVA24	0.00577	0.03613
QC FVA25	0.00395	0.02238
QC FVA26	0.00426	0.02848
QC FVA27	0.00599	0.03656
QC FVA28	0.00439	0.02388
QC FVA29	0.00465	0.03407
QC FVA30	0.00499	0.03480
QC FVA31	0.01053	0.04403
QC FVA33	0.00254	0.01579
QC FVA34	0.00341	0.01944
QC FVA35	0.00378	0.02241
QC FVA36	0.00441	0.02286
QC FVA37	0.00327	0.01873
QC FVA39	0.00411	0.03172
QC FVA40	0.00281	0.04688
QC FVA43	0.00420	0.03401

QC FVA44	0.00500	0.02991
QC FVA45	0.00279	0.01525
QC FVA46	0.00266	0.01970
QC FVA48	0.00511	0.02563
QC FVA49	0.00389	0.02783
QC FVA53	0.00329	0.02425
QC FVA54	0.00523	0.04042
QC FVA55	0.00349	0.02353

Appendix A: GPS STATION DESCRIPTION FORMS

ATLANTIC GROUP
Remote Sensing and
Land Information Solution

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	5720+98,12=PLMS 597	DH3214	
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
PLMS 597 1981		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	525107.395	3600268.958	27.36	**2006.81**	525107.395	3600268.958	27.413

Latitude:	29 56 24.2N	**Longitude:**	90 19 29.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Luling	St Charles Parish	Louisiana

To reach the station, begin at the:

intersection of Interstate 310 and US-61 N/E Airline Hwy; Head west on US-61 N/E Airline Hwy toward LA-50 S/Almedia Rd for 0.7 miles to the intersection of Almedia Rd; Take the 1st left onto Almedia Rd for 0.9 miles to River Rd; Turn right onto River Rd for 1.9 miles to the station on the left.

Station is located:

The station is a 3.5 round brass cap set in concrete 0.5' below ground surface stamped PLMS 597 1987 set in a ccenterlin fo levee about 125' southeat of centerlin of hwy 48 , 135' northeast of a levee station marker post 5720.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0029	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	A 148	AU0429	Scott McKerley

Exact Stamping *(photo in survey report)*	Reference Point is:		
A 148 1951		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	543696.075	3675283.44	5.661	**2006.81**	543696.075	3675283.44	5.713

Latitude:	29 59 20.9N	Longitude:	90 05 14.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Parish	Louisiana

To reach the station, begin at the:

intersection of Hwy 90/North Broad St and St Bernard Ave; Head southwest on N Broad St toward Esplanade Ave for 0.6 miles to the intersection for Esplanade Ave;Turn right onto Esplanade Ave for 0.9 miles;Turn right onto Wisner Blvd for 0.4 miles; Slight right onto Desaix Blvd the station will be on the right.

Station is located:

At the intersection of Isner and De Saix Boulevards in top of and 9.8 m (32.2 ft) west of the east end of the south concrete sidewalk of the De Saix Boulevard bridge spanning bayou Saint John, directly over the south end of the most easterly of 2 piers under the bridge, 50.0 m (164.0 ft) east of the centerline of the northbound lanes of Wisner Boulevard, 1.2 m (3.9 ft) south of the south curb of De Saix Boulevard, and 0.2 m (0.7 ft) above the level of De Saix Boulevard.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-D-0028 D0#0028	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	B 369	AU2163	Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
B 369 1984		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	463295.898	3671973.64	5.855	**2006.81**	463295.898	3671973.64	5.826

Latitude:	29 46 05.4N	**Longitude:**	090 06 01.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Lean Lafitte	Jefferson Parish	Louisiana

To reach the station, begin at the:

Heading west on US-90 BUS W; Take exit 4B toward Louisiana 45/Barataria Blvd 0.3 miles;
Merge onto Westbank Expy for 0.3 miles;Turn left onto LA-45 S/Barataria Blvd for 2.9 mi;
Turn left onto LA-3134 S for 7.2 miles;Make a U-turn and the station will be on the right in 1.2 miles

Station is located:

Point is 3'ft east of edge of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	BS 2		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
BS 2		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	520128.687	3660675.408	22.221	**2006.81**	520128.687	3660675.408	22.277

Latitude:	29 55 29.2N	**Longitude:**	90 08 03.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

intersection of Hwy 90 and Naplieon Ave head north on Napoleon Ave toward S Claiborne Ave and go 92ft, take the first left onto S Claborne Ave go 1.2 miles. Turn left onto Broadway St go 1.9 miles take slight left onto Lake Ave go 0.2 miles. Take slight right at Walnut St and Destination will be on the left.

Station is located:

in a grassy area at 21 feet north of the chain link fence and 40 feet east of the utility pole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	C 189	BH1119	Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
C 189 1963		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	575287.012	3752992.497	1.873	**2006.81**	575287.015	3752992.497	1.998

Latitude:	30 04 24.4N	Longitude:	89 50 25.9W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Slidell	Orleans	Louisiana

To reach the station, begin at the:

From the town of Slidelll La Head west on Bouscaren St toward 2nd st go 0.2miles. Turn left onto Front St go 0.5miles. Slight left onto US-11 S Pontchatrain Dr Continue to follow US 11 go 15.1 miles. Turn left onto US 90 E Destination will be on the left go 1.4 miles.

Station is located:

Point is 53ft northeast of the centerline in paved road. 49ft northwest of utility pole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	G 95	BJ0710	Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
G 95 1938 PLMS 53 03 5357 75		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	546859.228	3567032.567	26.95	**2006.81**	546859.231	3567032.564	27.016

Latitude:	30 00 02.3N	Longitude:	90 25 44.9W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Taft	St Charles Parish	Louisiana

To reach the station, begin at the:

Heading east on I-10 E toward Exit 221;Take exit 221 for Loyola Dr for 0.5 miles;Turn left onto Loyola Dr; Turn left to merge onto I-10 W for 0.9 miles;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 3.0 miles; Take exit 2 to merge onto US-61 N/E Airline Hwy/Johnson St toward Norco;Continue to follow US-61 N/E Airline Hwy for 6.4 miles; Turn left onto Apple St for 1.4 miles; Turn right onto River Rd for 0.9 miles;Turn right to stay on River Rd; station will be on the left in 0.1miles

Station is located:

Point is 96ft north of retaining wall and 101ft west of the centerline of the road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L 278	AT0332	Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L 278 1970		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	503313.629	3736367.061	6.789	**2006.81**	503313.632	3736367.061	6.861

Latitude:	29 52 34.1N	Longitude:	89 53 45.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Poydren	St Bernard Parish	Louisiana

To reach the station, begin at the:

From the town of Violet head south on Jules Brown St toward B St go 151 ft, take the 1st right onto B st go 0.1miles,turn left onto LA-46 E and go 1.3miles. Turn right onto Goodwill Dr and destination will be on the left go 112ft.

Station is located:

This point is 20'ft west of the railroad and 1.5' ft west of the chain link fence.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA 01		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA 01		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	477464.465	3667033.542	14.227	**2006.81**	477464.468	3667033.542	14.234

Latitude:	29 48 26.2N	Longitude:	90 06 56.0W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Jefferson	Louisiana

To reach the station, begin at the:

Head east on US-90 BUS E toward Exit 4B;Take exit 4B toward Barataria Blvd/LA-45 for0.3 miles;
Merge onto Westbank Expy for 0.1 miles;Turn right onto LA-45 S/Barataria Blvd for 7.0 miles

Station is located:

north 31 feet from an existing chain link fence; north 21 feet from contractors control point WBV-140.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA02		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA02		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	468427.521	3696100.898	21.95	**2006.81**	468427.521	3696100.898	21.989

Latitude:	29 46 53.6N	Longitude:	90 01 27.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Plaquemines Parish	Louisiana

To reach the station, begin at the:

Heading northeast on Westbank Expy toward Whitney Ave; Sharp right onto Whitney Ave for 1.5 miles; slight right onto State Route 23;Turn right onto LA-23 N for 0.1 miles; Make a U-turn at Gretna Blvd continue for 10.4miles;Turn left onto Oakville St for 0.1 miles; Turn right onto Hwy 11.

Station is located:

Point is 93 ft southeast of the edge of concrete pavment. And 80 feet southeast of the north corner of house.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA03		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L_FVA03		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	498622.057	3732038.409	19.492	**2006.81**	498622.054	3732038.405	19.551

Latitude:	29 51 48.2N	**Longitude:**	89 54 35.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Braitwite	Plaquimines Parish	Louisiana

To reach the station, begin at the:

Heading northwest on Esplanade Ave toward N Claiborne Ave; Make a U-turn at N Claiborne Ave;
Turn left onto N Claiborne Ave for 0.3 miles;Turn right onto St Bernard Ave for 0.4 miles;
Turn left onto Mc Shane Pl for 0.1 miles; Continue onto St Claude Ave for 3.7 miles;
Keep left at the fork and Continue to follow LA-46 E for 10.0 miles; Slight right toward LA-39 S/St Bernard Park Way;
Continue straight onto LA-39 S/St Bernard Park Way station will be on the right in 1.2 miles

Station is located:

Point is 200ft west of the centerline of LA Hwy 39 and 126ft northwest of asphalt walkway.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA04		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA04		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	561944.883	3625916.679	16.407	**2006.81**	561944.883	3625916.679	16.463

Latitude:	30 02 26.6N	Longitude:	90 14 33.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Kenner	Orleans Parish	Louisiana

To reach the station, begin at the:

Heading east on I-10 E Take exit 223A-223B for LA-49/Williams Blvd toward N.O. International Airport for 0.2 miles; Turn left onto Williams Blvd for 2.1 miles;Turn right toward Williams Blvd for 0.1 miles; Slight left toward Williams Blvd for 0.2 miles; Take the 1st left onto Williams Blvd;Turn right and station will be on the right in 0.3 miles

Station is located:

Point is 124ft north of the corner of the fence and 126ft south of a paved service road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA05		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA05		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	546441.424	3614365.366	3.627	**2006.81**	546441.424	3614365.366	3.683

Latitude:	29 59 54.2N	Longitude:	90 16 46.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Kenner	Orleans Parish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E Take exit 221 for Loyola Dr for 0.5 miles;Turn right onto Loyola Dr 0.1 miles;
Take the 1st right onto Veterans Blvd/Veterans Memorial Blvd for 0.8 miles;Turn left and station
will be on the right in 0.4 miles

Station is located:

Point is 19ft west of fence and 52ft north of the fence corner.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA06		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA06		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	543454.333	3586432.821	15.608	**2006.81**	543454.333	3586432.821	15.667

Latitude:	29 59 27.0N	Longitude:	90 22 04.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Norco	St Charles Parish	Louisiana

To reach the station, begin at the:

Heading southwest on I-310 S Take exit 2 to merge onto US-61 N/Johnson St toward Norco for 3.5 miles;
Turn right on Restricted usage road and station will be on the left in 0.1 miles

Station is located:

Point is 296ft southwest of gate and 65ft north from the center of the gravel road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA07		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA07		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	500051.4131	3646374.671	13.1063	**2006.81**	500051.4131	3646374.671	13.1359

Latitude:	29 52 11.95005N	Longitude:	90 10 47.94500W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Jefferson Perish	Louisiana

To reach the station, begin at the:

intersection of Hey P Long Rd and Hwy 90. Head northwest toward US-90 E go 0.1 miles merge onton US-90 E go 0.5 miles. Turn right onto W 9 Mile Poinnt rd go 0.2 miles. Turn right onto 9 Mile Point Road go 0.5 miles. Turn right onto Westbank Expy go 118ft. Take the ramp on the left to US-90 Bus/E Westbank Expy go 0.3 miles. Take sharp left onto US-90 BUS/E Westbank Expy go 1.2 miles. Take the 2nd right onto Drake Ave go 0.7 miles. Turn left to stay on Drade Ave go 1.3 miles then arrive at L_FVA07

Station is located:

183ft north of the waters edge of leeve and 350ft south of the center of the service road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L FVA 08		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L FVA 08		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	514342.334	3617550.134	13.016	**2006.81**	514342.334	3617550.134	13.059

Latitude:	29 52 34.7N	**Longitude:**	90 10 03.4W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Luling	St Charles	Louisiana

To reach the station, begin at the:
Heading southwest on I-310 S;Turn left onto US-90 E for 7.9 miles;Turn right for 0.3 miles

Station is located:
Point is on the leeve and is 11ft south of the gravel road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA09		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA09		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	502393.805	3650266.538	12.822	**2006.81**	502393.805	3650266.541	12.851

Latitude:	29 52 34.7N	Longitude:	90 10 03.4W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Westwego	Jefferson Perish	Louisiana

To reach the station, begin at the:

Merge onto I-10 E for 0.6 miles;Continue onto US-90 BUS W for 12.2 miles;
Turn left onto Drake Ave for 0.8 miles; Turn left to stay on Drake Ave 1.3 miles

Station is located:

Point is 10ft south of the concrete pad and 8ft west of the border fence of leeve.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA10		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA10		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	529060.011	3656805.383	25.858	**2006.81**	529060.011	3656805.383	25.91

Latitude:	29 56 58.0N	Longitude:	90 08 46.0W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Elmwood	Orleans	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E; Continue onto US-90 BUS W for 12.1 miles; Turn right onto Louisiana St for 1.2 miles;Turn left onto River Rd for 2.3 miles; Sharp right and station will be on the right in 223ft.

Station is located:

Point is 63ft north of utility pole and 56ft west of the first strip of the road 86ft north of the centerline doubleline of the road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA28		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA28		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	575690.677	3746272.036	2.267	**2006.81**	575690.674	3746272.047	2.26

Latitude:	30 04 29.3N	Longitude:	89 51 42.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E;Continue onto I-610 E (signs for Slidell) for 5.0 miles; Merge onto I-10 E for 2.1 miles; Take exit 240B for US-90 E/Chef Hwy 0.3 miles; Merge onto US-90 E for 10.4 miles;Slight left onto US-11 N;station will be on the right in 138 ft.

Station is located:

Point is 18ft northeast of power pole and 32ft west of the edge of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA12		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L_FVA12		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	500151.352	3773235.593	9.846	**2006.81**	500151.349	3773235.597	9.921

Latitude:	29 51 58.1N	**Longitude:**	89 46 47.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Violet	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E; Slight right to stay on I-10 E (signs for Slidell) for 2.4 miles; Take exit 236B to merge onto LA-39 S/N Claiborne Ave;Continue to follow LA-39 S for 14.9 miles; Turn left onto LA-46 E; station will be on the right in5.8 miles.

Station is located:

Point is 72ft east of the utility pole and 75ft south of the edge of pavement of LA Hwy 46.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA13		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA13		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	550579.877	3721720.385	15.043	**2006.81**	550579.88	3721720.385	15.148

Latitude:	30 00 23.8N	**Longitude:**	89 56 25.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Calmettee	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading south on I-510 S; Take exit 2C toward Old Gentilly Rd for 0.4 miles; Merge onto Almonaster Blvd for 0.3 miles;Turn left onto Old Gentilly Rd for0.4 miles; Turn right for 0.4 miles.

Station is located:

Point is in the center of leeve and point is 48ft north from edge of leeve and 48ft south from the edge of leeve.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA14		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA14		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	593458.613	3744219.411	17.768	**2006.81**	593458.613	3744219.414	17.873

Latitude:	30 07 25.4N	Longitude:	89 52 03.0W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E toward Exit 254 for 0.6 miles; Take exit 254 toward Irish Bayou 0.1 miles;
Merge onto US-11 S for 1.6 miles

Station is located:

Point is 23.9ft west of the concrete pad and 182ft north of gravel road and 238ft west of the center of road of dam.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA15		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA15		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	576615.435	3747915.089	18.72	**2006.81**	576615.438	3747915.093	18.835

Latitude:	30 04 38.2N	Longitude:	89 51 23.4W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E toward Exit 246A;Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette 1.9 miles; Take exit 2A for US-90 E/Chef Menteur Hwy for 0.5 miles;Turn left onto US-90 E the station will be on the left in 6.5 miles

Station is located:

Point is 15.9ft north of concret pad and 211ft west of the edge of the rock bed.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA16		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:	meters	Above Ground Level
L_FVA16		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	559208.586	3690354.765	18.78	**2006.81**	559208.59	3690354.765	18.859

Latitude:	30 01 52.8N	Longitude:	90 02 20.8W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Meteri	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W toward Exit 239; Take exit 238A for Franklin Ave for 0.3 miles; Turn right onto Franklin Ave for 2.8 miles;Turn right onto Lakeshore Dr for 0.6 miles; Continue onto Leroy Johnson Dr for 0.2 miles;Slight left station will be on the left in 0.2 miles.

Station is located:

Point is 59.1ft southeast of concrete pad and 74ft northwest of utility pole.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA17		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA17		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

2004.65	Northing:	Easting:	Elev:	2006.81	Northing:	Easting:	Elev:
	554734.271	3652364.729	16.169		554734.271	3652364.729	16.225

Latitude:	30 01 12.6N	Longitude:	90 09 33.5w

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W toward Exit 239;Slight right onto I-610 W (signs for No Inti Airport/Baton Rouge) for 4.4 miles; Merge onto I-10 W for 1.5 miles;Take the Causeway Boulevard N exit for 0.6 miles; Merge onto N Causeway Blvd for 1.1 miles;Turn left onto 6th St for 0.3 miles; Turn right onto Severn Ave for 0.1 miles;Turn left to stay on Severn Ave; station will be on the right in 46ft.

Station is located:

Point is 38ft west of the gravel road and 135ft south of the gravel road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA18		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA18		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	575774.327	3720344.823	18.612	**2006.81**	575774.331	3720344.823	18.721

Latitude:	30 04 33.3N	**Longitude:**	89 56 37.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Kenner	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading east on I-10 E toward Exit 240A;Take exit 246B to merge onto LA-47 N/Paris Rd toward Little Woods for 1.4 miles; Turn right and station will be on the left in 322 ft

Station is located:

Point is 27ft north of edge of paved road and 80ft north east of railroad track.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA19		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L_FVA19		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	426983.208	3669321.789	5.01	**2006.81**	426983.208	3669321.792	5.036

Latitude:	29 40 06.2N	**Longitude:**	90 06 36.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Jenne Lafittie	Jefferson	Louisiana

To reach the station, begin at the:

Heading west on I-10 W toward Exit 239;Take the exit on the left onto US-90 BUS W for 8.3 miles; Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles; Turn left onto LA-45 S/Barataria Blvd for 2.9 miles;Turn left onto LA-3134 S for 7.8 miles; Turn left onto Jean Lafitte Blvd for 8.8 miles; Turn right onto 2nd St for 0.2 miles.

Station is located:

Point is 187ft northeast of school building corner and 143ft northwest of building corner.

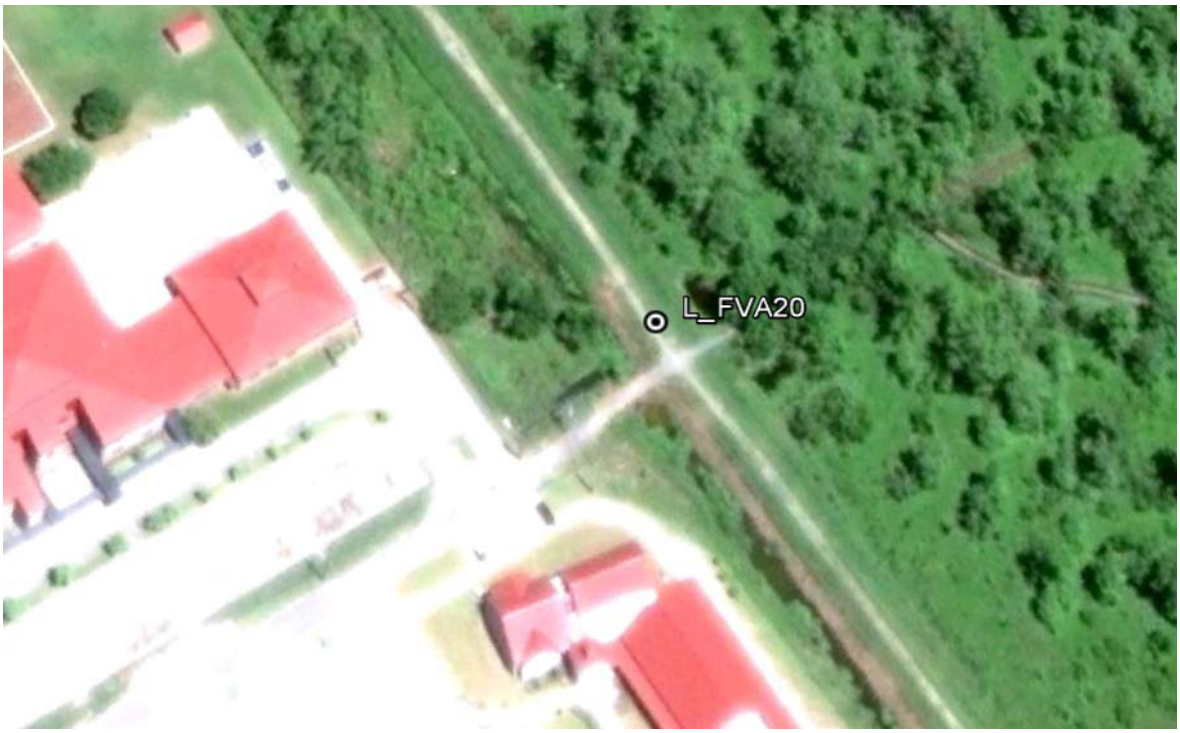
ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA20		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA20		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch



Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	452184.545	3664647.398	6.777	**2006.81**	452184.545	3664647.402	6.803

Latitude:	29 44 16.2N	Longitude:	90 07 26.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Jean Lafitte	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of LA-Hwy 45 and Jean Lafitte Blvd; West on Jean Lafitte Blvd for 3.4 miles; left on City Park Street and go 0.2 miles to the end of the street; go through the gate and up on the levee; station is on the left approximately 43 feet.

Station is located:

43 feet north northwest of the middle of the city park path leading to the Nature Trail wood walkway. 32 feet north of a electric meter base pole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA21		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA21		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	499688.7607	3733362.307	19.422	**2006.81**	499688.7607	3733362.307	19.4811

Latitude:	29 51 58.66185N	**Longitude:**	89 54 20.02692 19.422W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Braithwaite	Plaquemines Perish	Louisiana

To reach the station, begin at the:

Inersection of English Turn Rd and Hwy 39 Head North on LA-39 toward Pohlmann Ln go 5.4miles. Turn left onto Jenfreau st go 394ft the arrive at Jeanfreau st,

Station is located:

at 93ft north of the tree line and 98ft south of the north side of the dirt road at the tree line.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA22		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA22		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	499789.387	3735768.112	19.2728	2006.81	499789.387	3735768.112	19.3319

Latitude:	29 51 59.36039N	Longitude:	89 53 52.68953W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Poydras	St Bernard Persih	Louisiana

To reach the station, begin at the:

Inersection of hwy 46 and St Bernard Express Way. Head south on E Christie st toward St Bernard Park Way go 23ft Countinue onto St Bernard Park Way go 0.5ft the arrive at St Bernard Park Way.

Station is located:

79ft east of the utility pole and 85ft west of treeline.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA23		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA23		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	504211.3788	3735650.19	19.6771	2006.81	504211.3764	3735650.192	19.7378

Latitude:	29 52 43.14702N	Longitude:	89 53 53.39976W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Poydras	St Bernard Perish	Louisiana

To reach the station, begin at the:

Northbound of Hwy 39 and Bayou Rd, head southeast toward St Bernard Park Way go 187ft continue stright onto St Bernard Park Way go 89ft take th 1st right onto Massico Rd go 0.2miles turn left onto LA-46 W go 0.4 miles take the 2nd left onto Port Serice Rd 4?Port Ship Access Rd No 2 go 0.1 miles then arrive at point.

Station is located:

at 76ft northeast of the utility pole and 93ft north of the intersection

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA24		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA24		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	497975.8585	3728587.986	20.087	**2006.81**	497975.8585	3728587.986	20.146

Latitude:	29 51 42.29205N	Longitude:	89 55 14.48955W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Poydras	St Bernard Perish	Louisiana

To reach the station, begin at the:

Intersection of Saro Ln and St Bernard Express Way head south on LA 39 S go 2.1 miles, turn right at Edna Lafrance Rd go 0.1miles then arrive at location.

Station is located:

at 69ft south of the tree line and 136ft east of the service road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA25		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA25		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	499153.2235	3724794.465	19.5909	**2006.81**	499153.2235	3724794.465	19.65

Latitude:	29 51 54.40749N	**Longitude:**	89 55 57.40786W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Braithwaite	Plaquemines Perish	Louisiana

To reach the station, begin at the:
Intersectioin of hwy 30 and 137 head southeast on La 39 N go 0.9 arrive at location.

Station is located:
at1183ft northeast of the gravel drive and 107ft southwest of the edge of the tree line.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA26		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA26		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	502072.2656	3773476.999	10.1822	**2006.81**	502072.2656	3773476.999	10.2577

Latitude:	29 52 17.08798N	**Longitude:**	89 46 44.07744W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Reggio	St Bernard Perish	Louisiana

To reach the station, begin at the:

intersection of hwy 300 and 46 head north on LA 46 W go 2.2 miles turn right go 0.3 miles arrive at location.

Station is located:

at 68ft northeast of the tree line and 42ft southwest of the tree line.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA27		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA27		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	504286.3061	3772170.462	9.4102	2006.81	504286.3061	3772170.462	9.4857

Latitude:	29 52 39.17905N	Longitude:	89 46 58.57628W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Viiolet	St Bernard Perish	Louisiana

To reach the station, begin at the:

LA-46 head north go 2.2 miles turn right go 0.8 miles and destination will be on the right.

Station is located:

at 54ft south of tree line and 46ft north of tree line

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA28		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA28		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	504958.8226	3769756.745	9.4623	**2006.81**	505372.2158	3767598.791	9.1953

Latitude:	29 52 46.15850N	**Longitude:**	89 47 25.88911W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Violet	St Bernard Perish	Louisiana

To reach the station, begin at the:

La 46W and g 2.2 miles turn right go 1.3 miles then arrive at location.

Station is located:

at 46ft south of the tree line and 57ft north of the tree line.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA29		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA29		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	505372.2158	3767598.791	9.1198	2006.81	505372.2158	3767598.791	9.1953

Latitude:	29 52 50.53749N	Longitude:	89 47 50.33733W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Violet	St Bernard Perish	Louisiana

To reach the station, begin at the:

On LA46 E go 0.8 miles west turn right go 1.7 miles and point is on the right.

Station is located:

at 49ft south of the tree line and 62 ft north of the tree line.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA30		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L_FVA30		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	504321.5343	3757084.882	9.8104	**2006.81**	504321.5342	3757084.882	9.8858

Latitude:	29 52 41.51726N	**Longitude:**	89 49 49.91816W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Violet	St Bernard	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.9 mi
Make a U-turn at S Villere St for 364 ft; Take the Interstate 10 E ramp to Slidell for 0.2 mi; Merge onto I-10 for 1.2 mi; Take exit 236B to merge onto LA-39 S/N Claiborne Ave Continue to follow LA-39 S for 14.2 mi; Make a U-turn at Torres Dr and go 194 ft; Turn right and go 2.8 mi to the station on the right.

Station is located:

520 ft east northeast from a pumping pipe section; 65 ft north northwest of the north edge of the canal.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA31		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA31		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	545165.1402	3613232.597	10.8319	**2006.81**	545165.1402	3613232.597	10.8877

Latitude:	29 59 41.68316N	Longitude:	90 16 59.67624W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Violet	St Benard Perish	Louisiana

To reach the station, begin at the:

at the intersection of LA-39 and Judeg Perex Dr turn on LA 39 and Judge Perez Dr go 0.7 miles turn right go 2.8 miles and destination will be on the right.

Station is located:

at 42ft south of the tree line and 62.5ft north of the tree line

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA32		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA32		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	542856.5054	3614305.885	8.8365	**2006.81**	542856.5054	3614305.885	8.8922

Latitude:	29 59 18.73267N	Longitude:	90 16 47.71196W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Kenner	St Charles Perish	Louisiana

To reach the station, begin at the:

intersection of Airport Road and head west onto Airport road go 0.3 miles take slight right toward Airport rod go 0.3 miles continue straight on Airport road go 0.2 miles turn right onto US61 N go 1.2 miles turn right and destination will be on the left go 0.6 miles.

Station is located:

at 238.4ft northeast of the southeast corner of building and 26.32ft west of the edge of service road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA33		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA33		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	541957.8633	3591212.532	15.5175	**2006.81**	541957.8633	3591212.532	15.5766

Latitude:	29 59 11.86584N	Longitude:	90 21 10.40636W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	St Charles Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head northwest on US-61 N/Tulane Ave toward S Broad St; Continue to follow US-61 N for14.8 mi; Turn right for 1.5 mi to the station on the right.

Station is located:

780 ft west of a pumping station; 470 ft north of the north edge of the canal.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA34		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L_FVA34		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	545174.5005	3583466.125	15.4235	**2006.81**	545174.5005	3583466.125	15.4825

Latitude:	29 59 44.35522N	**Longitude:**	90 22 38.18820W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	St Charles Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head northwest on US-61 N/Tulane Ave toward S Broad St;
Continue to follow US-61 N for 18.0 mi; Turn right onto Swepi Rd for 0.3 mi; Turn right on Restricted usage road for 0.3 mi to the station.

Station is located:

40 ft southeast of the center of a road crossing the levee; 585 ft northeast of the center of US Hwy 61.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA35		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA35		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	537148.7272	3579104.767	27.2466	**2006.81**	537148.7272	3579104.767	27.3056

Latitude:	29 58 25.26566N	**Longitude:**	90 23 28.53763W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	St Charles Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head northwest on Tulane Ave toward S Broad St for 1.2 mi; Take the Interstate 10 W ramp to Baton Rouge/N O International Airport for 0.5 mi; Merge onto I-10 W and go 11.3 mi; Take exit 220 to merge onto I-310 S toward Boutte/Houma and go 6.7 mi; Take exit 6 to merge onto LA-48 W/River Rd for 3.2 miles to the station on the left.

Station is located:

Station is in the center of the pavement; 160 ft west of the center of River Rd;

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA36		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA36		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	545656.8409	3571155.15	28.3341	**2006.81**	545656.8371	3571155.154	28.3904

Latitude:	29 59 50.12603N	Longitude:	90 24 58.14965W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	St Charles Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head northwest on US-61 N/Tulane Ave toward S Broad St; Continue to follow US-61 N for 20.1 mi; Turn left onto Apple St for 1.4 mi; Turn right onto River Rd for 0.2 mi to the station on the left.

Station is located:

100 ft south of the center of River Rd; 245 ft southeast of the intersection of River Rd and Mary St.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA37		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA37		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	489960.4521	3664819.44	13.8744	**2006.81**	489960.4521	3664819.44	13.881

Latitude:	29 50 30.17596N	Longitude:	90 07 19.66411W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.7 mi; Turn right onto US-90 W/S Claiborne Ave; Continue to follow US-90 W for 0.4 mi; Merge onto US-90 BUS W via the ramp to Miss River Bridge for 8.2 mi; Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 mi; Merge onto Westbank Expy for 0.3 mi; Turn left onto LA-45 S/Barataria Blvd and go 4.3 mi to the station.

Station is located:

615 ft southwest of the center of LA Hwy 45; 38 ft south of the center of a gravel road crossing levee.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA38		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
L_FVA38		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	478720.9507	3677698.502	12.6175	**2006.81**	478720.9507	3677698.502	12.6241

Latitude:	29 48 37.54655N	**Longitude:**	90 04 54.82179W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.7 mi; Turn right onto US-90 W/S Claiborne Ave; Continue to follow US-90 W for 0.4 mi; Merge onto US-90 BUS W via the ramp to Miss River Bridge for 3.8 mi; Take the exit toward Terry Pkwy for 0.2 mi; Keep left at the fork and merge onto Terry Pkwy for 3.2 mi; Turn left onto LA-23 S for 2.2 mi; Turn right onto Barriere Rd for 1.3 mi; Continue onto Pump Station Rd for 0.1 mi; Turn left onto Levee and go 4.5 mi to the station.

Station is located:

Point is on the center of the levee; 220 ft east of the eastern edge of the canal.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA39		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA39		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	476823.731	3681558.62	13.3654	**2006.81**	476823.731	3681558.62	13.372

Latitude:	29 48 18.34671N	**Longitude:**	90 04 11.24308W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.7 mi; Turn right onto US-90 W/S Claiborne Ave; Continue to follow US-90 W for 0.4 mi; Merge onto US-90 BUS W via the ramp to Miss River Bridge for 10.3 mi; Turn left onto Westwood Dr for 0.7 mi; Turn right onto Lapalco Blvd for 0.8 mi; Make a U-turn and go 397 ft; Take the 1st right onto Van Ness Dr and go 262 ft to the station on the left.

Station is located:

62 ft north of the center of the paved road across the levee; 150 ft east of the eastern edge of the canal.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA40		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA40		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	506199.4415	3659565.106	13.6565	**2006.81**	506199.4415	3659565.106	13.686

Latitude:	29 53 11.47104N	Longitude:	90 08 17.40185W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.7 mi; Turn right onto US-90 W/S Claiborne Ave; Continue to follow US-90 W 0.4 mi; Merge onto US-90 BUS W via the ramp to Miss River Bridge for 10.3 mi; Turn left onto Westwood Dr for 0.7 mi; Turn right onto Lapalco Blvd for 0.8 mi; Make a U-turn and go 397 ft; Take the 1st right onto Van Ness Dr and go 262 ft to the station on the left.

Station is located:

38 ft southeast of the center of the road that crosses the levee; 265 ft south southwest from the center of the southern lanes for Lapaico Blvd.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA41		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA41		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	514301.2708	3619829.827	13.7331	**2006.81**	514301.2708	3619829.827	13.7758

Latitude:	29 54 35.55872N	Longitude:	90 15 47.92893W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.7 mi; Turn right onto US-90 W/S Claiborne Ave; Continue to follow US-90 W for 0.4 mi; Merge onto US-90 BUS W via the ramp to Miss River Bridge for 14.1 mi; Continue onto US-90 W for 5.3 mi; Make a U-turn at S Kenner Ave and go 0.1 mi; Take the 1st right onto Levee Rd for 0.2 mi to the station.

Station is located:

121 ft north of the center of the east-west levee; 185 ft east southeast of the southeast corner of the canal.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA42		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA42		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	555216.0364	3647325.602	16.3233	**2006.81**	555216.0364	3647325.602	16.3791

Latitude:	30 01 17.92361N	**Longitude:**	90 10 30.811W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head southeast on Tulane Ave toward S Broad St for 0.7 mi; Turn right onto US-90 W/S Claiborne Ave; Continue to follow US-90 W for 0.4 mi; Merge onto US-90 BUS W via the ramp to Miss River Bridge for 14.1 mi; Continue onto US-90 W for 5.3 mi; Make a U-turn at S Kenner Ave for 0.1 mi; Take the 1st right onto Levee Rd and go 0.2 mi to the station.

Station is located:

155 ft north northeast of the north end of Sheridan Ave; 200 ft south of the southern edge of Lake Pontchartrain; 0.33 miles east of the center of the existing dam and pumping station.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA43		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA43		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	560902.2343	3629297.004	16.4769	**2006.81**	560902.2343	3629297.004	16.5327

Latitude:	30 02 15.96958N	Longitude:	90 13 55.26921W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Jefferson Parrish	Louisiana

To reach the station, begin at the:

intersection of US Hwy 61 and US Hwy 90; Head northwest on Tulane Ave toward S Broad St for 1.2 mi; Take the Interstate 10 W ramp to Baton Rouge/N O International Airport for 0.5 mi; Merge onto I-10 W for 7.6 mi; Take exit 224 to merge onto Power Blvd for 1.7 mi; Turn left onto Vintage Dr for 112 ft; Take the 1st right onto Erlanger Rd for 0.5 mi; Erlanger Rd turns slightly left and becomes 45th St and go 161 ft to the station on the right.

Station is located:

170 ft north northeast of the center of 45th St; 273 ft north northwest of the northwest corner of a transmission power tower; 221 ft south of the south edge of Lake Pontchartrain.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA44		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA44		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	596879.4709	3742333.766	17.8603	**2006.81**	596879.4125	3742333.908	17.9417

Latitude:	30 07 59.58744N	**Longitude:**	89 52 24.07264W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Slidell	Orleans Persih	Louisiana

To reach the station, begin at the:
intersection of US Hwy 11 and I-10; Go southwest 1.5 miles along I-10 to the station on the right on the top of the levee.

Station is located:
at 53.0ft west of the edge of pavement of I-10 180ft northeast of tree line.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA45		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA45		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	550097.7665	3719659.632	13.9039	**2006.81**	550097.7665	3719659.632	14.0089

Latitude:	30 00 19.30916N	**Longitude:**	89 56 48.72364W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Chalmette	St Bernard	Louisiana

To reach the station, begin at the:

intersection of LA-47 and LA-90 head south on I-510 toward Exit 2C go 0.2 miles take exit 2C toward Old Gentilly Rd go 0.4 miles merge onto Almonaster Blvd go 0.5 miles turn left onto Grant go 0.4 miles then arrive at point.

Station is located:

at 117.53ft south of tree line and 56.49ft north of tree line.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA46		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA46		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	549730.0696	3718091.351	14.884	**2006.81**	549730.0696	3718091.351	14.989

Latitude:	30 00 15.85698N	Longitude:	89 57 06.61019W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

interstate on I-510 interchange head south on I-510 S toward exit 2C go 0.2 miles take exit 2C toward Old Gentlly Rd go 0.4 miles merge onto Almonaster Blvd go 0.5 miles turn left onto Grant go 0.4 miles then arrive at point.

Station is located:

at 13.7ft north of fence and 142.8ft south of tree line.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA47		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA47		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	559409.6496	3681668.524	18.4427	**2006.81**	559409.6496	3681668.524	18.4952

Latitude:	30 01 55.83795N	Longitude:	90 03 59.63252W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Westwego	Jefferson Perish	Louisiana

To reach the station, begin at the:

at the intersection of Lapaico Blvd and US-90 head west on US-90 go 0.7 miles turn at Jamie Blvd go 1.3 miles Slight right onto US-90 Bus E go 1.9 miles turn right onto Drake Ave go 0.7 miles turn left ot stay on Drake Ave go 1.3 miles arrive at point.

Station is located:

at 435.48ft south of the tree line and 180.7ft north of waters edge.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA48		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA48		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	559087.1498	3680030.751	18.1666	**2006.81**	559087.1498	3680030.751	18.2191

Latitude:	30 01 52.82449N	Longitude:	90 04 18.30462W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Head northeast on Lakeshore Dr toward Carlson Dr go 0.7 miles sharp right onto Levee Rd go 0.3 miles turn right toward Privateeer Pl go 0.3 miles then arrive at point.

Station is located:

at 114.78 south of side walk along parking lot and 82.67ft north of parking lot in apartment complex.

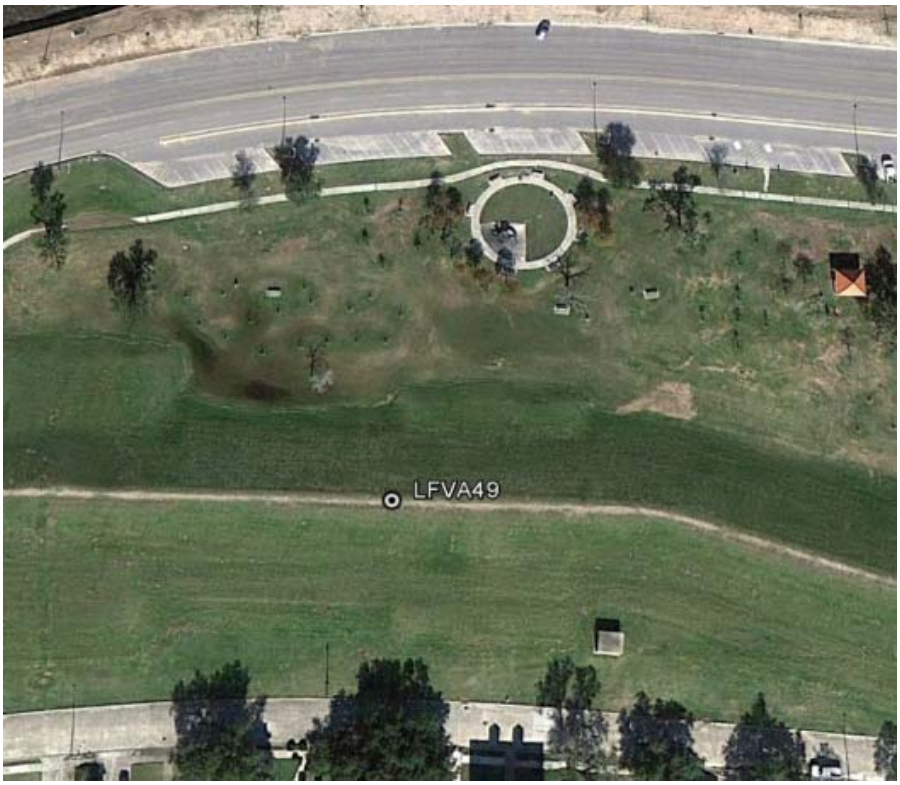
ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA49		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA49		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch



Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	557267.0167	3668494.401	18.783	**2006.81**	557267.0166	3668494.401	18.8355

Latitude:	30 01 36.04665N	**Longitude:**	90 06 29.76566W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

northeast side of Lakeshore Dr take the 1st right onto Carlson Dr go 0.2 miles turn right onto Kelldeer St go 0.1 miles at the traffic circle take the 4th exti onto Lakshore Dr go 1.8 miles turn left onto Canal Blvd go 0.1 miles then arrive at point.

Station is located:

at 213ft south of sidewalk and 111.14ft north of paved service road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	L_FVA50		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
L_FVA50		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	518218.3745	3712654.572	19.5475	**2006.81**	518218.3745	3712654.572	19.6033

Latitude:	29 55 04.57784N	**Longitude:**	89 58 12.70592W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Chalmette	Orleans Perish	Louisiana

To reach the station, begin at the:

intersection of McArther and LA47 head east on Dover PL toward Westchester st go 0.4 miles turn left onto Sullen Pl go 0.3 miles turn right onto Patterson Dr go 0.9 miles turn right onto Blythe Rd go 0.2 miles then arrive at point.

Station is located:

at 37ft north of driveway and 29ft east of fence.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	Lakefront		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
Lakefront		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	560653.058	3695106.084	2.72	**2006.81**	560653.058	3695106.084	2.776

Latitude:	30 02 06.6N	**Longitude:**	90 01 26.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W toward Exit 239; Take exit 239 toward Louisa St for 0.2 miles; Turn left onto Old Gentilly Rd for 0.3 miles;Turn right onto Press Dr for 1.9 miles; Turn right onto Leon C Simon Dr for 0.9 miles; Continue onto Stars and Stripes Blvd for 0.5 miles; Turn leftand station will be on the left in 0.1 miles

Station is located:

Point is 71ft east of the corner of the parking conctrete island and 59ft north of the parking island pavement edge.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA1		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA1		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	545977.563	3566884.087	18.924	**2006.81**	545977.561	3566884.098	18.918

Latitude:	29 59 53.6N	Longitude:	90 25 46.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Laplace	St Charles Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 3.0 miles;
Take exit 2 to merge onto US-61 N/E Airline Hwy/Johnson St toward Norco; Continue to follow US-61 N/E Airline Hwy 6.4 miles; Turn left onto Apple St for 1.4 miles; Turn right onto River Rd 0.9 miles; Slight left station will be on the left

Station is located:

Point is 195ft south of gravel road. 67ft north of treeline.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA10		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA10		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	531521.191	3627203.685	9.654	**2006.81**	531521.188	3627203.696	9.648

Latitude:	29 57 25.3N	Longitude:	90 14 22.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
River Ridge	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 8.2 miles; Take exit 7 to merge onto LA-18 E/River Rd toward Luling for 10.1 miles; Turn right onto Jeffer Drive for 0.1 miles;Take the 2nd left onto Rosa St;station will be on the right

Station is located:

Point is 27ft northwest of street light. 31ft southeast of south edge of paved driveway.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QAFVA12		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
QCFVA12		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	520682.019	3637163.765	16.981	**2006.81**	520682.016	3637163.777	16.974

Latitude:	28 55 37.7N	**Longitude:**	90 12 30.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Westwego	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 3.0 miles; Take exit 2 to merge onto US-61 S/E Airline Hwy toward Kenner for 5.1 miles; Turn right onto Williams Blvd for 0.5 miles;Turn left onto LA-48 E/3rd St; Continue to follow LA-48 E for 3.9 miles;Turn right onto Colonial Club Dr for 0.6 miles.

Station is located:

Point is 216 ft west of street light.115ft north of the centerline of road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA13		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA13		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	508742.885	3637942.181	-3.626	**2006.81**	508742.882	3637942.192	-3.632

Latitude:	29 53 38.8N	Longitude:	90 12 22.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Avondale	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 12.2 miles; Turn left onto US-90 E for 12.1 miles;Turn right onto S Jamie Blvd for 0.3 miles; Turn left onto Dialita Dr for 0.1 miles;Turn right onto Pat Dr for 0.9 miles; Take the 1st left onto Nicolle Blvd; station will be on the left.

Station is located:

Point is 126ft west of the most west of the two trees standing in the island between the north and west lanes. 19ft north of edge of pavement. 20ft south of edge of pavement of road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA14		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA14		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	507073.685	3657800.568	-2.63	**2006.81**	507073.683	3657800.578	-2.636

Latitude:	29 53 20.3N	Longitude:	90 08 37.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Westwego	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W; Turn left onto Westwood Dr for 0.7 miles;Turn right onto Lapalco Blvd;station will be on the left in 1.1 miles

Station is located:

Point is 64ft west of utility pole.38ft south of the edge of pavement on road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA15		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA15		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	531936.59	3658616.559	5.678	**2006.81**	531936.587	3658616.57	5.672

Latitude:	29 57 26.3N	Longitude:	90 08 25.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Jefferson	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E;Take exit 228 for Causeway Blvd toward Mandeville/Bonnabel Blvd for 0.2 miles; Keep right at the fork, follow signs for Causeway Boulevard S and merge onto N Causeway Blvd for 0.4 miles; Continue straight to stay on N Causeway Blvd for 2.4 miles;Turn left onto River Rd station will be on the right in 1.1 miles.

Station is located:

Point is 67ft northeast of the stopsign. 43ft northwest of power pole. 21ft south of edge of pavement on hwy.

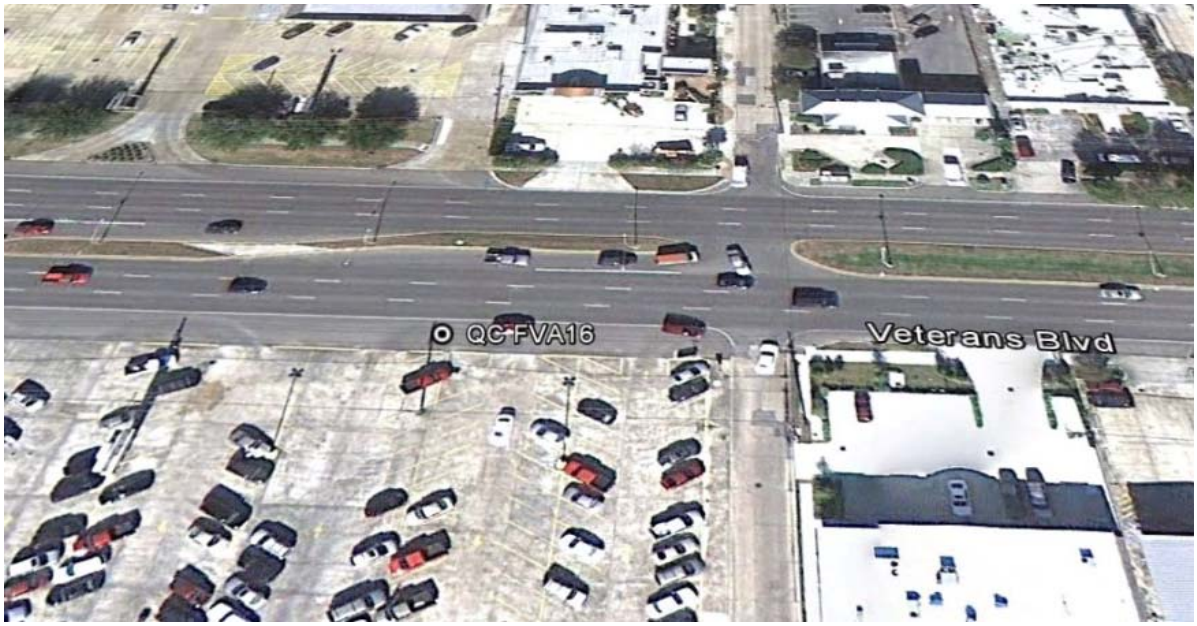
ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA16		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA16		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch



Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	547994.963	3661822.686	-4.427	**2006.81**	547994.96	3661822.697	-4.433

Latitude:	30 00 04.9N	**Longitude:**	90 07 46.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Metarie	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E;Take exit 228 toward Bonnabel Blvd for 0.8 miles; Continue on the ramp 0.1 miles;Continue straight onto S Interstate 10 Service Rd for E 0.2 miles; Turn left onto Bonnabel Blvd for 0.4 miles;Turn right onto Veterans Blvd/Veterans Memorial Blvd station will be on the right in 0.8 miles.

Station is located:

Point is 152ft northwest of the west corner of building. 86ft south of the light pole in the center of the four lane median.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA17		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA17		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	515204.85	3676114.825	22.589	**2006.81**	515204.847	3676114.836	22.582

Latitude:	29 54 38.8N	Longitude:	90 05 08.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Hearvey	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W; Take exit 6 toward Manhattan Blvd for 0.2 miles; Merge onto Westbank Expy for 0.9 miles;Turn right onto Peters Rd for 0.7 miles; Turn left onto 4th St for 0.2 miles;Take the 1st right onto Destrehan Ave for 0.2 miles; Continue onto River Rd for 0.5 miles;Sharp right the station will be on the right in 0.4 miles.

Station is located:

Point is 12ft northeast of brick wall. 66ft north of the centerline of river road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA18		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA18		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	493450.621	3671311.528	0.87	**2006.81**	493450.618	3671311.539	0.864

Latitude:	29 51 04.0N	Longitude:	90 06 05.5W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Esttele	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles; Turn left onto LA-45 S/Barataria Blvd forb2.9 miles; Turn left onto LA-3134 S for 0.4 miles; Turn left onto Bent Tree Blvd for0.2 miles;Turn left onto Sprig Dr station will be on the right.

Station is located:

Point is 19ft east if edge if pavement. 155ft southwest of the north corner of the roof top of house.

ATLANTIC GROUP
Remote Sensing and
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA19		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA19		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	479236.944	3669321.92	2.397	**2006.81**	479236.941	3669321.931	2.39

Latitude:	29 48 43.5N	Longitude:	90 06 29.8W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles;Turn left onto LA-45 S/Barataria Blvd for6.4 miles; Turn left for 0.2 miles;Turn right station will be on the left in 0.1 miles.

Station is located:

Point is 26ft north of edge of pavement. 60ft southeast of power pole. 173ft southwest of powerpole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA2		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA2		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	553015.896	3572369.909	5.925	**2006.81**	553015.894	3572369.92	5.919

Latitude:	30 01 02.8N	Longitude:	90 24 43.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Montz	St Charles	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 3.0 miles; Take exit 2 to merge onto US-61 N/E Airline Hwy/Johnson St toward Norco; Continue to follow US-61 N/E Airline Hwy 6.7 miles;Turn left in 0.1 miles

Station is located:

Point is 45ft south of edge of gravel road. 252ft northwest of gravel road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA20		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA20		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	504171.376	3688215.566	-4.492	**2006.81**	504171.373	3688215.577	-4.498

Latitude:	29 52 48.3N	Longitude:	90 02 52.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Timberlance	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 6 toward Manhattan Blvd for 0.2 miles; Merge onto Westbank Expy for 0.1 miles; Turn left onto Manhattan Blvd for 0.4 miles; Keep right at the fork for 1.6 miles;Turn left at Central Blvd for 125 ft; Turn right onto Elton Court Rd for 315 ft;Turn right onto Old Compton Rd for 102 ft; Take the 1st left onto London Cross Rd for 486 ft;London Cross Rd turns slightly left and becomes Justin Ln station will be on the right in 144ft.

Station is located:

Point is 36ft east of light pole. 148ft northwest of utility pole. 11ft east of edge of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA21		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA21		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	558268.292	3673407.585	6.478	**2006.81**	558268.289	3673407.597	6.472

Latitude:	30 01 45.4N	Longitude:	90 05 33.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E;Continue onto I-610 E (signs for Slidell) for 0.4 miles; Take exit 1A to merge onto West End Blvd for 2.3 miles;Continue onto Lakeshore Dr station will be on the right in 1.6 miles.

Station is located:

Point is 160ft southwest of the corner light pole in parking lot at the corner of the parking lot. 73ft east of the centerline of road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA22		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA22		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	487682.963	3688279.14	4.647	**2006.81**	487682.96	3688279.151	4.641

Latitude:	29 50 05.1N	Longitude:	90 02 535W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Bell Chassee	Plaquemines	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 6 toward Manhattan Blvd for 0.2 miles; Merge onto Westbank Expy for 0.9 miles;Turn left onto LA-3017 S/Peters Rd; Continue to follow LA-3017 S for 5.0 miles;Turn right onto Concord Rd for 108ft; Take the 1st right onto Emmett Ln/United Tugs Rd; FAVstation will be on the left in 0.2 miles

Station is located:

Point is 59ft west of the northeast corner of the dock 30ft east of the dirt road.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA24		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
QCFVA24		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	471162.252	3694578.645	-0.401	**2006.81**	471162.249	3694578.656	-0.407

Latitude:	29 47 20.8N	**Longitude:**	90 01 44.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Plaquemines Perish	Louisiana

To reach the station, begin at the:

Head southeast on US-90 BUS W; Take the exit toward Terry Pkwy for 0.2 miles; Keep left at the fork and merge onto Terry Pkwy for 3.2 miles; Turn left onto LA-23 S for 8.9 miles; Turn right onto Walker Rd station will be on the left in 0.3 miles.

Station is located:

Point is 82ft south of edge of pavement. 31ft east of utility pole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA25		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA25		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	528478.634	3691504.18	4.049	**2006.81**	528478.631	3691504.192	4.042

Latitude:	29 56 48.5N	Longitude:	90 02 11.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W; Take the exit toward General De Gaulle Dr for 0.1 miles; Keep right at the fork to continue toward General De Gaulle Drfor 0.3 miles; Slight right onto General De Gaulle Dr for 299 ft;Take the 1st right onto L B Landry Ave for 1.0 miles; Turn right onto Newton St for 0.2 miles;Turn left onto Behrman Ave statiom will be on the right in 0.1 miles.

Station is located:

Point is 93ft southeast of light pole. 51ft east of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA26		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA26		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	499691.241	3705958.08	-2.749	**2006.81**	499691.239	3705958.09	-2.755

Latitude:	29 52 01.9N	Longitude:	89 59 31.2W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Bell Chassee	Plaquemines Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take the exit toward Terry Pkwy for 0.2 miles; Keep left at the fork and merge onto Terry Pkwy for 3.2 miles; Turn left onto LA-23 S for 2.8 miles; Turn left onto LA-406 E for 0.5 miles;Take the 1st right onto Springwood Dr for 0.2 miles; Springwood Dr turns right and becomes Spring Thyme Dr; station is 0.1 miles.

Station is located:

Point is 114ft north of driveway. 158ft east of sidewalk.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA27		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA27		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	515218.158	3718857.911	-2.135	**2006.81**	515218.155	3718857.922	-2.142

Latitude:	29 54 34.1N	Longitude:	89 57 02.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Violet	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take the exit toward General De Gaulle Dr for 0.1 miles; Keep left at the fork and merge onto General De Gaulle Dr for 4.8 miles; At the traffic circle, take the 1st exit onto LA-406 E for 0.9 miles; Turn right onto English Turn Pkwy for 1.0 miles;Turn left to stay on English Turn Pkwy for 171 ft; Take the 1st right onto Stanton Rd; station will be on the right.

Station is located:

Point is 79ft east of utility pole. 26ft south of the west edge of the pavement corner.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA28		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA28		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	575690.677	3746272.036	2.267	**2006.81**	575690.674	3746272.047	2.26

Latitude:	30 04 29.3N	Longitude:	89 51 42.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E;Continue onto I-610 E (signs for Slidell) for 5.0 miles; Merge onto I-10 E for 2.1 miles; Take exit 240B for US-90 E/Chef Hwy 0.3 miles; Merge onto US-90 E for 10.4 miles;Slight left onto US-11 N;station will be on the right in 138 ft.

Station is located:

Point is 18ft northeast of power pole and 32ft west of the edge of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA29		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA29		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	572947.556	3755531.162	2.238	**2006.81**	572947.553	3755531.173	2.232

Latitude:	30 04 01.0N	**Longitude:**	89 49 57.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward Irish Bayou for 0.1 miles; Merge onto US-11 S for 5.2 miles;Turn left onto US-90 E;station will be on the right in 2.1 miles.

Station is located:

Point is at 161ft south of the edge of pavement of road. 85ft east of the northeast edge of building.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA30		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA30		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	465671.588	3675651.85	2.238	**2006.81**	465671.585	3675651.86	2.411

Latitude:	29 46 28.5N	Longitude:	90 05 19.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles;Turn left onto LA-45 S/Barataria Blvd for 2.9 miles; Turn left onto LA-3134 S/Lafitte Larose Hwy for 5.4 miles;Turn left onto LA-45 S/Barataria Blvd for 0.7 miles; Turn right onto Crown Point Rd;station will be on the left.

Station is located:

Point is 47ft south of edge of pavement. 22ft north of the nortwest corner of the building. 59ft southeast of the fence corner.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA31		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA31		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	460303.064	3671536.558	1.781	**2006.81**	460303.061	3671536.569	1.774

Latitude:	29 45 3.8N	Longitude:	90 06 07.0W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Woodmere	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles; Turn left onto LA-45 S/Barataria Blvd for 2.9 miles;Turn left onto LA-3134 S for 7.8 miles; Turn left onto Jean Lafitte Blvd for 0.1 miles; Turn left station will be on the left in 223ft.

Station is located:

Point is 66ft north of the northwest corner of the basketball court. 10ft west of the light pole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA33		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA33		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	446554.412	3664723.462	2.43	**2006.81**	446554.409	3664723.473	2.423

Latitude:	29 43 20.5N	Longitude:	90 07 25.9W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Barataria	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W; Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles;Turn left onto LA-45 S/Barataria Blvd for 2.9 miles; Turn left onto LA-3134 S for 7.8 miles; Turn left onto Jean Lafitte Blvd for 3.6 miles; Turn right onto LA-302 W for 0.3 miles;Turn left onto Privateer Blvd station will be on the right in 0.8 miles.

Station is located:

Point is 22ft west of edge of pavement 43ft southwest of light pole.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA34		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA34		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	433290.845	3673086.024	0.135	**2006.81**	433290.842	3673086.034	0.129

Latitude:	29 41 08.3N	Longitude:	90 05 52.7w

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Laffitee	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles; Turn left onto LA-45 S/Barataria Blvd for 2.9 miles; Turn left onto LA-3134 S for 7.8 miles;Turn left onto Jean Lafitte Blvd 7.5 miles.

Station is located:

Point is 54ft south of paved driveway. 20ft west of the edge of pavement.

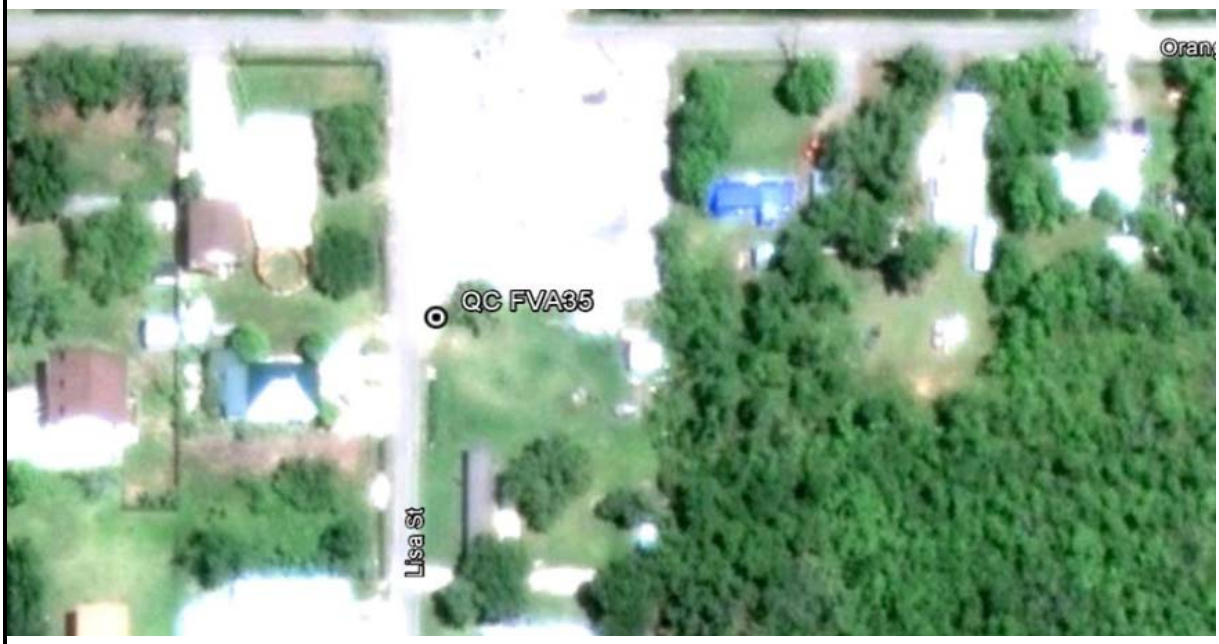
ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA35		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA35		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch



Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	424638.792	3669910.403	0.473	**2006.81**	424638.789	3669910.414	0.466

Latitude:	29 39 430.1N	Longitude:	90 06 29.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Laffitte	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading southeast on US-90 BUS W;Take exit 4B toward Louisiana 45/Barataria Blvd for 0.3 miles; Merge onto Westbank Expy for 0.3 miles;Turn left onto LA-45 S/Barataria Blvd for 2.9 miles; Turn left onto LA-3134 S for 7.8 miles;Turn left onto Jean Lafitte Blvd/State Route 45; Continue to follow State Route 45 for 8.8 miles; Continue onto Perrin St for 0.4 miles; Turn right onto Orange Ave; Take the 1st left onto Lisa St station will be on the left

Station is located:

Point is 183ft southeast of fecnecorner.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA36		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA36		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	559268.836	3694345.302	-3.091	**2006.81**	559268.833	3694345.314	-3.098

Latitude:	30 01 53.4N	Longitude:	90 01 35.4W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E; Continue onto I-610 E (signs for Slidell) for 5.0 miles; Merge onto I-10 E for 1.4 miles; Take exit 240A for Downman Rd 0.5 miles; Slight right onto Downman Rd for 1.7 miles; Make a U-turn at Hayne Blvd; station will be on the right in 0.1 miles.

Station is located:

Point is 64ft southeast of the southeast corner of building 66ft west of the edge of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA37		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA37		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	539871.254	3697669.764	-4.982	**2006.81**	539871.252	3697669.775	-4.988

Latitude:	29 58 40.6N	Longitude:	90 01 00.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading southeast on I-10 E; Slight right to stay on I-10 E (signs for Slidell) for 2.4 miles; Take exit 236B to merge onto LA-39 S/N Claiborne Ave; Continue to follow LA-39 S for 2.8 miles; Turn left onto Forstall St for 0.8 miles; Turn left onto Law St; station will be on the right.

Station is located:

Point is 37ft west of utility pole. 25ft north of the edge of pavement.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA39		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA39		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	556318.846	3711562.064	-7.436	**2006.81**	556318.843	3711562.075	-7.442

Latitude:	30 01 21.8N	Longitude:	89 58 19.9W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward North Shore for 0.1 miles; Turn left onto US-11 N for 0.5 miles;Slight right to merge onto I-10 W toward New Orleans for 7.8 miles; Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 2.4 miles; Take exit 2A to merge onto US-90 W/Chef Menteur Hwy for 2.3 miles;Turn right onto Lurline St for 0.3 miles; Take the 2nd left onto Hammond St the station will be on the right in 390ft.

Station is located:

Point is 70ft west of church sign 52ft south of edge of pavement of driveway.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA4		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA4		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	540256.053	3578464.212	8.198	**2006.81**	540256.051	3578464.223	8.191

Latitude:	29 58 56.0N	Longitude:	90 23 35.5W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Norco	St Charles	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 6.7 miles; Take exit 6 to merge onto LA-48 W/River Rd;station will be on the left in 3.8 miles.

Station is located:

Point is 17ft west of fence 65ft southeast of utility pole.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA40		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA40		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	531165.622	3717121.118	-1.16	**2006.81**	531165.619	3717121.13	-1.166

Latitude:	29 57 12.2N	Longitude:	89 57 20.1W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Chalmette	Plaquenimes Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward North Shore for 0.1 miles; Turn left onto US-11 N 0.5 miles;Slight right to merge onto I-10 W toward New Orleans for 7.8 miles; Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 3.2 miles; Continue onto LA-47 S/Paris Rd for 4.9 miles; Turn left onto E Liberaux St for 0.1 miles Take the 1st left onto Tournefort St;Take the 1st right onto E Magnolia Dr;station will be on the left.

Station is located:

Point is 72ft west of the corner of driveway/sidewalk. 36ft north of edge of pavement.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA43		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA43		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	569297.435	3724626.139	-2.258	**2006.81**	569297.433	3724626.151	-2.265

Latitude:	30 03 28.7N	Longitude:	89 55 49.5W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward North Shore for 0.1 miles; Turn left onto US-11 N for 0.5 miles; Slight right to merge onto I-10 W toward New Orleans for 6.4 miles;Take exit 248 toward Michoud Blvd for 0.4 miles; Turn left toward Michoud Blvd for 0.5 miles; Take the 1st right onto Michoud Blvd station will be on the left in 1.3 miles.

Station is located:

Point is 61ft south of edge of pavement18ft west of pavement 26ft east of pavement.

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA44		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA44		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	556586.993	3733992.721	0.024	**2006.81**	556586.99	3733992.733	0.017

Latitude:	30 01 21.7N	Longitude:	89 54 04.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward Irish Bayou for 0.1 miles; Merge onto US-11 S 5.2 miles; Slight right onto US-90 for 3.3 miles; Turn left onto Industrial Pkwy for 0.6 miles; Slight right onto Intracoastal Dr for 0.8 miles.

Station is located:

Point is 19ft northwest of fence cornere. 61ft west of railroad tracks.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA45		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA45		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	547942.732	3729264.934	7.325	**2006.81**	547942.729	3729264.946	7.319

Latitude:	29 59 56.8N	Longitude:	89 54 59.7W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward North Shore for 0.1 miles;Turn left onto US-11 N for 0.5 miles; Slight right to merge onto I-10 W toward New Orleans 7.8 miles;Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 3.2 miles; Continue onto LA-47 S for 1.9 miles;Turn right for 2.1 miles.

Station is located:

Point is 89ft northeast of the east corner of building.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA46		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA46		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	520513.12	3732503.316	-0.051	**2006.81**	520513.117	3732503.328	-0.057

Latitude:	29 55 24.9N	Longitude:	89 54 26.8W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Meraux	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E;Take exit 254 toward North Shore for 0.1 miles;Turn left onto US-11 N for 0.5 miles; Slight right to merge onto I-10 W toward New Orleans for 7.8 miles; Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 3.2 miles;Continue onto LA-47 S/Paris Rd for 5.7 miles; Turn left onto E Judge Perez Dr for 3.9 miles;Make a U-turn at Livaccari Dr and station will be on the right in 0.1 miles.

Station is located:

Point is 68ft south of power pole. 11ft northeast of edge of pavement.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA48		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA48		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	502186.531	3738916.44	5.526	**2006.81**	502186.528	3738916.451	5.519

Latitude:	29 52 22.6N	Longitude:	89 53 16.5W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Head northeast on I-10 E; Take exit 254 toward North Shore for 0.1 miles;Turn left onto US-11 N for 0.5 miles; Slight right to merge onto I-10 W toward New Orleans for 7.8 miles; Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 3.2 miles; Continue onto LA-47 S/Paris Rd for 6.1 miles;Turn left onto LA-46 E for 6.9 miles; Turn left onto Green Ave for 0.5 miles;Take the 2nd right onto Bobolink Dr; station will be on the right.

Station is located:

Point is 17ft southeast of the corner of the sidewalk 26ft east to the other side of the edge of pavement,

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA49		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
QCFVA49		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	598389.556	3743336.276	8.266	**2006.81**	598389.553	3743336.288	8.26

Latitude:	30 08 14.4N	**Longitude:**	89 52 12.4W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
New Orleans	Orleans Perish	Louisiana

To reach the station, begin at the:

Heading northeast on I-10 E; Take exit 254 toward North Shore for 0.1 miles;Turn left onto US-11 N for 0.6 miles; Turn left onto Frontage Rd; station will be on the left in 1.5 miles.

Station is located:

Point is at 55ft northwest of the guarde rail.61ft southwest of the edge of pavement.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA53		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA53		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	524537.569	3755022.2	9.847	**2006.81**	524537.566	3755022.211	9.84

Latitude:	29 56 01.8N	**Longitude:**	89 50 10.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Chalmette	Plaquemines Perish	Louisiana

To reach the station, begin at the:

Heading southwest on I-10 W;Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 3.2 miles; Continue onto LA-47 S/Paris Rd for 5.7 miles;Turn left onto LA-39 S/E Judge Perez Dr for 8.1 miles; Turn left onto LA-46 E 6.3 miles;Turn left station will be on the left in 7.7 miles.

Station is located:

Point is 54ft southwest of the southeast of the building

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA54		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA54		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	499498.681	3773610.719	2.021	**2006.81**	499498.678	3773610.73	2.015

Latitude:	29 51 51.5N	Longitude:	89 46 42.9W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Braithwaite	Plaquemines Perish	Louisiana

To reach the station, begin at the:

Heading southwest on I-10 W; Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for3.2 miles; Continue onto LA-47 S/Paris Rd for 5.7 miles;Turn left onto LA-39 S/E Judge Perez Dr for 8.1 miles; Turn left onto LA-46 E; station will be on the right in 5.9 miles.

Station is located:

Point is 27ft east of the fence 67ft southeast of the treeline.

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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA55		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA55		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	509458.49	3777004.162	11.024	**2006.81**	509458.487	3777004.172	11.018

Latitude:	29 53 29.7N	Longitude:	89 46 02.8W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Braithwaite	Plaquemines	Louisiana

To reach the station, begin at the:

Heading southwest on I-10 W; Take exit 246A to merge onto I-510 S/LA-47 S toward Chalmette for 3.2 miles; Continue onto LA-47 S/Paris Rd for 5.7 miles;Turn left onto LA-39 S/E Judge Perez Dr for 8.1 miles; Turn left onto LA-46 E for 6.3 miles;Turn left and station will be on the left in 2.6 miles.

Station is located:

Point is 56ft southwest of the edge of the road. 101ft southwest of the top of the leeve

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA6		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
QCFVA6		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	528168.188	3584719.586	14.238	**2006.81**	528168.186	3584719.597	14.231

Latitude:	29 56 55.9N	**Longitude:**	90 22 25.5W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Luling	St Charles	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 6.7 miles; Take exit 6 to merge onto LA-48 W/River Rd for 0.9 miles;Turn right onto S Destrehan Ave station will be on the left.

Station is located:

Point is 26ft north of yeild sign. 30ft west of edge of pavement. 73ft north of the centerline of river road.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA7		Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
QCFVA7		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	525454.671	3605735.258	7.934	**2006.81**	525454.668	3605735.27	7.927

Latitude:	29 56 27.2N	Longitude:	90 18 26.9W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Ama	St Charles Perish	Louisiana

To reach the station, begin at the:

Heading west on I-10 W;Take exit 220 to merge onto I-310 S toward Boutte/Houma for 8.2 miles; Take exit 7 to merge onto LA-18 E/River Rd toward Luling for 5.3 miles; Turn right station will be on the right.

Station is located:

Points is 76ft northeast of the northeast corner of the basketball court pad. 89ft east of the centerline of paved road.

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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	QCFVA9		Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
QCFVA9		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	546739.628	3614539.389	-4.995	**2006.81**	546739.625	3614539.401	-5.001

Latitude:	29 59 57.1N	**Longitude:**	90 16 44.6W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Kenner	Jefferson Perish	Louisiana

To reach the station, begin at the:

Heading east on I-10 E toward Exit 221;Take exit 221 for Loyola Dr for 0.5 miles; Turn right onto Loyola Dr for 0.1 miles;Take the 1st right onto Veterans Blvd/Veterans Memorial Blvd for 0.8 miles; Turn left toward W Union St for 0.4 miles;Take the 3rd left onto W Union St station will be on the left.

Station is located:

Point is 64ft northeast of the corner of fence. 38ft south of tree.

ATLANTIC GROUP
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Land Information Solutions

GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	S 188	AU0520	Alan Kimbrough
Exact Stamping *(photo in survey report)*	**Reference Point is:**	**meters**	**Above Ground Level**
S 188 1963		**meters**	**Below Ground Level**

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	535086.141	3630421.594	7.626	**2006.81**	535086.141	3630421.594	7.678

Latitude:	29 58 00.3N	**Longitude:**	90 13 45.3W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
River Ridge	Jefferson Perish	Louisiana

To reach the station, begin at the:

From the town of Kenner head southeast on 21st st toward Williams Blvd go 66 ft, take the 1st right onto Williams Blvd go 1.5 miles, turn elft onto LA-48 E /3rd St Continue to follow LA-48 E and destination will be on the left go 1.1 miles.

Station is located:

Point is 66ft south of utility pole and 54ft north of utility pole 13ft west of pavement.

ATLANTIC GROUP
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GPS Station Description Form

Contract # / TO #	Client / Project Name		Date
	US Army Corps of Engineers New Orleans District		23-Apr-12
AG Project Number	**Monument Name/Designation**	**Monument No. / NGS PID**	**Representative**
12-101	V 375	AT0760	Alan Kimbrough

Exact Stamping *(photo in survey report)*	Reference Point is:		
V 375 1985		meters	Above Ground Level
		meters	Below Ground Level

Station Sketch

Louisiana South State Plane Coordinate System (1702 LA S)

	Northing:	Easting:	Elev:		Northing:	Easting:	Elev:
2004.65	157858.377	3712188.566	2.208	**2006.81**	517907.025	3712188.57	2.264

Latitude:	29 55 01.5N	Longitude:	89 58 18.0W

The Town / City of:	The County / Township of:	The State / Territory / Providence of:
Chalmette	Orleans	Louisiana

To reach the station, begin at the:

From the town of Timberlane head soutwest toward Lapalco Blvd go 0.2 miles, turn right onto Lapalco Blvd go 0,7 miles, and continue onto LA-428 N/Behrman rd go 2.6 miles slight right ont Holiday Dr go 0.4 miles, turn right onto MacArthur Blvd go 1.3 miles, turn left onto Woodland Dr go 0.3 miles. turn right onFinland Pl go 0.2 miles, continue onto Lennox Ct go 0.1 miles, turn right ont Patterson dr go 1.2 miles, turn right onto Blythe Rd and destination will be on the left go 0.2 miles then arrrive at point.

Station is located:

Point is 15ft south of gate and 15ft northeast of notice sign.

Appendix B: GPS STATION SESSION FORMS

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District	2/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
C 189	C 189 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
BH 1119	ABGPS **(STATIC)** RTK	5900440.001

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
9.701			**9.701**	2.957			**2.957**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
9.701			**9.701**	2.957			**2.957**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	18:38	30 04 24.4N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
19-Feb-2012	23:43	89 50 25.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

The point is in the right location, however this monument sets underwater.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
L FVA14	L FVA 14

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120500.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
7.579			**7.579**	2.310			**2.310**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
7.579			**7.579**	2.310			**2.310**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	22:06	30 07 25.48N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Feb-2012	23:25	89 52 03.09W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA15	L FVA 15

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960500.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.217			**5.217**	1.590			**1.590**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.217			**5.217**	1.590			**1.590**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	18:03	30 04 38.29N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Feb-2012	21:34	89 51 23.48W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA16	L FVA 16

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120500.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.495			**4.495**	1.370			**1.370**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.495			**4.495**	1.370			**1.370**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	19:33	30 01 52.8N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Feb-2012	23:21	90 02 20.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W9 12P8-08D-0028 00#20	US Army Corps of Engineers New Orleans District	2/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 13	L FVA 13

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120440.O02

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
3.694			**3.694**	1.126			**1.126**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
3.694			**3.694**	1.126			**1.126**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	11:40	30 00 23.83N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Feb-2012	15:40	89 56 25.21W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D0028 D0 #20	US Army Corps of Engineers New Orleans District	2/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA18	L FVA18

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920500.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.800			**4.800**	1.463			**1.463**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.800			**4.800**	1.463			**1.463**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	16:19	30 04 33.3N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Feb-2012	17:42	89 56 37.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

The point is in the right location, however this monument sets underwater.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	ABGPS (STATIC) RTK	44670650.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.184			**5.184**	1.580			**1.580**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.184			**5.184**	1.580			**1.580**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	14:28	29 55 01.5N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
6-Mar-2012	0:21	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
A 148	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	ABGPS (STATIC) RTK	64960510.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Feb-2012	15:44	29 59 20.98N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	0:00	90 05 14.21W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L 278	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0332	ABGPS (STATIC) RTK	65120510.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.522			**5.522**	1.683			**1.683**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.522			**5.522**	1.683			**1.683**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Feb-2012	17:13	29 52 34.17N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Feb-2012	20:20	89 53 45.38W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 D0#20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA16	L FVA16

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920510.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.613			**4.613**	1.406			**1.406**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.613			**4.613**	1.406			**1.406**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	11:54	30 01 52.8N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	14:10	90 02 20.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
URBAN1	URBAN1

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120510.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.266			**5.266**	1.605			**1.605**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.266			**5.266**	1.605			**1.605**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Feb-2012	21:33	29 56 41.01 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
20-Feb-2012	22:33	90 03 51.83 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 D0#20	US Army Corps of Enjineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
ATO760	ABGPS (STATIC) RTK	DMBP0510.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.846			**4.846**	1.477			**1.477**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.846			**4.846**	1.477			**1.477**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	16:19	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	23:44	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
5720+98.12=PLMS 597	PLMS 597 1981

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
DH3214	ABGPS **(STATIC)** RTK	DMBP0520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.627			**5.627**	1.715			**1.715**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.627			**5.627**	1.715			**1.715**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	17:42	29 56 24.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	0:51	90 19 29.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
G 95	G 95 1938 PLMS 5303 5357 75

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
BJ 0710	ABGPS (STATIC) RTK	65120520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.787			**5.787**	1.764			**1.764**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.787			**5.787**	1.764			**1.764**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	17:12	30 00 02.3N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	18:44	90 25 44.9W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 04	L FVA 04

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	1920520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.921			**4.921**	1.500			**1.500**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.921			**4.921**	1.500			**1.500**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	16:17	29 59 54.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	22:15	90 16 46.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA05	L FVA05

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.171			**5.171**	1.576			**1.576**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.171			**5.171**	1.576			**1.576**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	15:26	29 59 54.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	16:18	90 16 46.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 06	L FVA 06

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	6512050.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.279			**5.279**	1.609			**1.609**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.279			**5.279**	1.609			**1.609**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	19:23	29 59 27.08N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	20:20	90 22 04.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 08	L FVA 08

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.046			**5.046**	1.538			**1.538**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.046			**5.046**	1.538			**1.538**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	23:15	29 54 36.1N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	0:15	90 16 13.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/21/2012

AG Project No.	Survey Firm	Operator Name
12-101	2/21/2012	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 09	L FVA 09

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.524			**4.524**	1.379			**1.379**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.524			**4.524**	1.379			**1.379**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	17:10	29 52 34.7N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
21-Feb-2012	18:15	90 10 03.4W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/12/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AUO520	ABGPS **(STATIC)** RTK	65120520.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.322			**5.322**	1.622			**1.622**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.322			**5.322**	1.622			**1.622**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
21-Feb-2012	21:25	29 58 00.3N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	0:54	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
B 369	B 369

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU2163	ABGPS (STATIC) RTK	01920530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.141			**5.141**	1.567			**1.567**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.141			**5.141**	1.567			**1.567**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	16:47	29 46 05.4N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	21:45	90 06 01.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 02	L FVA 02

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.921			**4.921**	1.500			**1.500**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.921			**4.921**	1.500			**1.500**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	15:50	29 46 53.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	18:27	90 01 27.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 09	L FVA 09

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.518			**4.518**	1.377			**1.377**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.518			**4.518**	1.377			**1.377**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	19:35	29 52 34.7N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	23:53	90 10 03.4W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 10	L FVA 10

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.974			**4.974**	1.516			**1.516**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.974			**4.974**	1.516			**1.516**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	16:39	29 56 58.0N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	17:30	90 08 46.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 19	L FVA 19

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.069			**5.069**	1.545			**1.545**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.069			**5.069**	1.545			**1.545**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	15:51	29 40 06.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	18:32	90 06 36.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 20	L FVA 20

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
6.302			**6.302**	1.921			**1.921**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
6.302			**6.302**	1.921			**1.921**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	16:32	29 44 16.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
22-Feb-2012	21:27	90 07 26.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/22/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 1	L FVA 1

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960530.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.089			**5.089**	1.551			**1.551**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.089			**5.089**	1.551			**1.551**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
22-Feb-2012	19:41	29 48 26.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
23-Feb-2012	23:51	90 06 56.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/23/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
A 148	A 148

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	ABGPS (STATIC) RTK	DMBP0540.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
23-Feb-2012	20:24	29 59 20.9N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	1:00	90 05 14.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/23/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960540.o00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.049			**5.049**	1.539			**1.539**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.049			**5.049**	1.539			**1.539**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
23-Feb-2012	19:06	29 55 29.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
23-Feb-2012	23:59	90 08 03.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/23/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 04	L FVA 04

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0540.0O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.446			**5.446**	1.660			**1.660**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.446			**5.446**	1.660			**1.660**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
23-Feb-2012	15:47	30 02 26.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
23-Feb-2012	17:59	90 14 33.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/23/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 09	L FVA 09

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120540.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.233			**5.233**	1.595			**1.595**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.233			**5.233**	1.595			**1.595**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
23-Feb-2012	21:54	29 52 34.7N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
23-Feb-2012	23:25	90 10 03.4W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/23/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 10	L FVA 10

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920540.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.351			**5.351**	1.631			**1.631**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.351			**5.351**	1.631			**1.631**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
23-Feb-2012	10:35	29 56 58.0N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
23-Feb-2012	15:06	90 08 46.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 17	L FVA 17

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120540.0O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.154			**5.154**	1.571			**1.571**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.154			**5.154**	1.571			**1.571**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	16:02	30 01 12.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	20:27	90 09 33.5W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/23/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S188	S188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AUO520	ABGPS (STATIC) RTK	64960540.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136492

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	1584

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.056			**5.056**	1.541			**1.541**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.056			**5.056**	1.541			**1.541**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
23-Feb-2012	15:19	29 58 00.3N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
23-Feb-2012	18:08	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
C 189	C 189

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960550.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
9.701			**9.701**	2.957			**2.957**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
9.701			**9.701**	2.957			**2.957**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	14:19	30 04 24.4N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	19:31	89 50 25.8w

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 01	L FVA 01

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0560.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.223			**5.223**	1.592			**1.592**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.223			**5.223**	1.592			**1.592**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Feb-2012	0:31	29 48 26.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Feb-2012	3:28	90 06 56.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
L FVA 02	L FVA 02

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120550.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.312			**5.312**	1.619			**1.619**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.312			**5.312**	1.619			**1.619**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	22:50	29 46 53.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Feb-2012	2:42	90 01 27.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 03	L FVA 03

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	64960550.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.282			**5.282**	1.610			**1.610**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.282			**5.282**	1.610			**1.610**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	21:28	29 51 48.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	3:41	89 54 35.2w

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 12	L FVA 12

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	65120550.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.233			**5.233**	1.595			**1.595**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.233			**5.233**	1.595			**1.595**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	17:03	29 51 58.1N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	21:51	89 46 47.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA13	L FVA13

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920550.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.305			**5.305**	1.617			**1.617**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.305			**5.305**	1.617			**1.617**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	10:08	30 00 23.8N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	13:30	89 56 25.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	ABGPS (STATIC) RTK	01920550.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.072			**5.072**	1.546			**1.546**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.072			**5.072**	1.546			**1.546**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Feb-2012	14:40	29 55 01.5N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Feb-2012	15:50	89 58 18.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Anderson

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 01	L FVA 01

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920560.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30182

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.174			**5.174**	1.577			**1.577**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.174			**5.174**	1.577			**1.577**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Feb-2012	15:39	29 48 26.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Feb-2012	17:39	90 06 56.0W

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ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Anderson

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
L FVA 06	L FVA 06

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920560.0O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30182

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.236			**5.236**	1.596			**1.596**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.236			**5.236**	1.596			**1.596**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Feb-2012	11:30	29 59 27.0N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Feb-2012	12:53	90 22 04.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Anderson

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
L FVA 09	L FVA 09

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0560.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.016			**5.016**	1.529			**1.529**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.016			**5.016**	1.529			**1.529**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Feb-2012	20:56	29 52 34.7N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Feb-2012	3:21	90 10 03.4W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
ATO760	ABGPS (STATIC) RTK	64960560.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.072			**5.072**	1.546			**1.546**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.072			**5.072**	1.546			**1.546**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Feb-2012	14:38	29 55 01.5N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Feb-2012	17:40	89 58 18.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/26/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Anderson

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
L FVA 03	L FVA 03

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920570.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30182

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.072			**5.072**	1.546			**1.546**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.072			**5.072**	1.546			**1.546**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
26-Feb-2012	15:20	29 51 48.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
26-Feb-2012	19:54	89 54 35.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/26/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Anderson

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 12	L FVA 12

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) (RTK)	1920570.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30182

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.177			**5.177**	1.578			**1.578**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.177			**5.177**	1.578			**1.578**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
26-Feb-2012	20:27	29 51 58.1N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
27-Feb-2012	0:06	89 46 47.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/26/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
ATO760	ABGPS (STATIC) RTK	01920570.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.135			**5.135**	1.565			**1.565**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.135			**5.135**	1.565			**1.565**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
26-Feb-2012	14:17	29 55 01.5N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
27-Feb-2012	0:58	89 58 18.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/27/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 05	L FVA 05

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	01920580.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.003			**5.003**	1.525			**1.525**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.003			**5.003**	1.525			**1.525**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
27-Feb-2012	17:23	29 59 54.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
27-Feb-2012	23:47	90 16 46.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/28/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 06	L FVA 06

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	1920059.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.341			**5.341**	1.628			**1.628**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.341			**5.341**	1.628			**1.628**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
28-Feb-2012	16:19	29 59 27.08N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
28-Feb-2012	23:59	90 22 04.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	2/29/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 20	L FVA 20

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	1902060.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.361			**5.361**	1.634			**1.634**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.361			**5.361**	1.634			**1.634**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
29-Feb-2012	16:12	29 44 16.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
29-Feb-2012	22:37	90 07 26.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/1/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
L FVA 01	L FVA 01

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	192061.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.188			**6.188**	1.886			**1.886**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.188			**6.188**	1.886			**1.886**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
1-Mar-2012	15:15	29 48 26.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
1-Mar-2012	22:46	90 06 56.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/2/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 08	L FVA 08

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	192062.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.056			**5.056**	1.541			**1.541**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.056			**5.056**	1.541			**1.541**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
2-Mar-2012	18:04	29 54 36.1N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
2-Mar-2012	21:36	90 16 13.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/2/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 09	L FVA 09

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	01920620.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.023			**5.023**	1.531			**1.531**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.023			**5.023**	1.531			**1.531**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
2-Mar-2012	13:32	29 52 34.7N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
2-Mar-2012	16:50	90 10 03.4W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/2/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 17	L FVA 17

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	192062.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.259			**5.259**	1.603			**1.603**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.259			**5.259**	1.603			**1.603**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
2-Mar-2012	22:48	30 01 12.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
3-Mar-2012	2:11	90 09 33.5W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/3/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 13	L FVA 13

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	01920630.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.010			**5.010**	1.527			**1.527**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.010			**5.010**	1.527			**1.527**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
3-Mar-2012	22:13	30 00 23.8N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
		89 56 25.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

High Winds blew the radio antenna down on the GPS antenna causing all equipment to fall over.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/4/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 13	L FVA 13

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	01920640.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.214			**6.214**	1.894			**1.894**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.214			**6.214**	1.894			**1.894**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
4-Mar-2012	0:53	30 00 23.8N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
4-Mar-2012	1:21	89 56 25.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/3/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA15	L FVA15

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC (RTK)	01920630.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.220			**5.220**	1.591			**1.591**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.220			**5.220**	1.591			**1.591**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
3-Mar-2012	17:22	30 04 38.29N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
3-Mar-2012	21:23	89 51 23.48W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/4/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
A 148	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	(ABGPS) STATIC (RTK)	DMBP0640.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
6.562			**6.562**	2.000			**2.000**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
6.562			**6.562**	2.000			**2.000**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
4-Mar-2012	17:18	29 59 20.9N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
4-Mar-2012	23:06	90 05 14.21W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/4/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
A 148	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	(ABGPS) STATIC (RTK)	DMBP0640.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
4-Mar-2012	23:12	29 59 20.9N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
5-Mar-2012	5:02	90 05 14.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/4/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	64960640.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.299			**5.299**	1.615			**1.615**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.299			**5.299**	1.615			**1.615**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
4-Mar-2012	14:34	29 55 29.24N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
4-Mar-2012	5:06	90 08 03.13W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/4/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC RTK	01920640.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.688			**4.688**	1.429			**1.429**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.688			**4.688**	1.429			**1.429**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
4-Mar-2012	14:12	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
4-Mar-2012	22:15	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/4/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC RTK	01920640.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.688			**4.688**	1.429			**1.429**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.688			**4.688**	1.429			**1.429**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
4-Mar-2012	22:22	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
5-Mar-2012	4:09	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Power failure

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/5/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
A 148	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	(ABGPS) STATIC (RTK)	01920650.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
6.562			**6.562**	2.000			**2.000**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
6.562			**6.562**	2.000			**2.000**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	15:16	29 59 20.9N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
6-Mar-2012	1:15	90 05 14.21W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/5/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	64960660.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.026			**5.026**	1.532			**1.532**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.026			**5.026**	1.532			**1.532**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	15:13	29 55 29.24N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
5-Mar-2012	1:04	90 08 03.13W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/5/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	64960650.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.341			**5.341**	1.628			**1.628**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.341			**5.341**	1.628			**1.628**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	13:59	29 58 00.31N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
6-Mar-2012	1:19	90 13 45.30W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/5/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC (RTK)	44670650.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.184			**5.184**	1.580			**1.580**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.184			**5.184**	1.580			**1.580**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	14:28	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
6-Mar-2012	1:21	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/6/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	64960660.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.026			**5.026**	1.532			**1.532**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.026			**5.026**	1.532			**1.532**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
6-Mar-2012	13:15	29 55 29.24N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
7-Mar-2012	2:22	90 08 03.13W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/6/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	44670660.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.155			**6.155**	1.876			**1.876**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.155			**6.155**	1.876			**1.876**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
6-Mar-2012	12:30	29 58 00.31N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
6-Mar-2012	17:12	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/6/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Zac Andersen

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	44670660.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.155			**6.155**	1.876			**1.876**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.155			**6.155**	1.876			**1.876**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
6-Mar-2012	17:13	29 58 00.31N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
7-Mar-2012	3:01	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/6/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC (RTK)	65120660.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.351			**5.351**	1.631			**1.631**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.351			**5.351**	1.631			**1.631**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
6-Mar-2012	12:28	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
7-Mar-2012	1:37	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/5/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	DMBP0680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.026			**5.026**	1.532			**1.532**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.026			**5.026**	1.532			**1.532**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	15:18	29 55 29.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
3-May-2012	1:04	90 08 03.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA21	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.003			**5.003**	1.525			**1.525**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.003			**5.003**	1.525			**1.525**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	23:06	30 1 45.43 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	23:26	90 5 33.75 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA36	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
4.990			**4.990**	1.521			**1.521**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
4.990			**4.990**	1.521			**1.521**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	16:24	30 1 53.03 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	16:45	90 1 35.43 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA37	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.253			**5.253**	1.601			**1.601**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.253			**5.253**	1.601			**1.601**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	16:45	29 58 40.64 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	17:19	90 1 0.15 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA39	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.052			**5.052**	1.540			**1.540**		
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.052			**5.052**	1.540			**1.540**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	17:30	30 1 21.84 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	17:50	89 58 19.97 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA40	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS **(STATIC)** RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.249			**5.249**	1.600			**1.600**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.249			**5.249**	1.600			**1.600**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	18:00	29 57 12.20 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
8-Mar-2012	18:30	89 57 20.18 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA43	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.757			**4.757**	1.450			**1.450**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.757			**4.757**	1.450			**1.450**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	18:37	30 3 28.75 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	18:58	89 55 49.56 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA44	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.236			**5.236**	1.596			**1.596**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.236			**5.236**	1.596			**1.596**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	19:30	30 1 21.79 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
8-Mar-2012	19:50	89 54 4.79 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
QC FVA46	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.299			**5.299**	1.615			**1.615**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.299			**5.299**	1.615			**1.615**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	23:14	29 55 24.90 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	23:34	89 54 26.83 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA48	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS **(STATIC)** RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**TRUE VERTICAL**	SLANT
5.213			**5.213**	1.589			**1.589**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**TRUE VERTICAL**	SLANT
5.213			**5.213**	1.589			**1.589**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	19:15	29 52 22.69 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	19:41	89 53 16.58 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA49	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.052			**5.052**	1.540			**1.540**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.052			**5.052**	1.540			**1.540**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	21:56	30 8 14.40 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
8-Mar-2012	22:16	89 52 12.43 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
QC FVA53	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS **(STATIC)** RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.289			**5.289**	1.612			**1.612**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.289			**5.289**	1.612			**1.612**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	22:03	29 56 1.89 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
8-Mar-2012	22:24	89 50 10.34 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA54	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.266			**5.266**	1.605			**1.605**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.266			**5.266**	1.605			**1.605**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	20:09	29 51 51.59 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	20:29	89 46 42.95 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/8/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA55	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.328			**5.328**	1.624			**1.624**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.328			**5.328**	1.624			**1.624**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
8-Mar-2012	21:00	29 53 29.72 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
8-Mar-2012	21:24	89 46 2.87 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/5/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	01920680.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.266			**5.266**	1.605			**1.605**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.266			**5.266**	1.605			**1.605**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
5-Mar-2012	14:32	29 58 00.3N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
6-Mar-2012	1:55	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA13	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.390			**5.390**	1.643			**1.643**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.390			**5.390**	1.643			**1.643**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	23:11	29 53 38.81 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	23:31	90 12 22.74 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA14	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.305			**5.305**	1.617			**1.617**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.305			**5.305**	1.617			**1.617**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	22:30	29 53 20.30 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
9-Mar-2012	22:50	90 8 37.34 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA18	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.161			**5.161**	1.573			**1.573**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.161			**5.161**	1.573			**1.573**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	21:05	29 51 4.03 N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
9-Mar-2012	21:25	90 6 5.52 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA19	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.154			**5.154**	1.571			**1.571**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.154			**5.154**	1.571			**1.571**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	20:20	29 48 43.54 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	20:40	90 6 29.84 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA28	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.236			**5.236**	1.596			**1.596**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.236			**5.236**	1.596			**1.596**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	17:35	29 52 48.32 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	17:55	90 2 52.20 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA22	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.259			**5.259**	1.603			**1.603**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.259			**5.259**	1.603			**1.603**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	18:49	29 50 5.10 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	19:09	90 2 53.58 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA24	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.115			**5.115**	1.559			**1.559**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.115			**5.115**	1.559			**1.559**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	20:00	29 47 20.89 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	20:20	90 1 44.20 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
QC FVA25	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.348			**5.348**	1.630			**1.630**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.348			**5.348**	1.630			**1.630**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	21:36	29 56 48.57 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	21:56	90 2 11.72 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA26	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.059			**5.059**	1.542			**1.542**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.059			**5.059**	1.542			**1.542**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	22:35	29 52 1.96 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	22:55	89 59 31.26 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA27	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.902			**4.902**	1.494			**1.494**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.902			**4.902**	1.494			**1.494**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	23:18	29 54 34.14N

End Date (UTC)	End Time (UTC)	Approx. Long. *(if available)*
9-Mar-2012	23:38	89 57 2.62 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA29	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.220			**5.220**	1.591			**1.591**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.220			**5.220**	1.591			**1.591**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	15:34	30 4 1.01 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	15:54	89 49 57.35 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA30	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.302			**5.302**	1.616			**1.616**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.302			**5.302**	1.616			**1.616**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	19:34	29 46 28.59 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	19:56	90 5 19.66 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
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AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA31	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.351			**5.351**	1.631			**1.631**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.351			**5.351**	1.631			**1.631**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	18:56	29 45 35.88 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	19:17	90 6 7.01 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA32	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.335			**5.335**	1.626			**1.626**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.335			**5.335**	1.626			**1.626**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	18:21	29 47 21.33 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	18:42	90 01 43.79 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA33	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.246			**5.246**	1.599			**1.599**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.246			**5.246**	1.599			**1.599**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	15:58	29 43 20.50 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	16:25	90 7 25.95 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Land Information Solutions

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
QC FVA34	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.367			**5.367**	1.636			**1.636**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.367			**5.367**	1.636			**1.636**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	17:31	29 41 8.32 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	17:55	90 5 52.73 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA35	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.341			**5.341**	1.628			**1.628**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.341			**5.341**	1.628			**1.628**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	16:53	29 39 43.01 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	17:13	90 6 29.78 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA45	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS **(STATIC)** RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.233			**5.233**	1.595			**1.595**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**(TRUE VERTICAL)**	SLANT
5.233			**5.233**	1.595			**1.595**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
9-Mar-2012	0:08	29 59 56.81 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
9-Mar-2012	0:31	89 54 59.78 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/9/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA13	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670690.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.285			**5.285**	1.611			**1.611**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.285			**5.285**	1.611			**1.611**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
10-Mar-2012	0:10	29 55 37.07 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
10-Mar-2012	0:30	90 12 30.26 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/14/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	DMBP0680.O01

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.302			**5.302**	1.616			**1.616**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.302			**5.302**	1.616			**1.616**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
14-Mar-2012	21:03	29 55 29.24N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
15-Mar-2012	3:12	90 08 03.13W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/14/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
G 95	G 95 1938 PLMS 53 03 5357 75

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
BJ0710	(ABGPS) STATIC RTK	65120740.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.062			**5.062**	1.543			**1.543**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.062			**5.062**	1.543			**1.543**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
14-Mar-2012	20:00	30 00 02.35N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
15-Mar-2012	2:27	90 25 44.9W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/14/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	01920680.O01

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.351			**5.351**	1.631			**1.631**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.351			**5.351**	1.631			**1.631**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
14-Mar-2012	22:02	29 58 00.31N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
15-Mar-2012	3:45	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/15/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	00000750.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.682			**5.682**	1.732			**1.732**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.682			**5.682**	1.732			**1.732**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
15-Mar-2012	15:06	29 55 29.24N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
16-Mar-2012	4:28	90 08 03.13W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/15/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
G 95	G 95 1938 PLMS 53 03 5357 75

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
BJ0710	(ABGPS) STATIC RTK	01920750.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.803			**4.803**	1.464			**1.464**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.803			**4.803**	1.464			**1.464**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
15-Mar-2012	13:49	30 00 02.35N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
16-Mar-2012	5:30	90 25 44.92W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/15/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	65120750.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.440			**5.440**	1.658			**1.658**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.440			**5.440**	1.658			**1.658**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
15-Mar-2012	14:32	29 58 00.31N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
16-Mar-2012	4:55	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/16/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	65120760.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.446			**5.446**	1.660			**1.660**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.446			**5.446**	1.660			**1.660**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
16-Mar-2012	18:49	29 55 29.24N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
17-Mar-2012	16:10	90 08 03.13W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/16/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	00000760.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.518			**5.518**	1.682			**1.682**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.518			**5.518**	1.682			**1.682**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
16-Mar-2012	19:30	29 58 00.31N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
17-Mar-2012	3:17	90 13 45.30W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/16/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC RTK	01920760.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.226			**5.226**	1.593			**1.593**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.226			**5.226**	1.593			**1.593**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
16-Mar-2012	17:53	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
17-Mar-2012	3:01	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/17/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
A 148	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	(ABGPS) STATIC RTK	65120770.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
17-Mar-2012	16:13	29 59 20.98N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
18-Mar-2012	3:40	90 05 14.21W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/17/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
LAKEFRONT	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	LAKE0770.120

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet

1	2	3	AVG
5.499			**5.499**

Starting Antenna Height in Meters

1	2	3	AVG
1.676			**1.676**

Type of Measurement *(circle one)*: (TRUE VERTICAL) SLANT

Ending Antenna Height in Feet

1	2	3	AVG
5.499			**5.499**

Ending Antenna Height in Meters

1	2	3	AVG
1.676			**1.676**

Type of Measurement *(circle one)*: (TRUE VERTICAL) SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
17-Mar-2012	15:40	30 02 06.65N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
18-Mar-2012	3:45	90 01 26.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

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ATLANTIC GROUP
Remote Sensing and
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/17/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC RTK	01920770.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.299			**5.299**	1.615			**1.615**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.299			**5.299**	1.615			**1.615**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
17-Mar-2012	14:29	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
18-Mar-2012	4:13	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/18/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
A 148	A 148 1951

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0429	(ABGPS) STATIC RTK	65120780.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
6.562			**6.562**	2.000			**2.000**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
18-Mar-2012	17:32	29 59 20.98N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	4:27	90 05 14.21W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/17/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Alan Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
LAKEFRONT	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	00000770.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.499			**5.499**	1.676			**1.676**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.499			**5.499**	1.676			**1.676**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
17-Mar-2012	10:40	30 02 06.65N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
17-Mar-2012	22:45	90 01 26.60W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/18/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
LAKEFRONT	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	LAKE0780.120

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.187			**5.187**	1.581			**1.581**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.187			**5.187**	1.581			**1.581**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
18-Mar-2012	20:44	30 02 06.65N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
18-Mar-2012	22:42	90 01 26.60W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
LAKEFRONT	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	LAKE0790.12o

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.154			**5.154**	1.571			**1.571**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.154			**5.154**	1.571			**1.571**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	1:04	30 02 06.65N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	4:40	90 01 26.60W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/18/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
V 375	V 375 1985

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC RTK	01920780.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
4.928			**4.928**	1.502			**1.502**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
4.928			**4.928**	1.502			**1.502**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
18-Mar-2012	14:39	29 55 01.55N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	3:04	89 58 18.04W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
C 189	C 189 1963

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
BH1119	(ABGPS) (STATIC) RTK	65120790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
9.701			**9.701**	2.957			**2.957**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
9.701			**9.701**	2.957			**2.957**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	16:29	30 04 24.4N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	19:46	89 50 25.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
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GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L 278	L 278 1970

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0332	(ABGPS) (STATIC) RTK	DMBP0790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.492			**5.492**	1.674			**1.674**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.492			**5.492**	1.674			**1.674**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Feb-2012	15:06	29 52 34.1N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	17:40	89 53 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA02	L FVA02

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.745			**5.745**	1.751			**1.751**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.745			**5.745**	1.751			**1.751**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	23:24	29 46 53.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	1:48	90 01 27.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA12	L FVA12

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.545			**5.545**	1.690			**1.690**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.545			**5.545**	1.690			**1.690**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	15:44	29 51 58.1N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	15:44	89 46 47.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA16	L FVA16

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	00000790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.282			**5.282**	1.610			**1.610**	(TRUE VERTICAL)	SLANT

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.282			**5.282**	1.610			**1.610**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	14:23	30 01 52.8N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	3:37	90 02 20.8W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA 33	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0800.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.226			**5.226**	1.593			**1.593**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.226			**5.226**	1.593			**1.593**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Mar-2012	0:13	29 43 20.50 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	0:47	90 7 25.95 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA46	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS **STATIC** RTK	DMBP0790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**TRUE VERTICAL**	SLANT
5.561			**5.561**	1.695			**1.695**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**TRUE VERTICAL**	SLANT
5.561			**5.561**	1.695			**1.695**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	21:05	29 55 24.90 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	21:56	89 54 26.83 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA 20	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0800.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.872			**4.872**	1.485			**1.485**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.872			**4.872**	1.485			**1.485**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Mar-2012	17:14	29 52 48.32 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	17:35	90 2 52.20 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 02	L FVA 02

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	44670790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.315			**5.315**	1.620			**1.620**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.315			**5.315**	1.620			**1.620**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Mar-2012	18:42	29 46 59.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	19:38	90 01 27.2W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
L FVA 19	L FVA 19

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	0000080.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.098			**5.098**	1.554			**1.554**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.098			**5.098**	1.554			**1.554**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Mar-2012	16:26	29 40 06.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	21:00	90 06 36.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA 16	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0800.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.354			**5.354**	1.632			**1.632**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.354			**5.354**	1.632			**1.632**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Mar-2012	14:54	30 0 4.96 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	15:14	90 7 46.76 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/20/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA 24	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0800.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.213			**5.213**	1.589			**1.589**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.213			**5.213**	1.589			**1.589**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
20-Mar-2012	18:07	29 47 20.89 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
20-Mar-2012	18:28	90 1 44.20 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/19/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA 46	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS **(STATIC)** RTK	DMBP0790.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**TRUE VERTICAL**	SLANT
5.561			**5.561**	1.695			**1.695**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	**TRUE VERTICAL**	SLANT
5.561			**5.561**	1.695			**1.695**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
19-Mar-2012	21:05	29 55 24.90 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
19-Mar-2012	21:36	89 54 26.83 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
B 369	B 369

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU2163	(ABGPS) STATIC RTK	44670850.0O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.571			**5.571**	1.698			**1.698**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.571			**5.571**	1.698			**1.698**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Mar-2012	18:27	29 46 05.4N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	5:11	90 06 01.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
B 369	B 369

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU2163	(ABGPS) STATIC RTK	44670850.0O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	34467

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	8376

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.571			**5.571**	1.698			**1.698**	(TRUE VERTICAL)	SLANT
Ending Antenna Height in Feet				**Ending Antenna Height in Meters**				**Type of Measurement** *(circle one)*	
1	2	3	AVG	1	2	3	AVG		
5.571			**5.571**	1.698			**1.698**	(TRUE VERTICAL)	SLANT

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Mar-2012	0:19	29 46 05.4N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	5:12	90 06 01.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	0000084.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.905			**4.905**	1.495			**1.495**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
4.905			**4.905**	1.495			**1.495**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Mar-2012	14:07	29 55 29.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	6:31	90 08 03.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
LAKEFRONT	LAKEFRONT

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	65120840.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136496

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	15894

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.020			**5.020**	1.530			**1.530**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.020			**5.020**	1.530			**1.530**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Mar-2012	15:00	30 02 06.6N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
24-Mar-2012	22:28	90 01 26.6W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/24/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
V 375	V 375

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS STATIC RTK	01920840.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	TRUE VERTICAL	SLANT
5.007			**5.007**	1.526			**1.526**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	TRUE VERTICAL	SLANT
5.007			**5.007**	1.526			**1.526**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
24-Mar-2012	13:20	29 55 01.5N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	5:54	89 58 18.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
BS2	BS2

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	(ABGPS) STATIC RTK	65120850.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136512

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	7526

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.492			**5.492**	1.674			**1.674**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.492			**5.492**	1.674			**1.674**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Mar-2012	10:24	29 55 29.2N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	23:44	90 08 03.1W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
QC FVA 03	

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
	ABGPS (STATIC) RTK	DMBP0850.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	130521
Data Collector Manufacturer	**Data Collector Model**	**Data Collector Serial No.**
N/A	N/A	N/A
Antenna Part No.	**Antenna Model**	**Antenna Serial No.**
667126	LEIAT502	12609

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.413			**5.413**	1.650			**1.650**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.413			**5.413**	1.650			**1.650**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Mar-2012	21:54	30 04 28.39 N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	22:16	90 23 57.93 W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Designation	Exact Stamping *(photo in survey report)*
S 188	S 188

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AU0520	(ABGPS) STATIC RTK	0000085.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	136534

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	5151

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.197			**5.197**	1.584			**1.584**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.197			**5.197**	1.584			**1.584**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Mar-2012	10:52	29 58 00.3N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
25-Mar-2012	23:14	90 13 45.3W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

ATLANTIC GROUP
Remote Sensing and
Land Information Solutions

GPS Station Session Form

Contract # / TO #	Client / Project Name	Date
W912P8-08-D-0028 DO# 20	US Army Corps of Engineers New Orleans District	3/25/2012

AG Project No.	Survey Firm	Operator Name
12-101	Atlantic Group	Ben Kimbrough

Monument Name/Desigination	Exact Stamping *(photo in survey report)*
V 375	V 375

Monument No./PID	Collection Type *(circle one)*	File Name *(receiver generated)*
AT0760	(ABGPS) STATIC RTK	01920850.O00

Receiver Manufacturer	Receiver Model	Receiver Serial No.
LEICA	SR530	30192

Data Collector Manufacturer	Data Collector Model	Data Collector Serial No.
N/A	N/A	N/A

Antenna Part No.	Antenna Model	Antenna Serial No.
667126	LEIAT502	11319

Starting Antenna Height in Feet				Starting Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.374			**5.374**	1.638			**1.638**		

Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement *(circle one)*	
1	2	3	AVG	1	2	3	AVG	(TRUE VERTICAL)	SLANT
5.374			**5.374**	1.638			**1.638**		

Antenna Reference Point *(diagram in survey report)*
(Antenna Reference Point = VR + VO + VE2)

Start Date (UTC)	Start Time (UTC)	Approx. Lat. *(if available)*
25-Mar-2012	11:35	29 55 01.5N
End Date (UTC)	**End Time (UTC)**	**Approx. Long.** *(if available)*
26-Mar-2012	0:24	89 58 18.0W

Describe any abnormalites and/or problems encountered during the session, include time of occurance and duration.

Site Diagram

Appendix C: FIELD NOTES

Projects (continued)

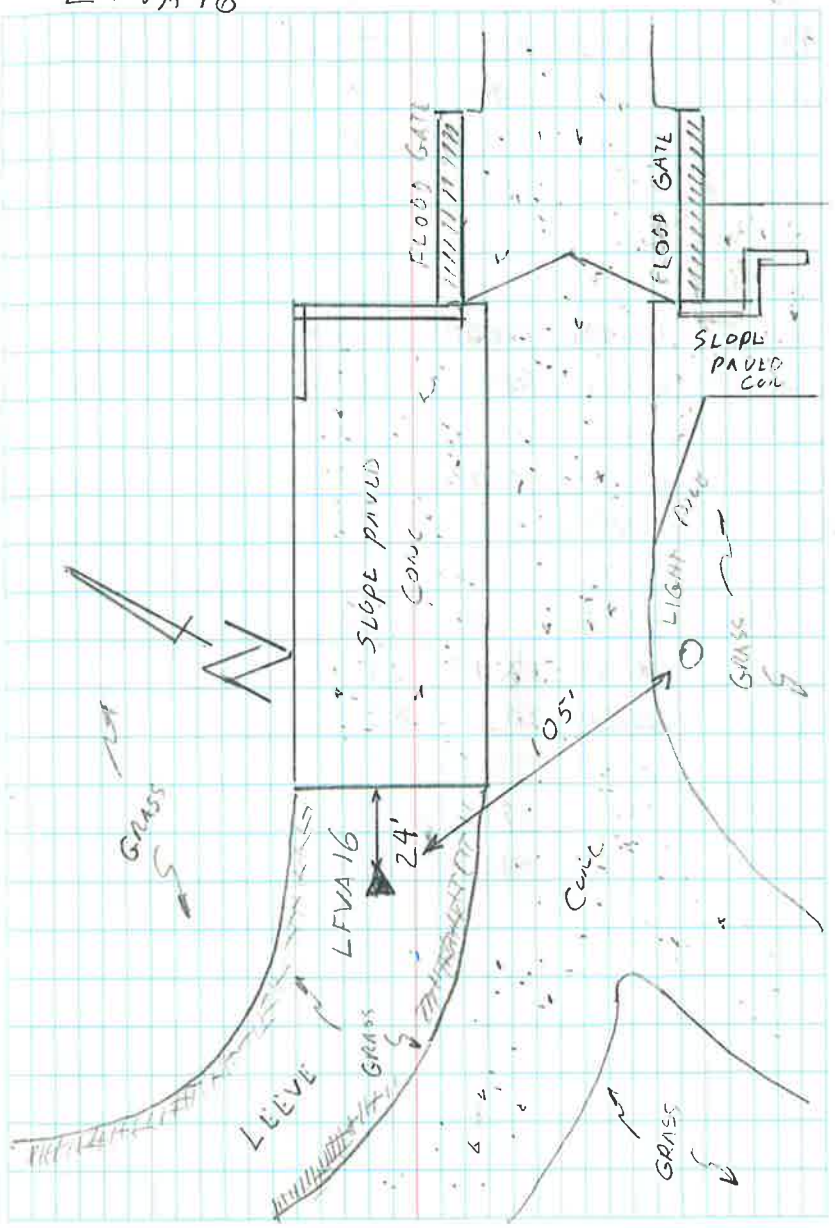
12-101

NEW ORLEANS ACOE

2012

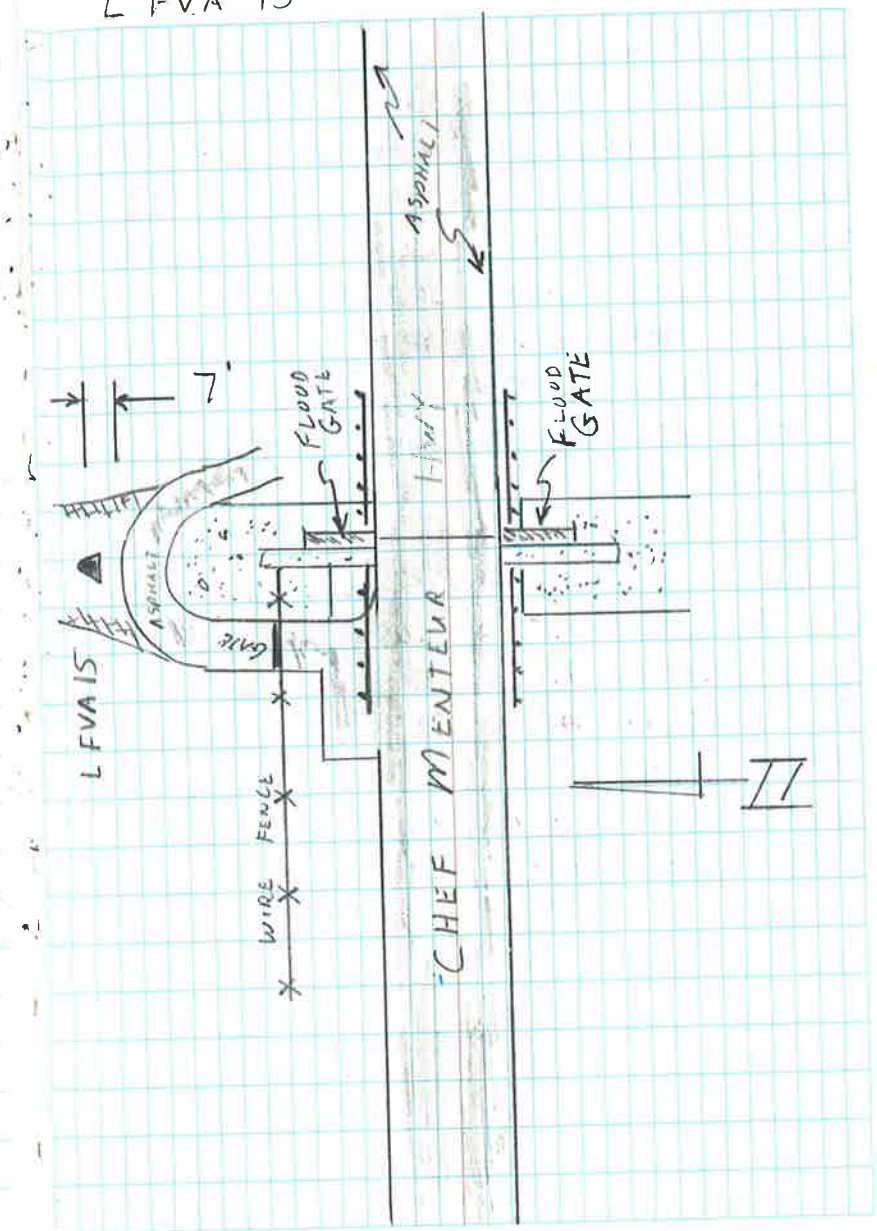
	R3	B3	R3
Unit	3365	2664	3365
Date	2-19-12	2-19-12	2-19-12
Julian D.	050	050	050
Station	LFVA15	LFVA16	LFVA14
Coll Type	Static	Static	Static
Rec Man	Leica	Leica	Leica
Rec Mod	SR530	SR530	SR530
Rec S/n	136496	136512	136496
Ant Plate	667126	667126	667126
Ant Mod	LEIAT502	LEIAT502	LEIAT502
Ant S/n	15894	7526	15894
Ant Ht	1.230m	1.010m	1.950m
Offset	0.36m	0.36m	0.36m
Ant Ant	1.590m	1.370m	2.310m
Start	18:03	19:33	22:06
Stop	21:34	23:21	23:25
Total	3:31	3:58	1:18
CST	12:03	13:33	16:06
CST	15:34	17:21	17:25

LFVA 16



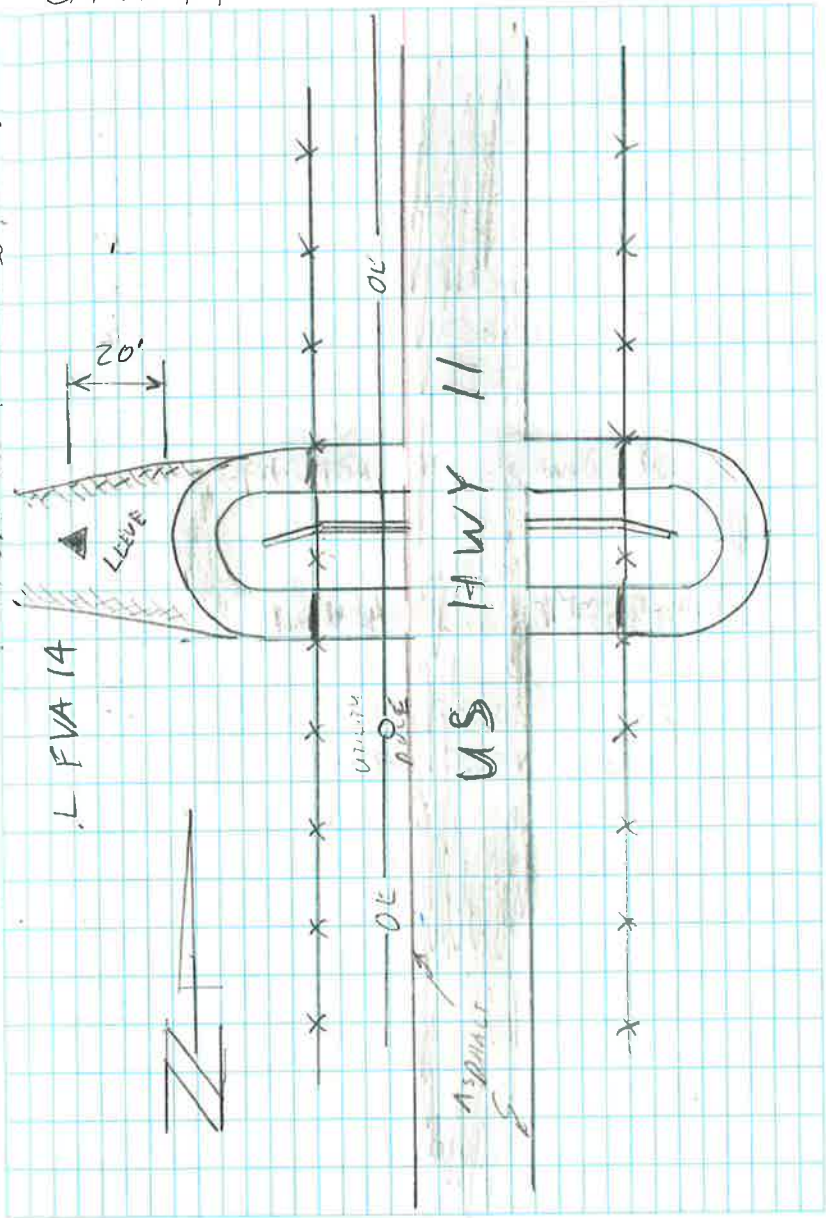
	R3	B3	B3
UNIT	3365	2664	2664
DATE	2-20-12	2-20-12	2-20-12
JULIAN D.	051	051	051
STATION	A148	L278	URBAN 1
COLL TYPE	STATIC	STATIC	STATIC
REC MAN	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530
REC S/N	136496	136512	136512
ANT P/N	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502
ANT S/N	15994	7526	7526
ANT HT	2.000m	1.323m	1.245m
OFFSET	ROD	0.36m	0.36m
ANT ARP	2.000m	1.683m	1.605m
START	15:44	17:13	21:33
STOP	00:00	20:20	22:33
TOTAL	8:14	3:07	1:00
CST	9:44	11:13	15:33
CST	18:00	14:20	16:33

L FVA 15



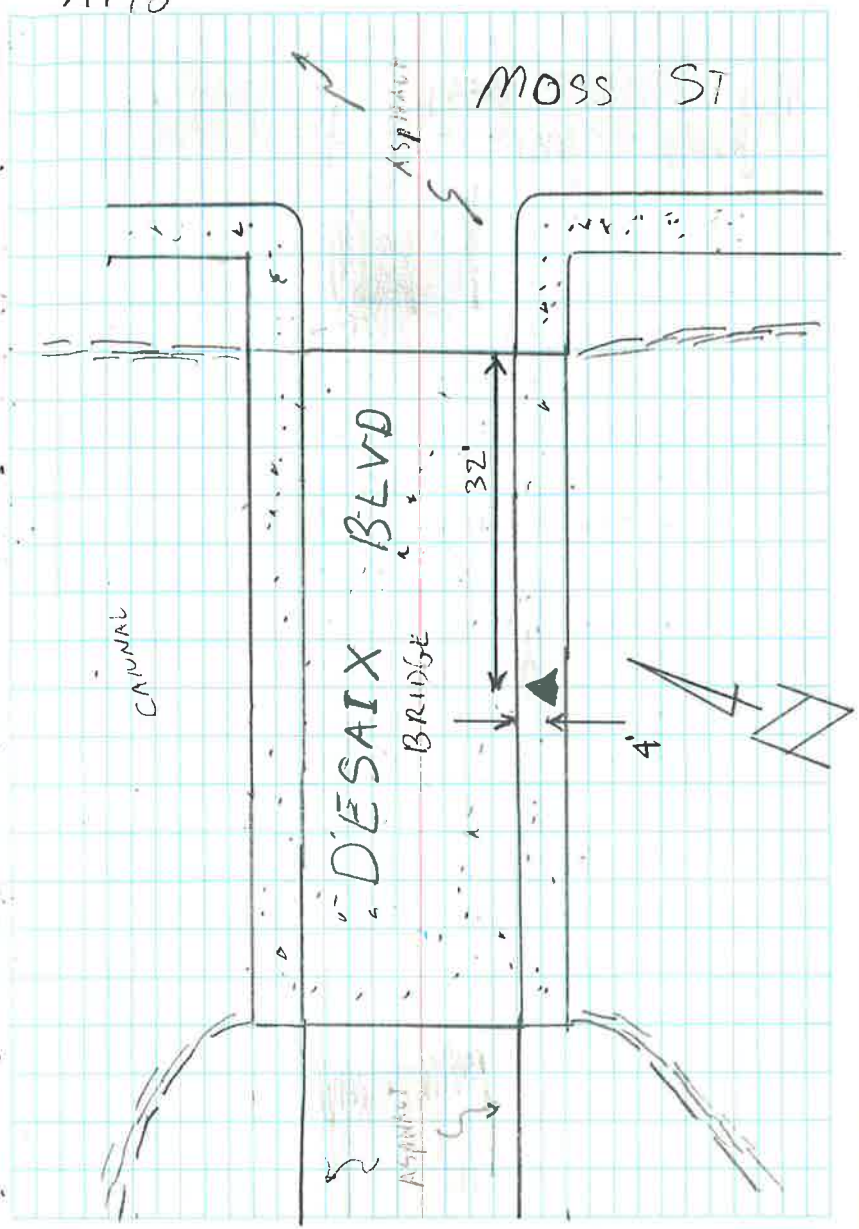
	R3	R3	R3	R3	R3
Unit	3365	2664	2664	2664	3365
Date	2-21-12	2-21-12	2-21-12	2-21-12	2-21-12
Session ID	052	052	052	052	052
Station	LFVA04	G 95	LFVA06	S188	LFVA08
Cell Type	STATIC	STATIC	STATIC	STATIC	STATIC
Rec Man	LEICA	LEICA	LEICA	LEICA	LEICA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136496	136512	136512	136512	136496
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LEIAT502	LEIAT502	LEICA 502	LEIAT502	LEIAT502
Ant S/N	15894	7526	7526	7526	15894
Ant HT	1.140m	1.404m	1.249m	1.262m	1.178m
Offset	0.36m	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.500m	1.764m	1.609m	1.622m	1.538m
Start	16:17	17:12	19:23	21:25	23:15
Stop	22:15	18:44	20:20	00:54	00:15
Total	5:59	1:32	0:56	3:25	1:00
CST	10:17	11:12	13:23	15:25	17:15
CST	16:15	12:44	14:20	18:54	19:15

LFVA 14



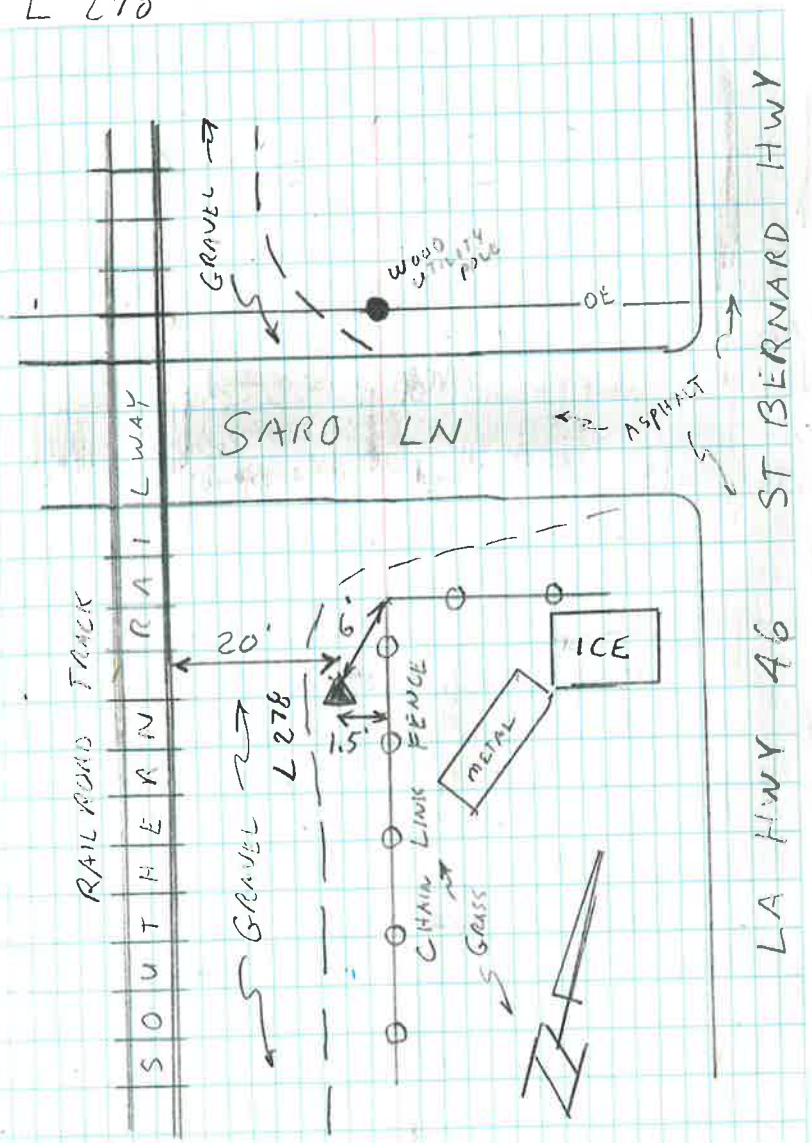
	R3	B3	R3
UNIT	3365	2664	3365
DATE	2-22-12	2-22-12	2-22-12
JULIAN D.	053	053	053
STATION	LFVA19	LFVA20	LFVA01
COLL TYPE	STATIC	STATIC	STATIC
REC MAN	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530
REC S/N	136496	136512	136496
ANT P/N	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502
ANT S/N	15894	7526	15894
ANT HT	1.185m	1.201m	1.191m
OFFSET	0.36m	0.36m	0.36m
ANT ARP	1.545m	1.561m	1.551m
START	15:51	16:32	19:41
STOP	18:32	21:27	23:51
TOTAL	2:41	4:55	4:10
CST	9:51	10:32	13:41
CST	12:32	15:27	17:51
ST LOCK	3365	2664	3365
G-LOCK	—	—	1197

A148



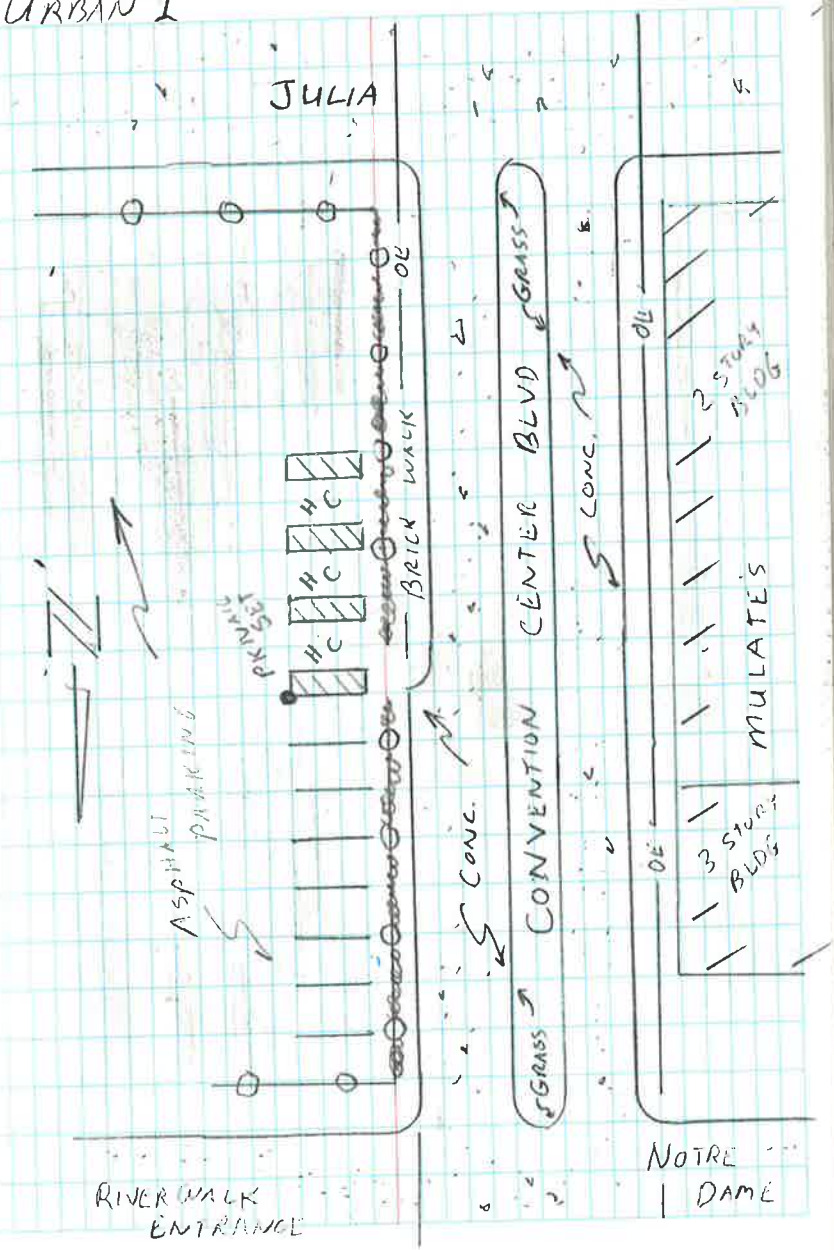
	R3	B3	R3	B3
Unit	3365	2664	3365	2664
Date	2-23-12	2-23-12	2-23-12	2-23-12
Julian D.	054	054	054	054
Station	SIEE	LFVA17	BS2	LFVA09
Ant Type	STATIC	STATIC	STATIC	STATIC
Rec Man	Leica	Leica	Leica	Leica
Rec Mod	SR530	SR530	SR530	SR530
Rec S/N	136496	136512	136496	136512
Ant P/N	667126	667126	667126	667126
Ant Mod	LEIAT502	LEIAT502	LEIAT502	LEIAT502
Ant S/N	15894	7526	15894	7526
Ant HT	1.181m	1.211m	1.179m	1.235m
Offset	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.541m	1.571m	1.539m	1.595
Start	15:19	16:02	19:06	21:54
Stop	18:08	20:27	23:59	23:25
Total	2:48	4:24	4:52	1:31
CST	9:19	10:02	13:06	15:54
CST	12:08	14:27	17:59	17:25
SI Lock	3365	2664	3365	2664
G-Lock	—	—	—	1197

L 278



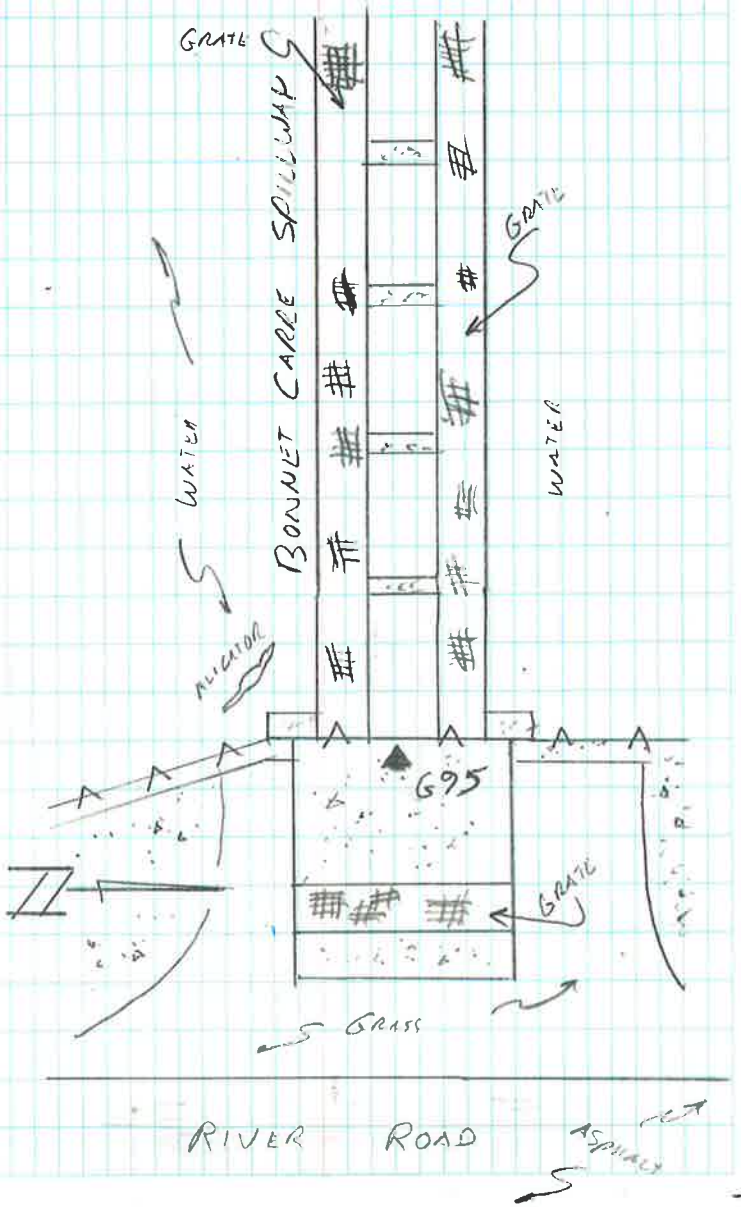
UNIT	R3	B3	R3	B3	R1
DATE	2-24-12	2-24-12	2-24-12	2-24-12	2-24-12
JULIAN D	055	055	055	055	055
STATION	C109	LFUA12	LFUA03	LFUA02	LFUA01
COLL TYPE	STATIC	STATIC	STATIC	STATIC	STATIC
REC MAN	LEICA	LEICA	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530	SR530	SR530
REC S/N	136496	136512	136496	136512	130521
ANT P/N	667126	667126	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
ANT S/N	15894	7526	15894	7526	12609
ANT HT	2.957m	1.235m	1.250m	1.259m	1.232m
OFFSET	ROD	0.36m	0.36m	0.36m	0.36m
ANT ARP	2.957m	1.595m	1.610m	1.619m	1.592m
START	14:19	17:03	21:28	22:50	00:31
STOP	19:31	21:51	03:41	02:42	03:28
TOTAL	5.12	4:47	6:13	3:52	2:56
CST	8:19	11:03	15:28	16:50	18:31
CST	13:31	15:51	21:41	20:42	20:28
ST LOCK	3365	2664	3365	3365	—
G-LOCK	—	0228	—	—	—
		@ FOUR CATS			
					9:40

URBAN 1



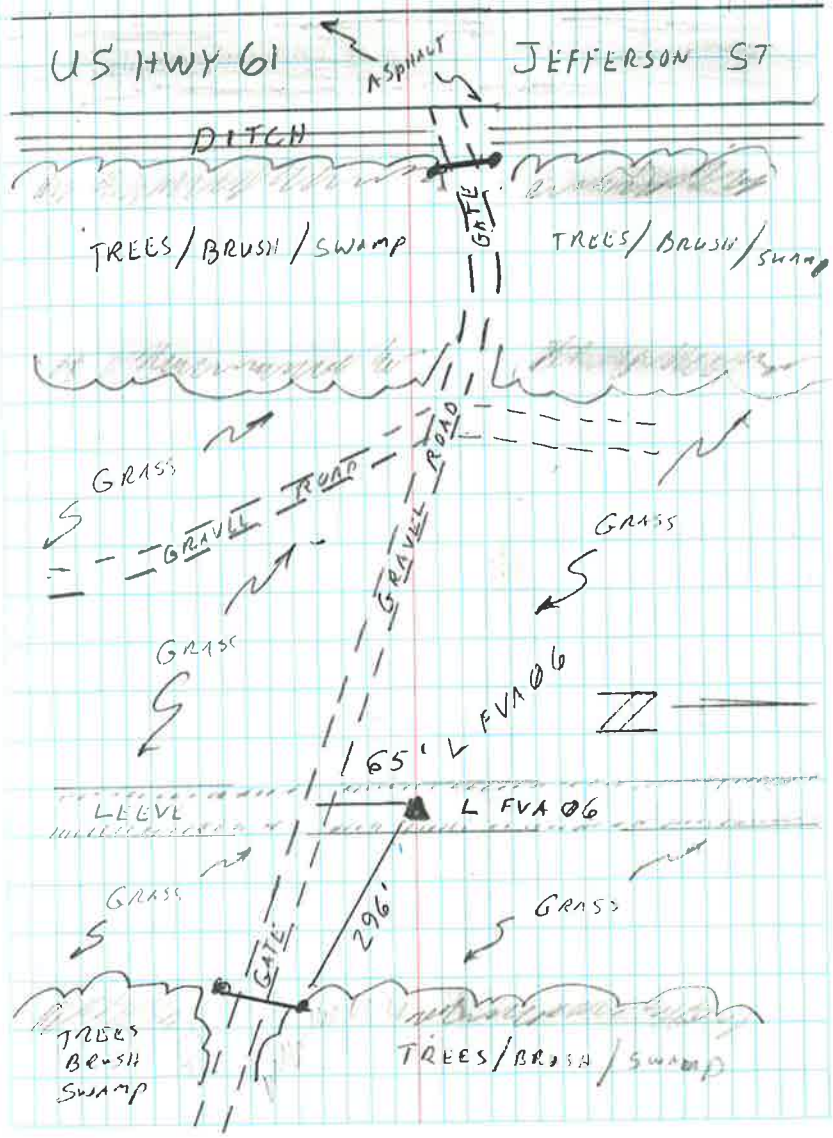
UNIT	R3
DATE	2-25-12
JULIAN D	056
STATION	V375
CSLI TYPE	STATIC
REC MAN	LEICA
REC MOD	SR530
REC S/N	136496
ANT P/N	GG 7126
ANT MOD	LEIAT502
ANT S/N	1569A
ANT HT	1.186m
OFFSET	0.36 m
ANT ARP	1.546
START	14:38
STOP	17:40
TOTAL	3:01

G95



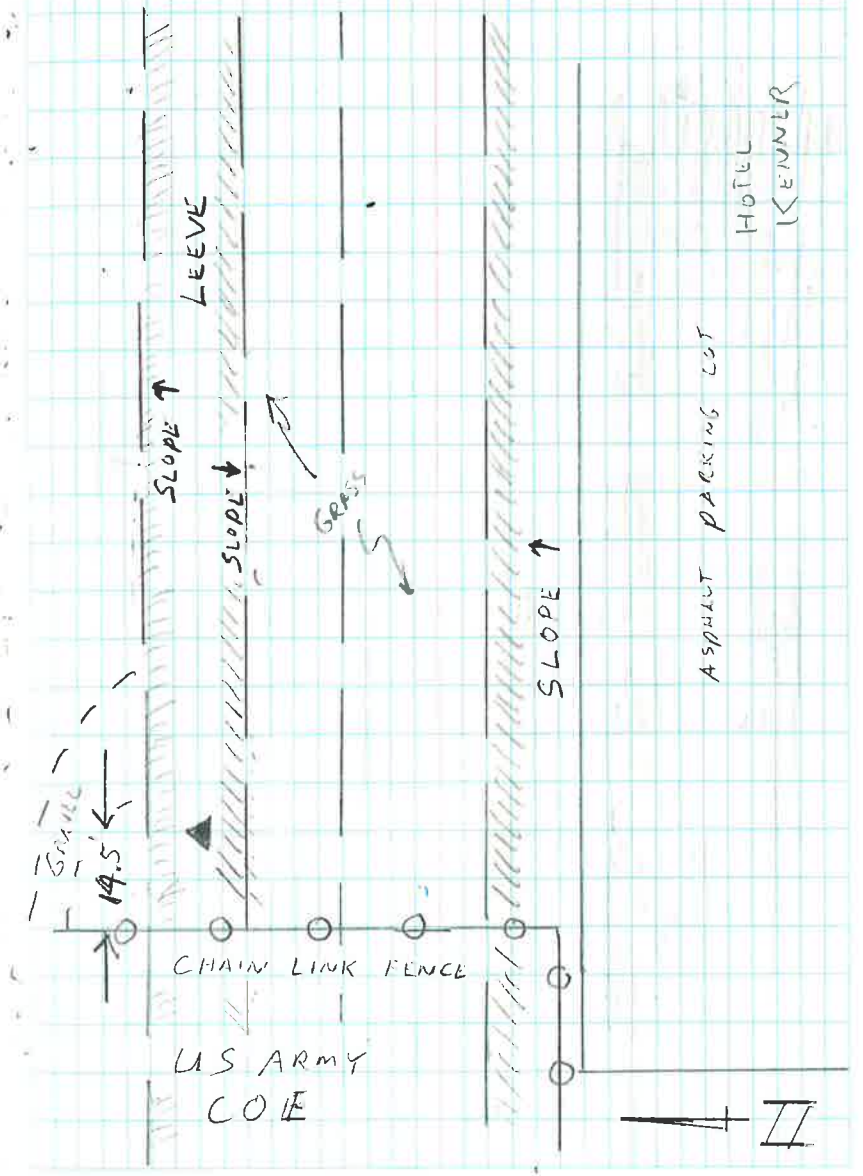
Unit	R3	B3	R3	B2	B1
Date	2-26-12	3-5-12	3-5-12	3-5-12	3-5-12
Julian D.	057	064	064	065	065
Station	V375	S188	BS2	V375	A148
Coll Type	Static	ABGPS	ABGPS	ABGPS RTK	ABGPS RTK
Rec Man	Leica	Leica	Leica	Leica	Leica
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136496	136512	136496	34467	30192
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
Ant S/N	15894	7526	15894	8376	11319
Ant HT	1.205m	1.268m	1.255m	1.220m	2.00m
Offset	.0.36m	0.36m	0.36m	0.36m	Rod
Ant ARP	1.565m	1.628m	1.615m	1.580m	2.000m
Start	14:17	13:59	14:34	14:23	15:16
Stop	00:58	01:19	05:06	01:21	01:15
Total	10:41	11:20	14:32	10:58	9:59
ST Lock	3365	2664	3365	n/a	n/a

L FVA 06 29-59-26.98 N 90-22-04.85 W



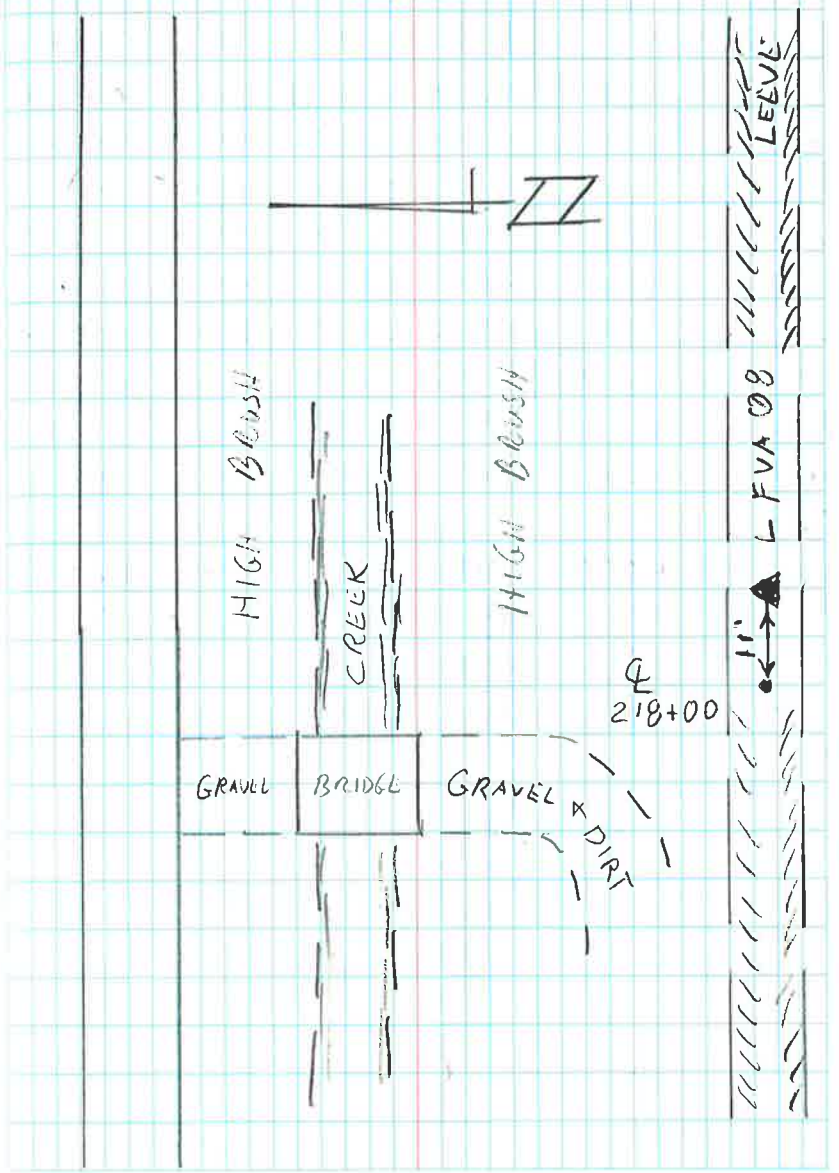
UNIT	R3
DATE	3-6-12
JULIAN D.	066
STATION	V375
COL TYPE	ABGPS
REC MAN	LEICA
REC MOD	GR530
REC S/N	136496
ANT P/N	667126
ANT MOD	LEIAT502
ANT S/N	15894
ANT HT	1.271m
OFFSET	0.36m
ANT ARP	1.631
START	12:28
STOP	01:37
TOTAL	13:09
ST CODE	3365

LFVA04 30.02-26.55N 90-14-53.55W



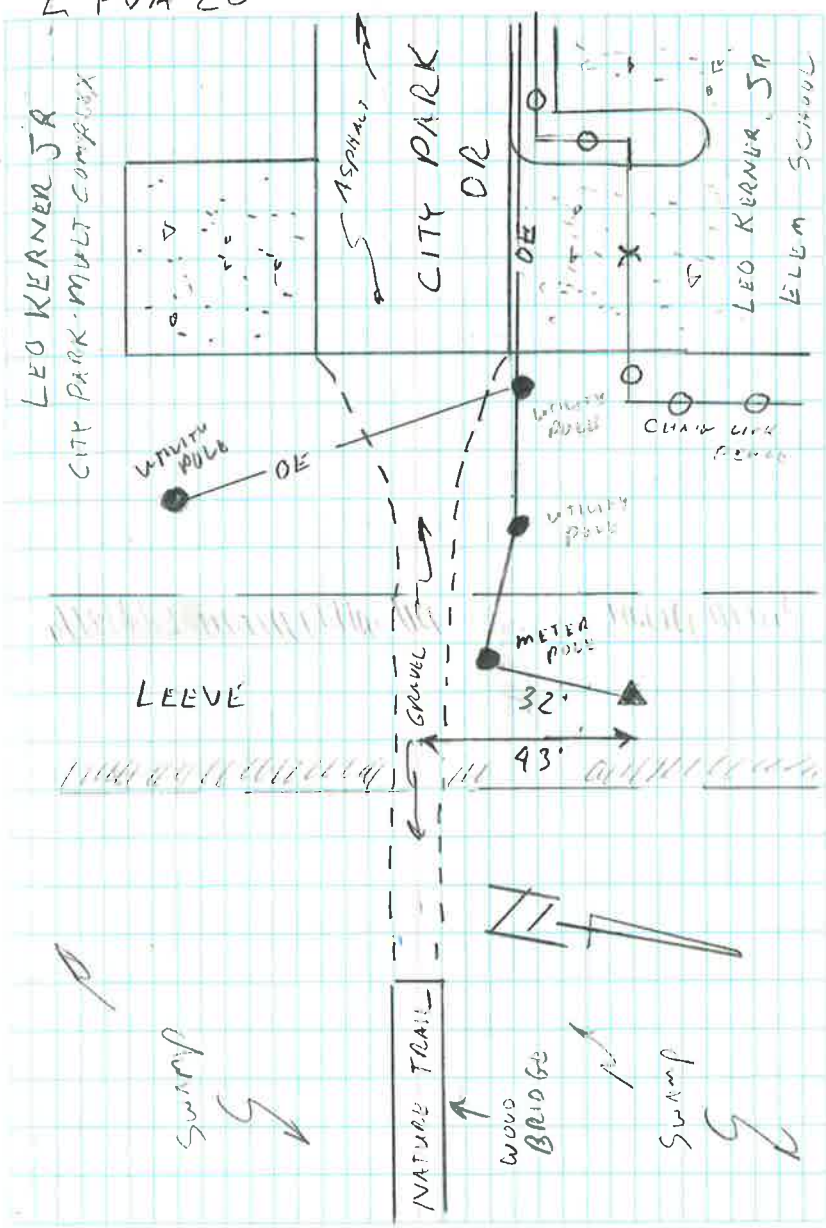
UNIT	B2	B2	B2	B2	B2
DATE	3-8-12	3-8-12	3-8-12	3-8-12	3-9-12
JULIAN D.	068	068	068	068	068
STATION	QCFVA37	QCFVA40	QCFVA48	QCFVA54	QCFVA53
COLL TYPE	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS
REC MAN	LEICA	LEICA	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530	SR530	SR530
REC S/N	34467	34467	34467	34467	34467
ANT P/N	667126	667126	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
ANT S/N	8376	8376	8376	8376	8376
+ ANT HT	1.241 m	1.240 m	1.229 m	1.245 m	1.252 m
DIESET	0.36 m	0.36 m	0.36 m	0.36 m	0.36 m
= ANT ARP	1.601 m	1.600 m	1.589 m	1.605 m	1.612 m
START	16:45	18:00	19:15	20:09	22:03
STOP	17:19	18:30	19:41	20:29	22:24
TOTAL	0:33	0:30	0:26	0:20	0:21

L FVA 08 29-54-44.14 N 90-01-25.87 W



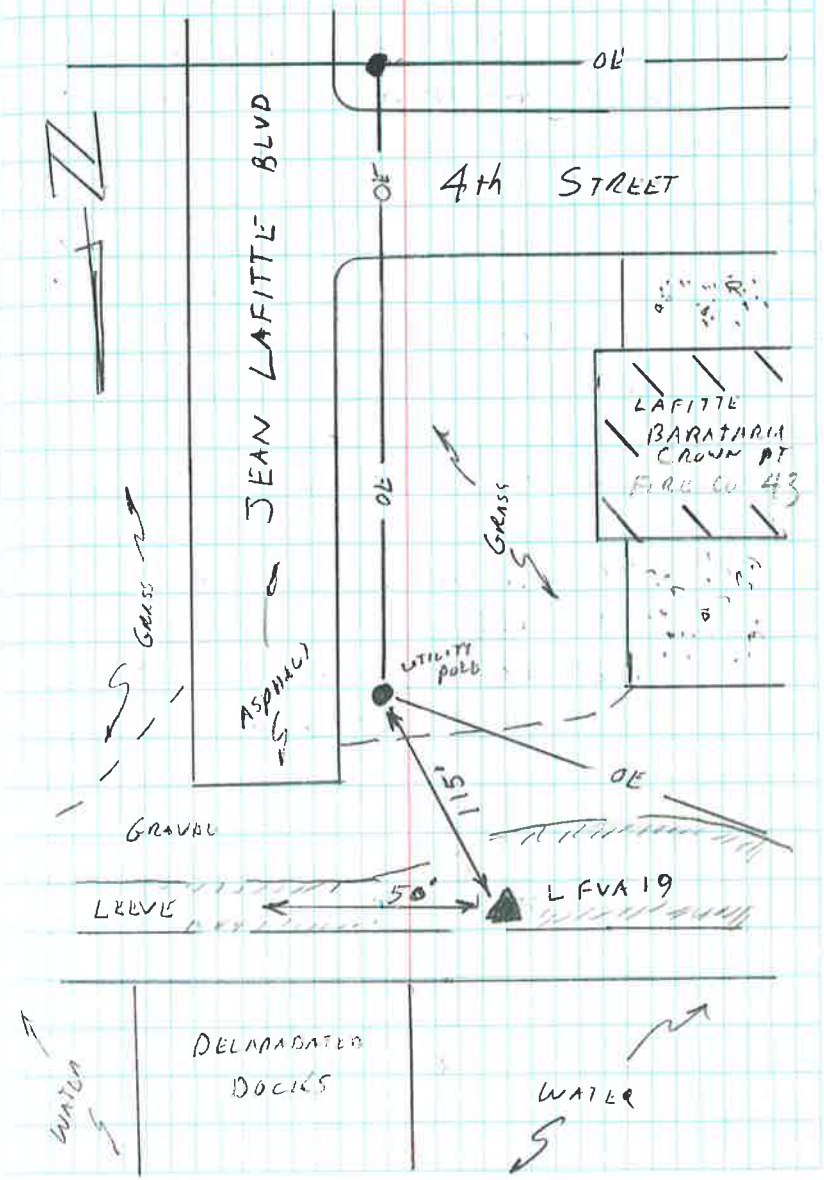
UNIT	B2	B2	B2	B2	
DATE	3-9-12	3-9-12	3-9-12	3-9-12	3-9-12
SVEIRA #	068	068	069	069	069
STATION	QCFVA55	QCFVA46	QCFVA45	QCFVA33	QCFVA35
COL TYPE	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS
REC MAN	LEICA	LEICA	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530	SR530	SR530
REC S/N	34467	34467	34467	34467	34467
ANT P/N	667126	667126	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
ANT S/N	8376	8376	8376	8376	8376
ANT HT	1.264m	1.255m	1.235m	1.239m	1.268m
OFFSET	0.36m	0.36m	0.36m	0.36m	0.36m
ANT ARP	1.624m	1.615m	1.595m	1.599m	1.628
START	21:00	23:14	00:08	15:53	16:53
STOP	21:24	23:34	00:31	16:25	17:13
TOTAL	0:24	0:20	0:22	0:27	0:20

L FVA 20



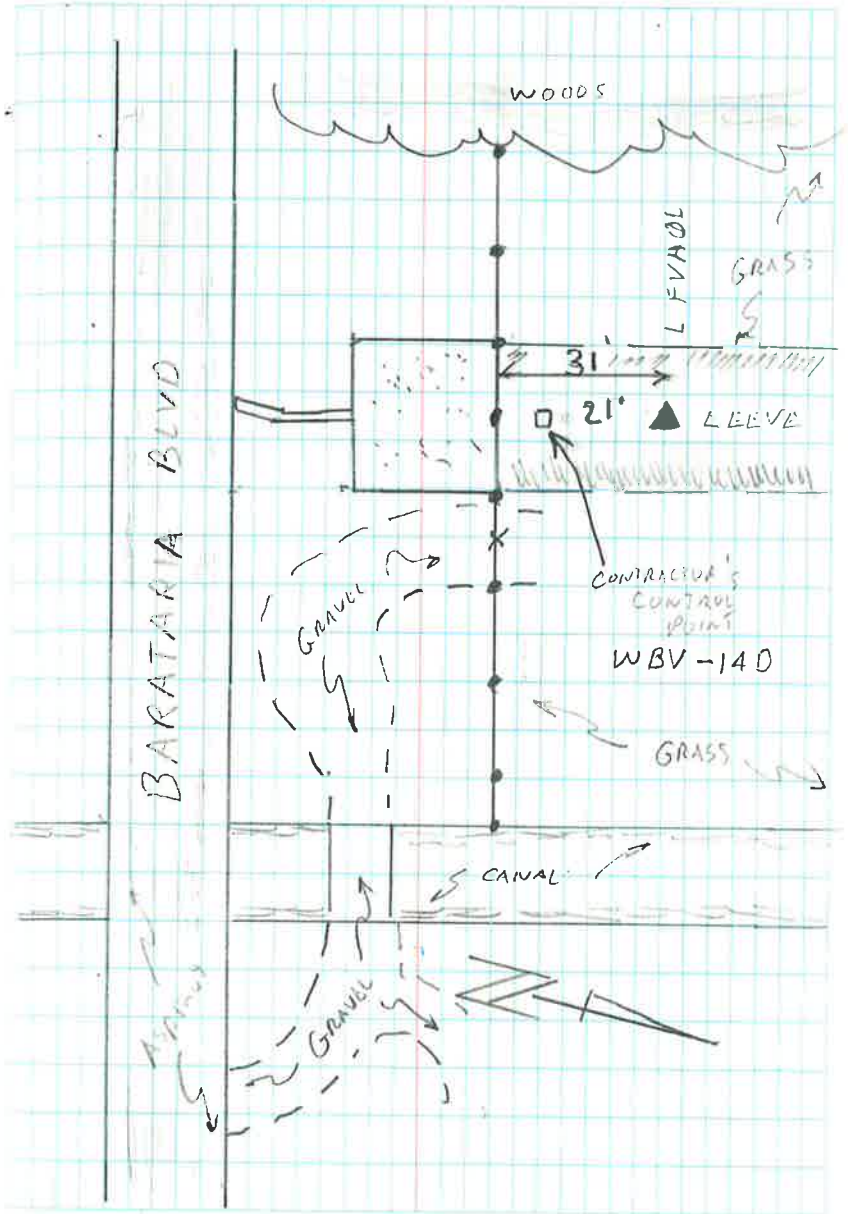
UNIT	B2	B2	B2	B2	B2
DATE	3-9-12	3-19-12	3-19-12	3-19-12	3-19-12
JULIAN D.	069	069	069	069	069
STATION	QCFVA34	QCFVA32	QCFVA31	QCFVA30	QCFVA19
COM TYPE	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS
REC MAN	LEICA	LEICA	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530	SR530	SR530
REC S/N	34467	34467	34467	34467	34467
ANT S/N	667126	667126	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
ANT S/N	8376	8376	8376	8376	8376
ANT HT	1.276m	1.266m	1.271m	1.256m	1.211m
OFFSET	0.36m	0.36m	0.36m	0.36m	0.36m
ANT ARP	1.636m	1.626m	1.631m	1.616m	1.571m
START	17:31	18:21	18:56	19:34	20:20
STOP	17:55	18:42	19:17	19:56	20:40
TOTAL	0:23	0:20	0:20	0:21	0:20

LFVA19

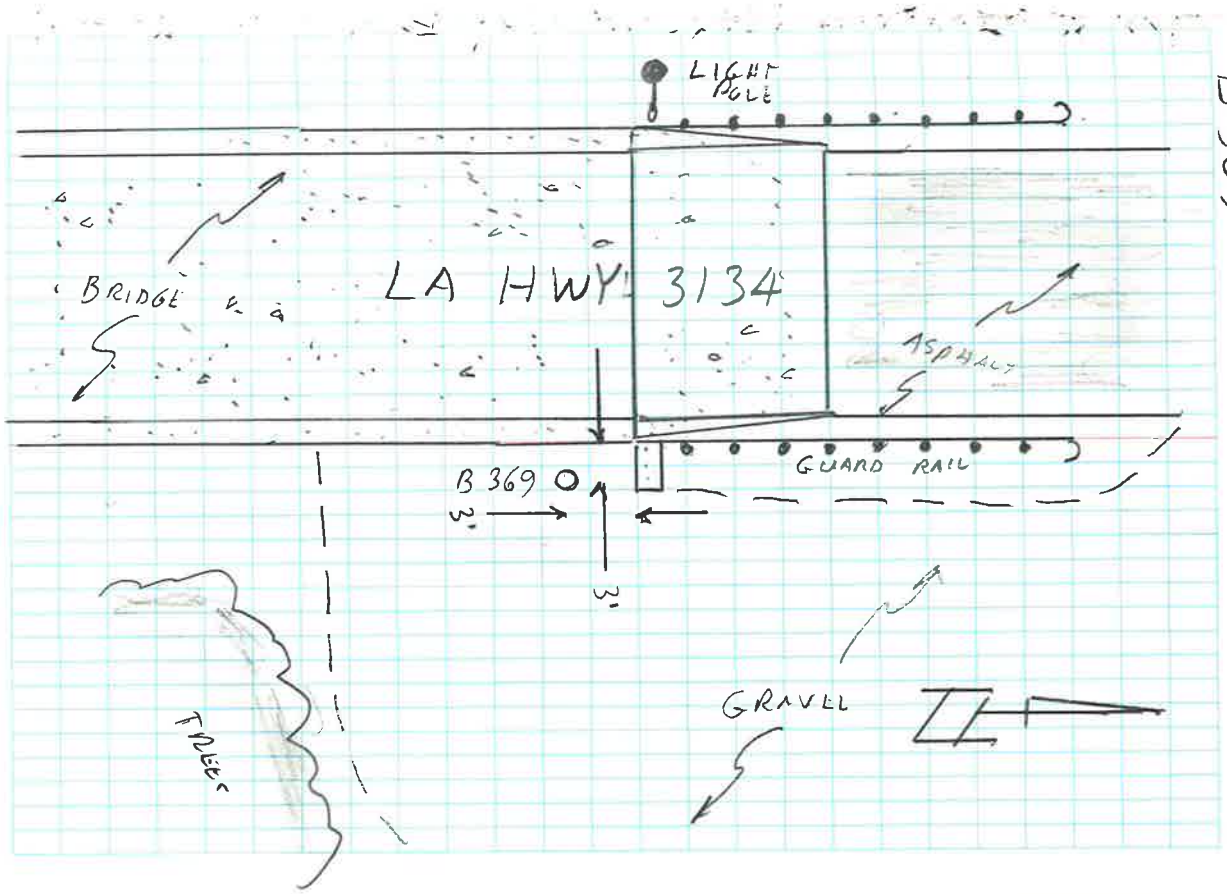


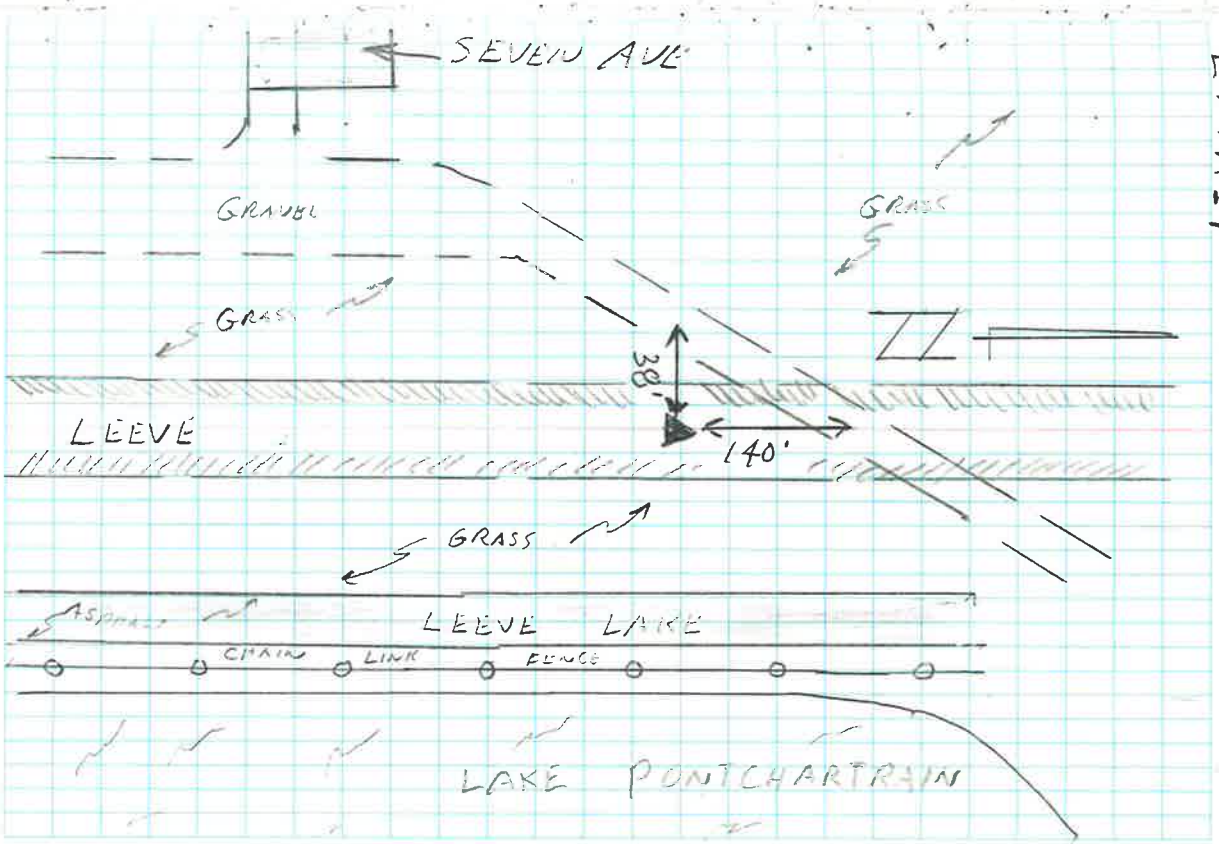
UNIT	B2	B2	B2	B2
DATE	3-9-12	3-9-12	3-9-12	3-9-12
JULIAN D.	069	069	069	070
STATION	QCFVA18	QCFVA14	QCFVA13	QCFVA12
COL TYPE	OPUS-RS	OPUS-RS	OPUS-RS	OPUS-RS
REC MAN	LEICA	LEICA	LEICA	LEICA
REC MOD	SR530	SR530	SR530	SR530
REC S/N	34467	34467	34467	34467
ANT P/N	667126	667126	667126	667126
ANT MOD	LEIAT502	LEIAT502	LEIAT502	LEIAT502
ANT S/N	8376	8376	8376	8376
ANT HT	1.213m	1.257m	1.283m	1.251m
ORIGIN	0.36m	0.36m	0.36m	0.36
ANT ARP	1.573m	1.617m	1.643m	1.611m
START	21:05	22:30	23:11	00:10
STOP	21:25	22:50	23:31	00:30
TOTAL	0:20	0:20	0:20	0:20

L FVA01



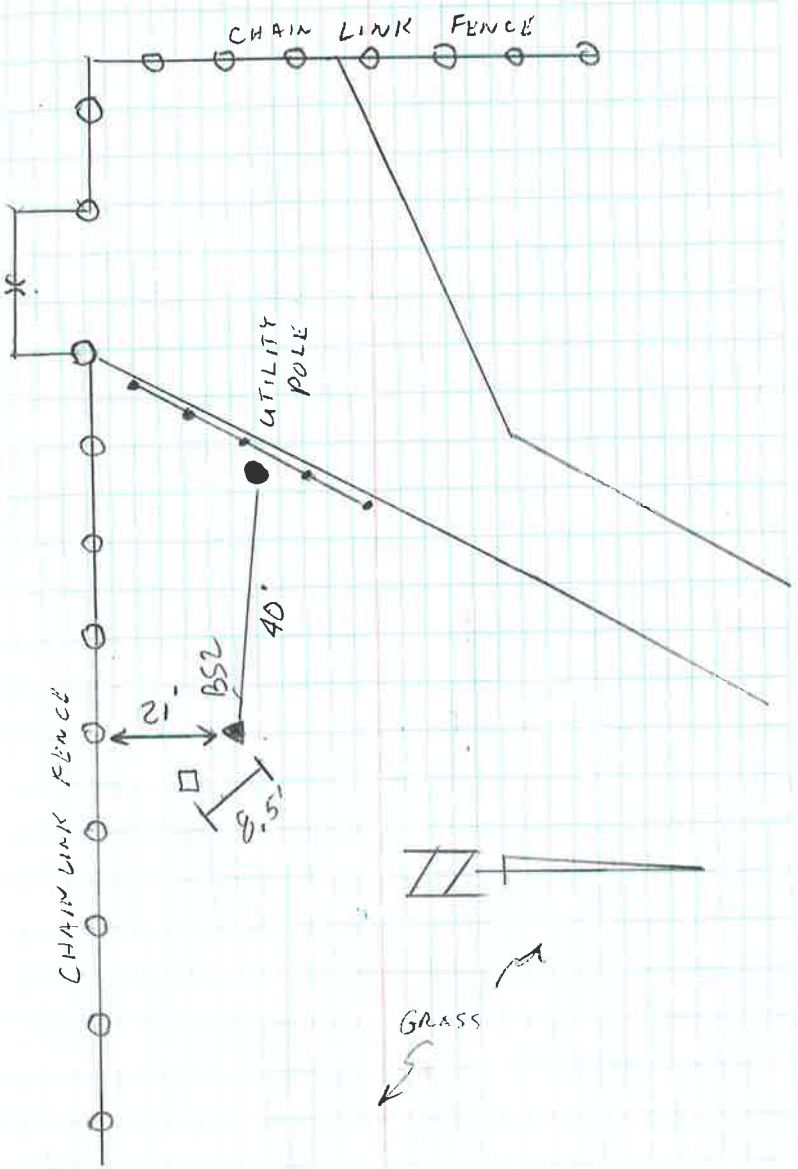
B 369


LIGHT POLE
BRIDGE
LA HWY 3134
ASPHALT
GUARD RAIL
B 369
3'
3'
TREES
GRAVEL


SEVEN AVE
GRAVEL
GRASS
GRASS
38'
140'
LEEVE
GRASS
ASPHALT
LEEVE
LAKE
CHAIN
LINK
FENCE
LAKE PONTCHARTRAIN

LFVA17

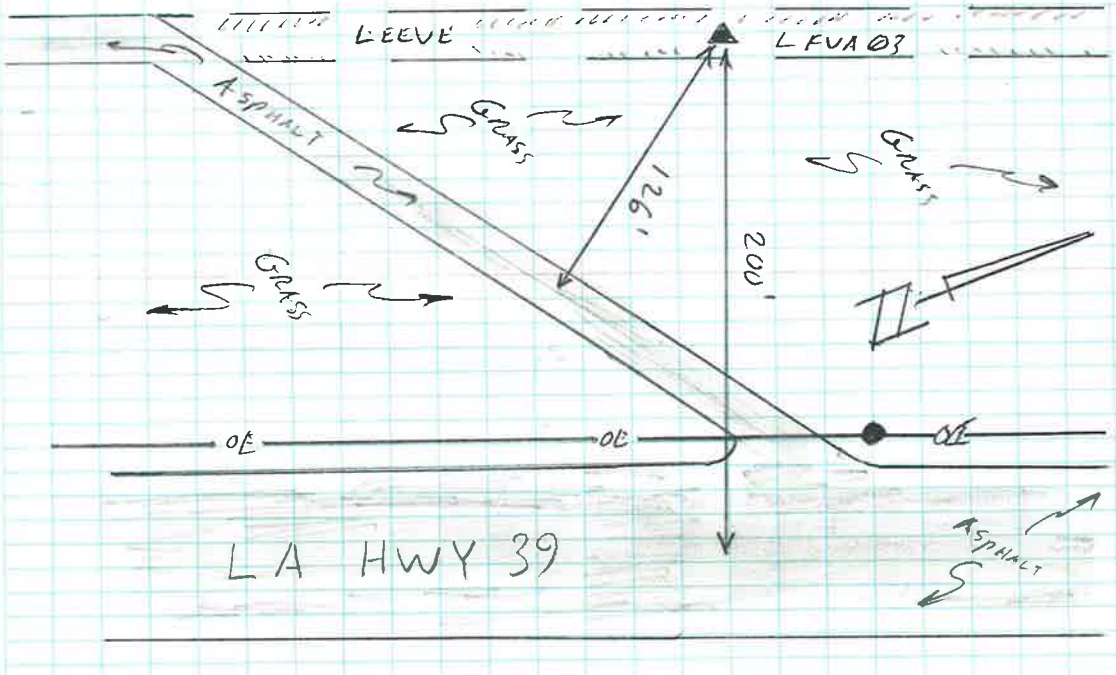
BS 2


CHAIN LINK FENCE
UTILITY POLE
40'
BS2
21'
8.5'
CHAIN LINK FENCE
GRASS

LFVA12

GRASS
LEVEE
TREES
ASPHALT
GRASS
LA HWY 46
GRASS
GRASS
UTILITY POLE
72'
75'
ASPHALT
GRASS
SWAMP
GRASS
LFVA12
OE

BACK WATER AREA (FLOOD AREA)



L FVA @3

DATE	FILE	NETWORK	SESSION FORM	STATION DESC	PHOTOS
JD050	C189	X			
	LFVA13	X		ANY MT	
	LFVA14	X			
	LFVA15	X			
	LFVA16	X			
	LFVA18	X			
JD051	A-148	X			
	L-278	X			
	LFVA16	X			
	URBAN1	X			
	URBAN2	X			
	V-375	X			
JD052	5720	X			
	FVA05	X			
	G-95	X			
	LFVA04	X			
	LFVA06	X			
	LFVA08	X			
	LFVA09	X			
1,607	S-188	X			
JD053	B-369	X			
	LFVA01	X			
	LFVA02	X			
	LFVA09	X			
1,5[illegible]	LFVA10	X			
	LFVA19	X			
	LFVA20	X			

16:24:06 - 17:24:21 17:42:06 - 00:52:05

231835 - 235461 236526 - 262325

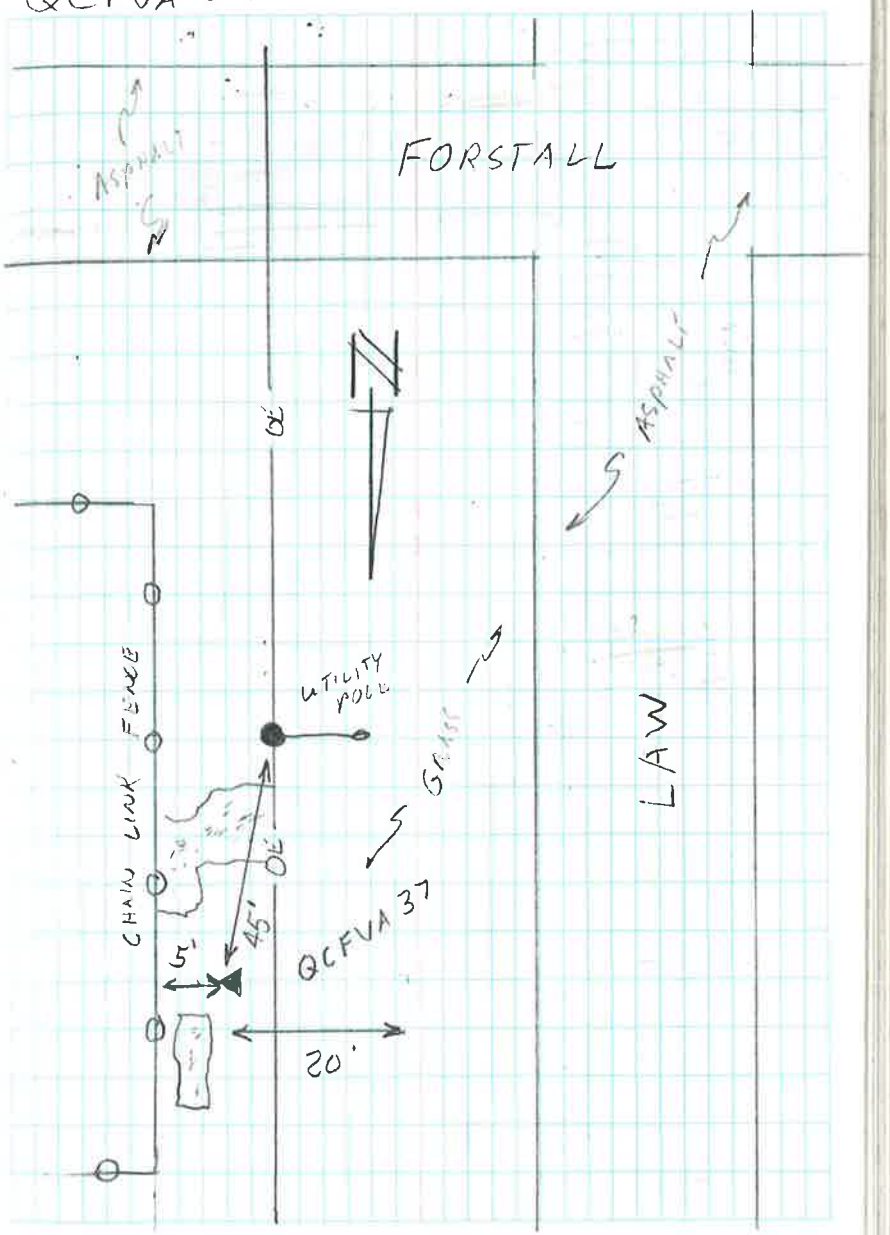
JD054	A14E	X
	BS2	X
	LFUA09	X
	LFUA10	X
	LFUA17	X
	LFUA 4	X
	S-18E	X
	URBANUL	X
JD055	C1E9	X
	LFUA01	X
	LFUA02	X
	LFUA03	X
	LFUA12	X
	LFUA13	X
	L 278	X
	V 375	X
JD056	G 95	X
	LFUA01	
	LFUA06	
	LFUA09	
	V 375	

22
29-57-5E-65
90-06-0E-EE

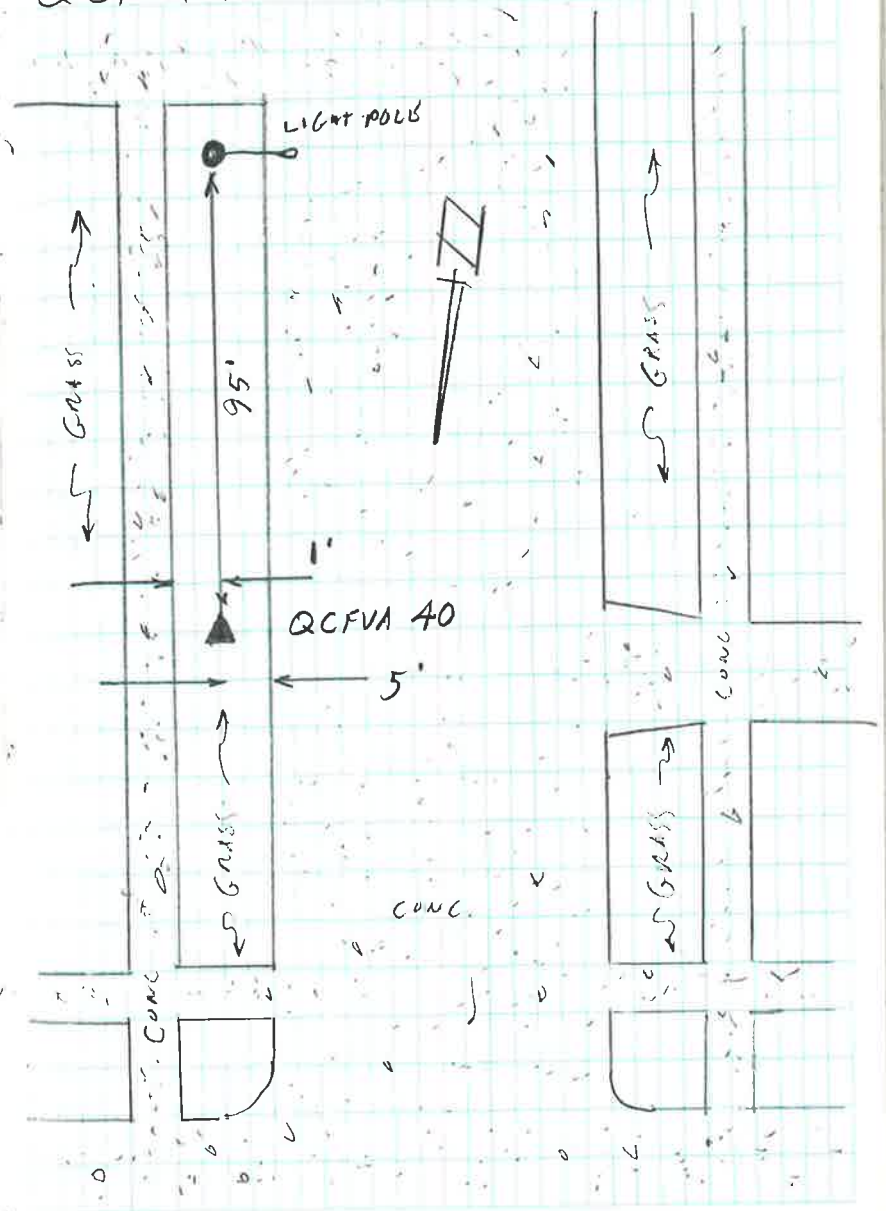
19
29-57-24-EE
90-0E-EE-39

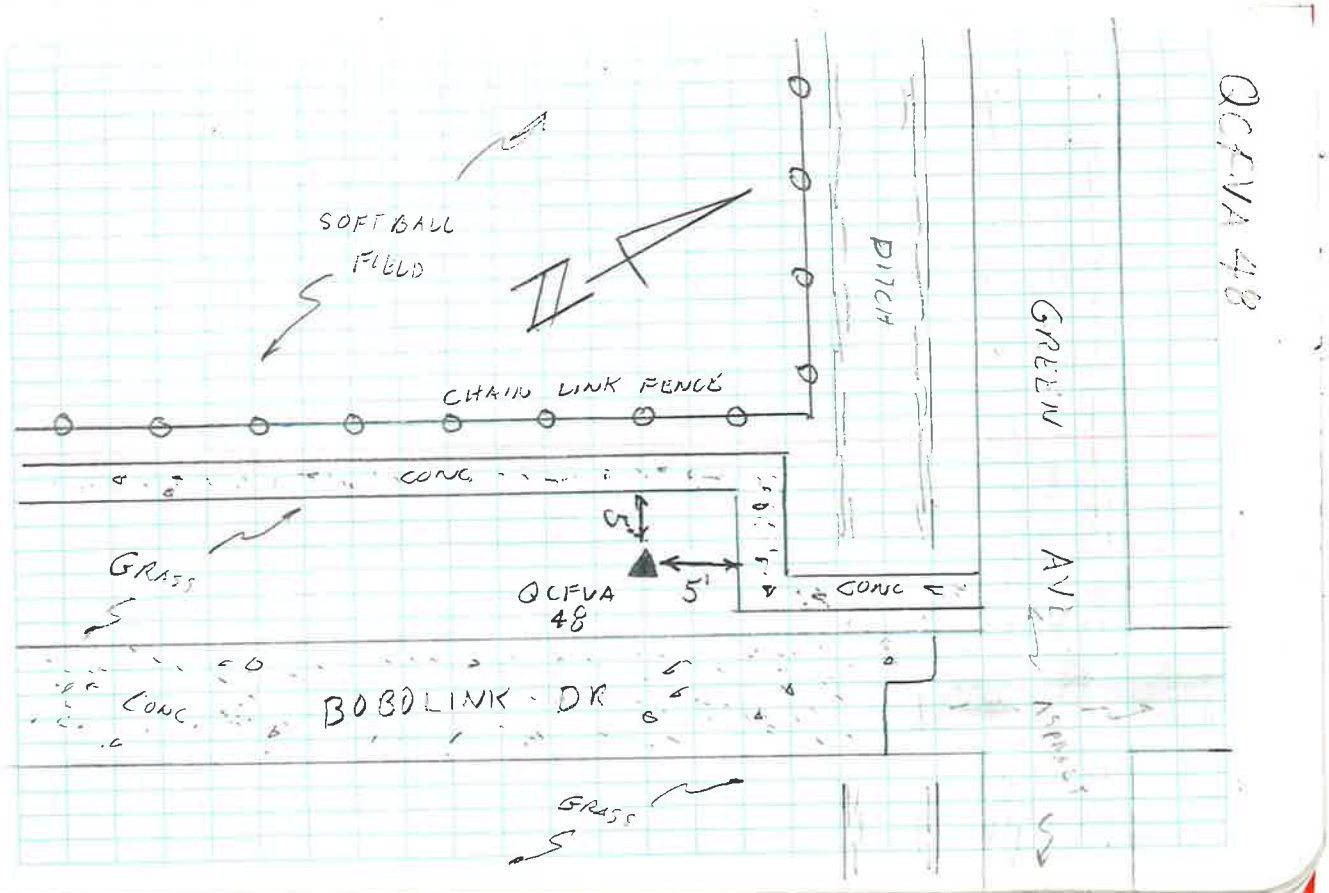
23
29-55-36-33
90-06-1E-E1

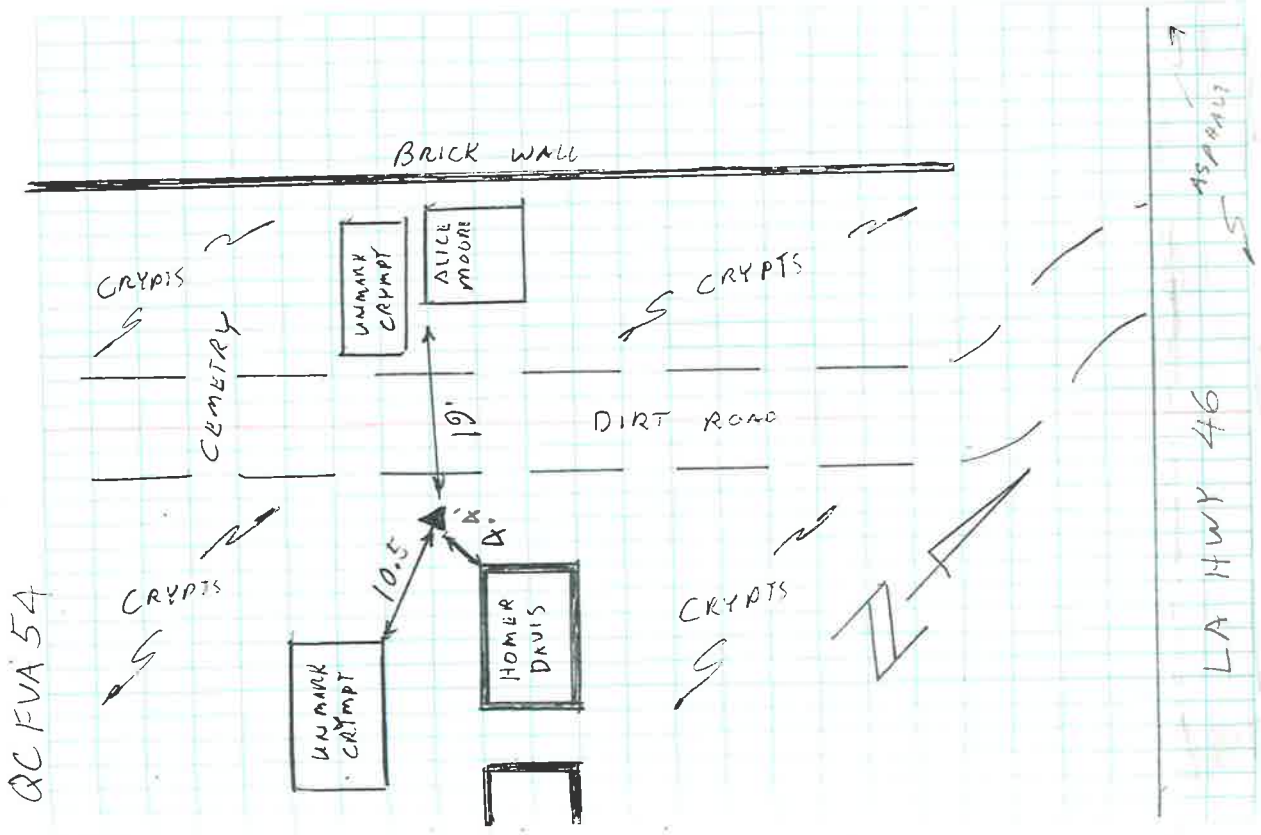
QCFVA 37


FORSTALL
ASPHALT
ASPHALT
LAWN
GRASS
UTILITY POLE
CHAIN LINK FENCE
45'
5'
20'
QCFVA 37

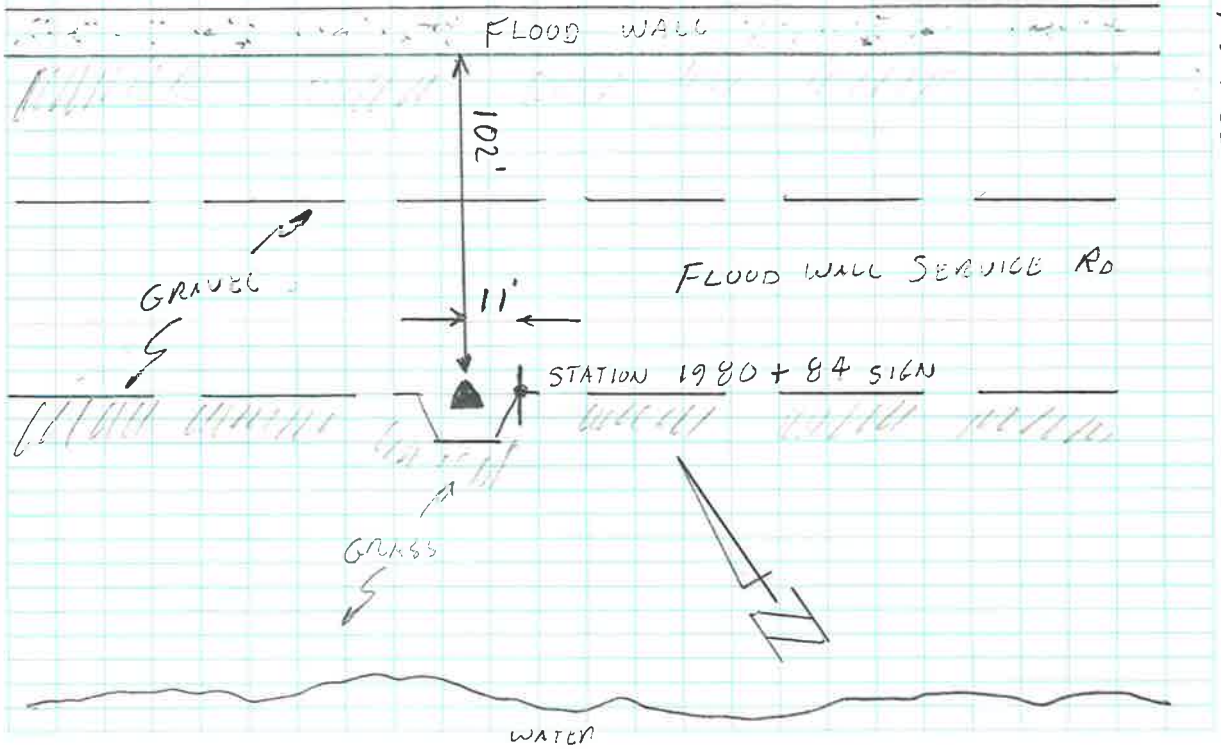
QCFVA 40


LIGHT POLE
95'
1'
QCFVA 40
5'
GRASS
GRASS
GRASS
GRASS
CONC.
CONC.
CONC.

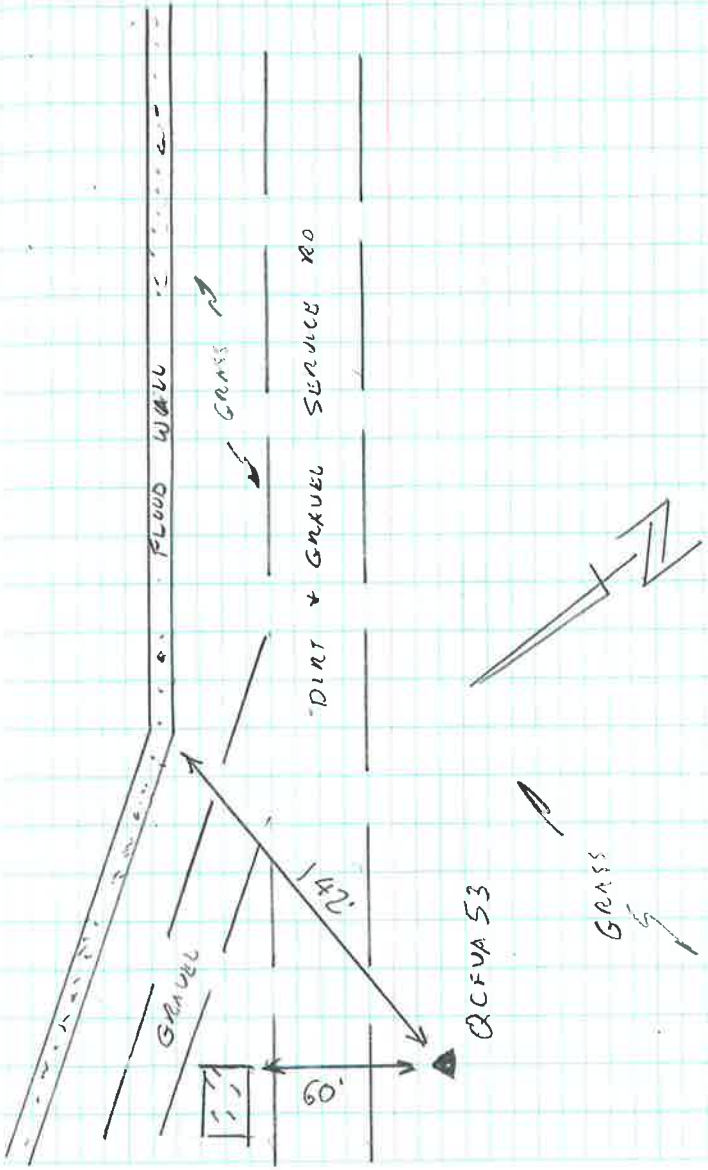

QCFVA 48
SOFTBALL FIELD
CHAIN LINK FENCE
CONC
PITCH
GRASS
5'
5'
QCFVA 48
CONC
GRASS
AVE
BOBOLINK DR
CONC
GRASS


BRICK WALL
CRYPTS
CEMETERY
UNMARK CRYPT
ALICE MOORE
CRYPTS
19'
DIRT ROAD
ASPHALT
LA HWY 46
4'
10.5'
HOMER DRUIS
CRYPTS
CRYPTS
UNMARK CRYPT
QC FVA 54

QCFVA 55

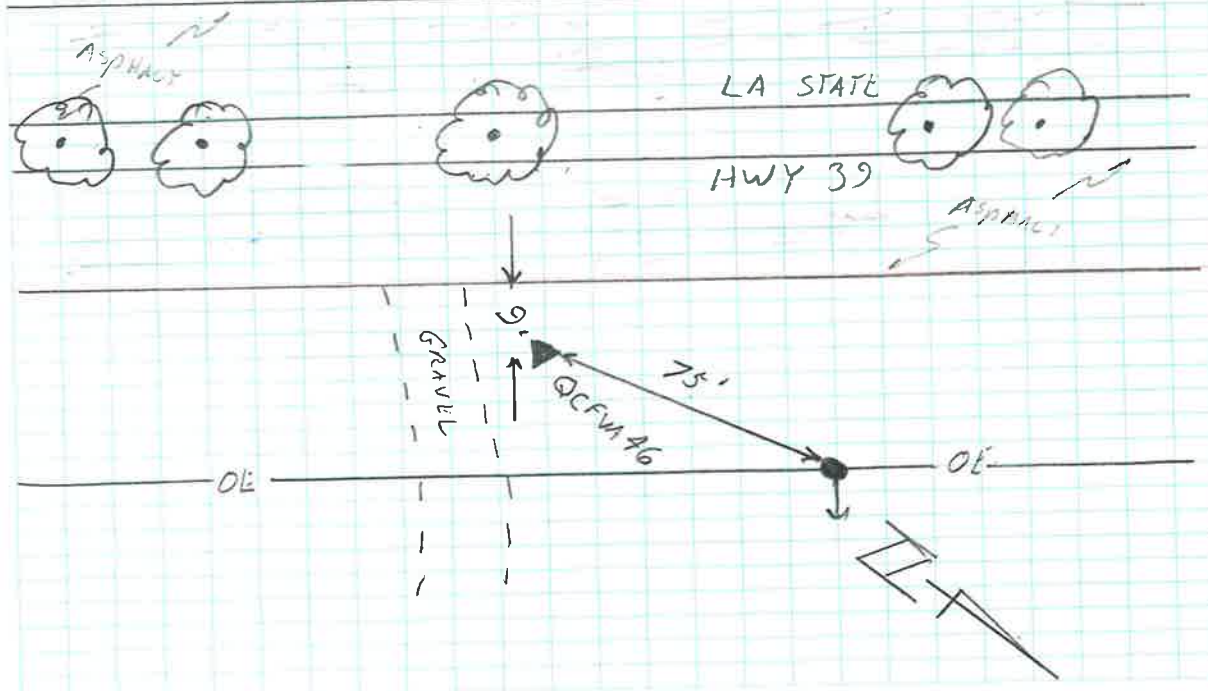

FLOOD WALL
102'
GRAVEL
11'
FLOOD WALL SERVICE RD
STATION 1980 + 84 SIGN
GRASS
WATER

QCFVA 53

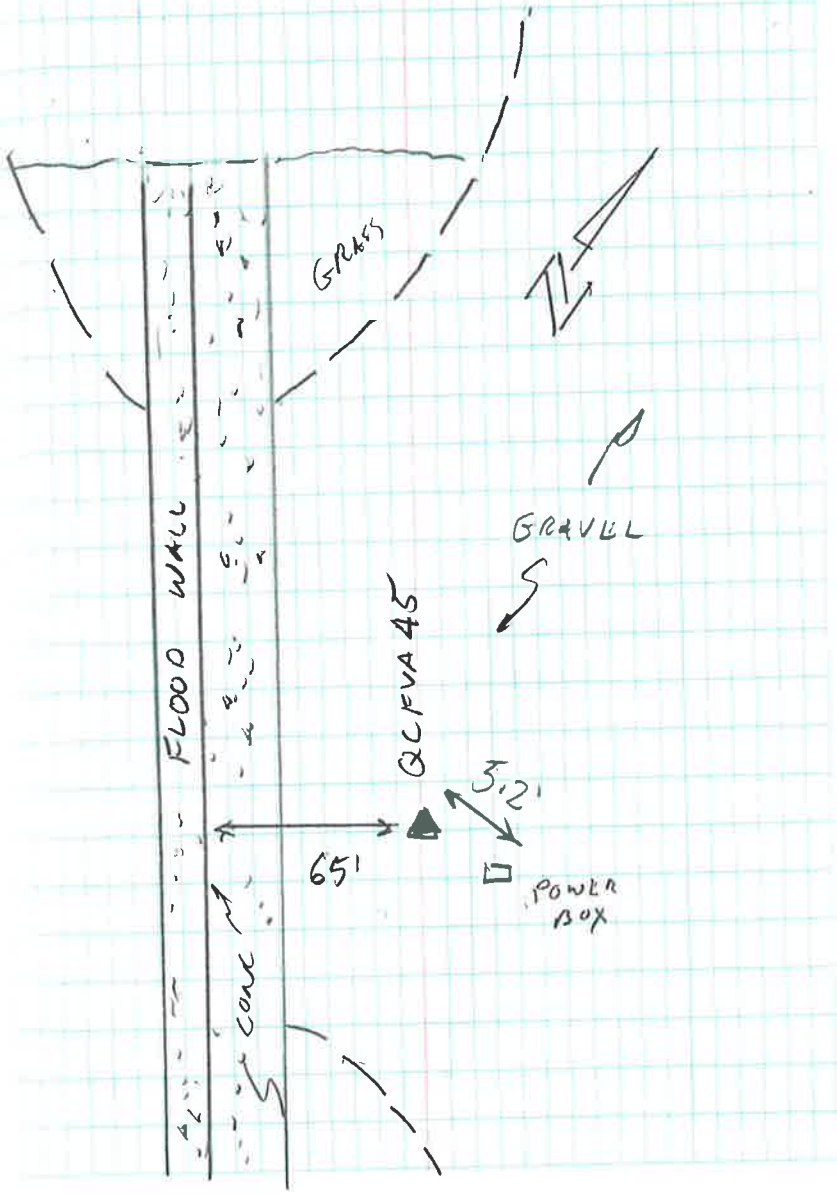

FLOOD WALL
GRASS
DIRT & GRAVEL SERVICE RD
142'
QCFVA 53
GRAVEL
60'
GRASS

ABANDONED WINN DIXIE STORE

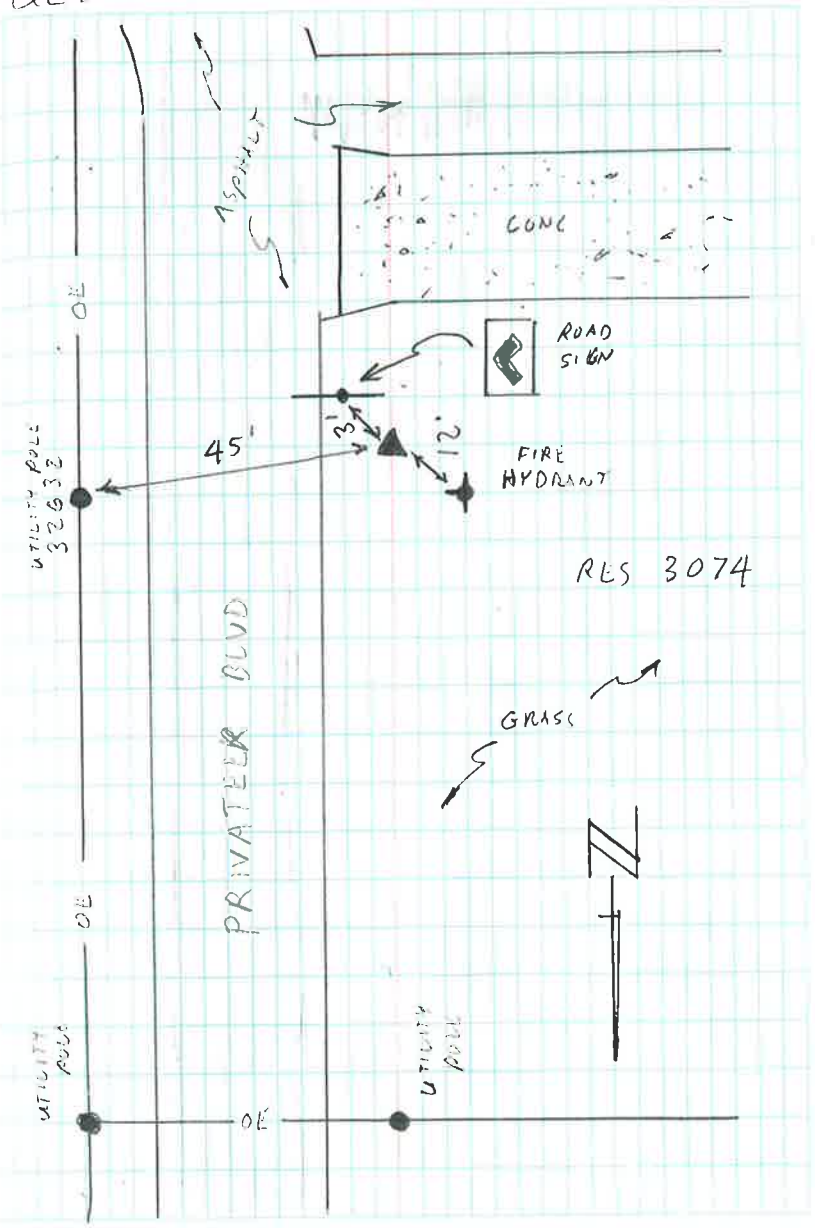
QCFVA 46



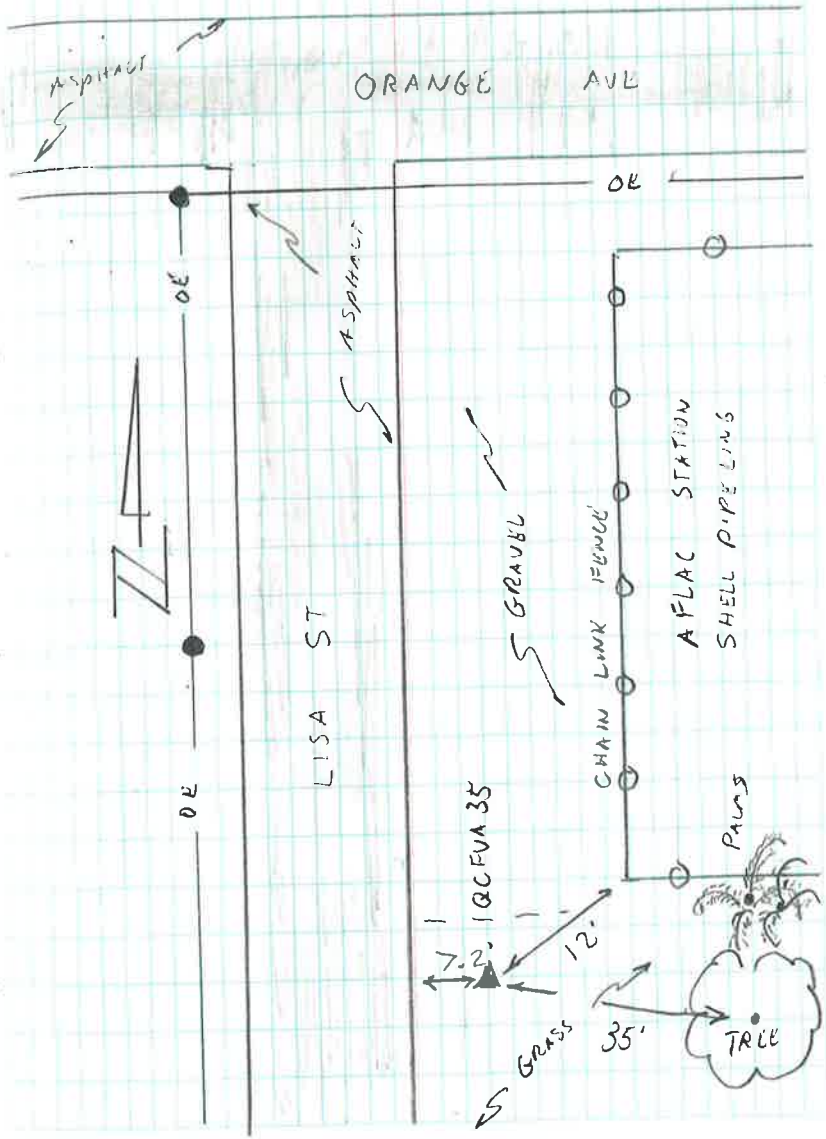
QCFVA 45



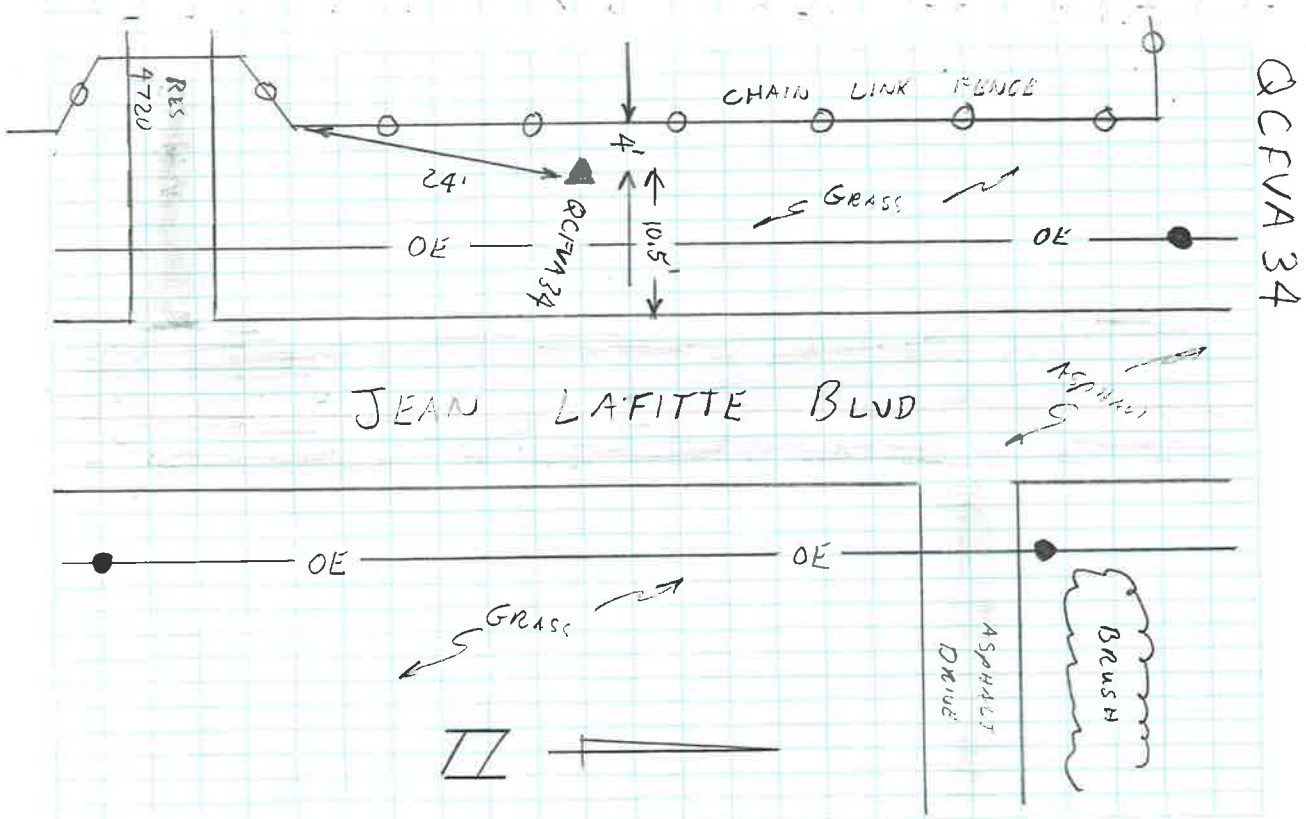
QC FVA 33


ASPHALT
CONC
ROAD SIGN
OE
UTILITY POLE 32632
45'
3'
12'
FIRE HYDRANT
RES 3074
PRIVATEER BLVD
GRASS
OE
UTILITY POLE
OE
UTILITY POLE
N

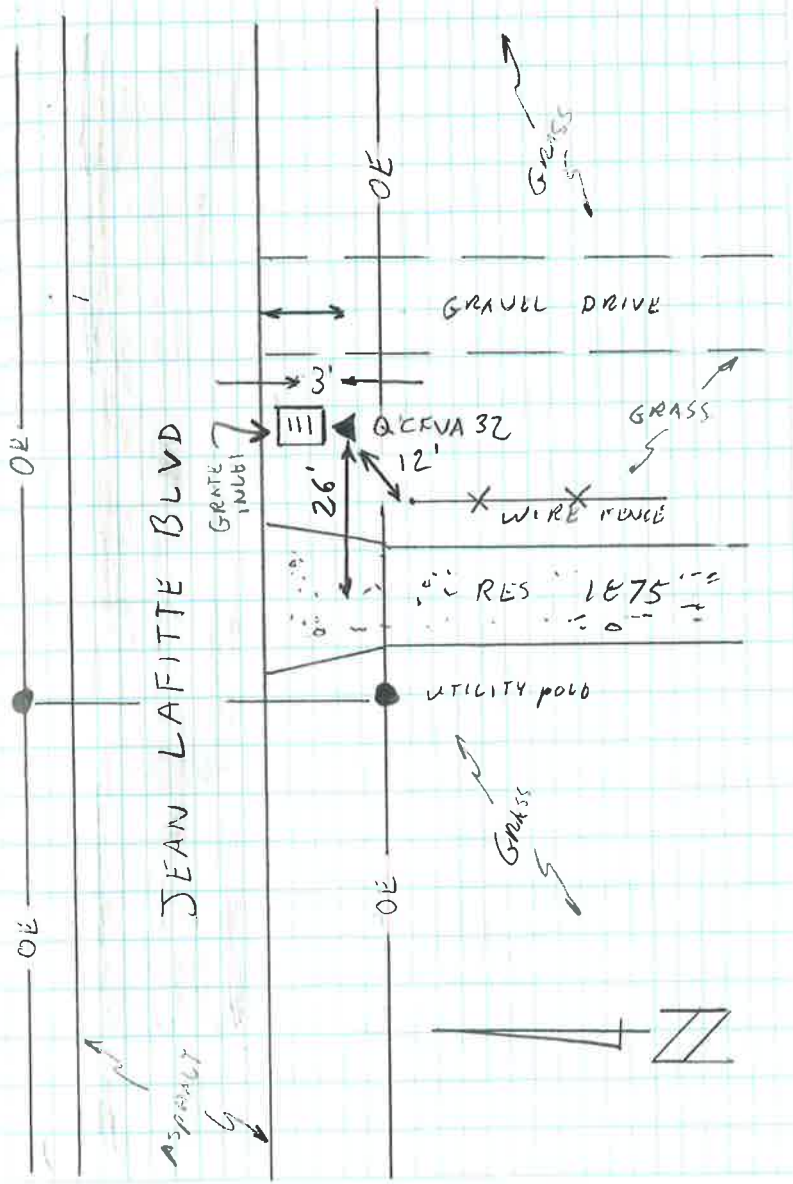
QC FVA 35


ASPHALT
ORANGE AVE
OE
OE
ASPHALT
OE
LISA ST
GRAVEL
CHAIN LINK FENCE
AFLAC STATION
SHELL PIPE LINE
PALMS
QC FVA 35
12'
N.
35'
GRASS
TREE

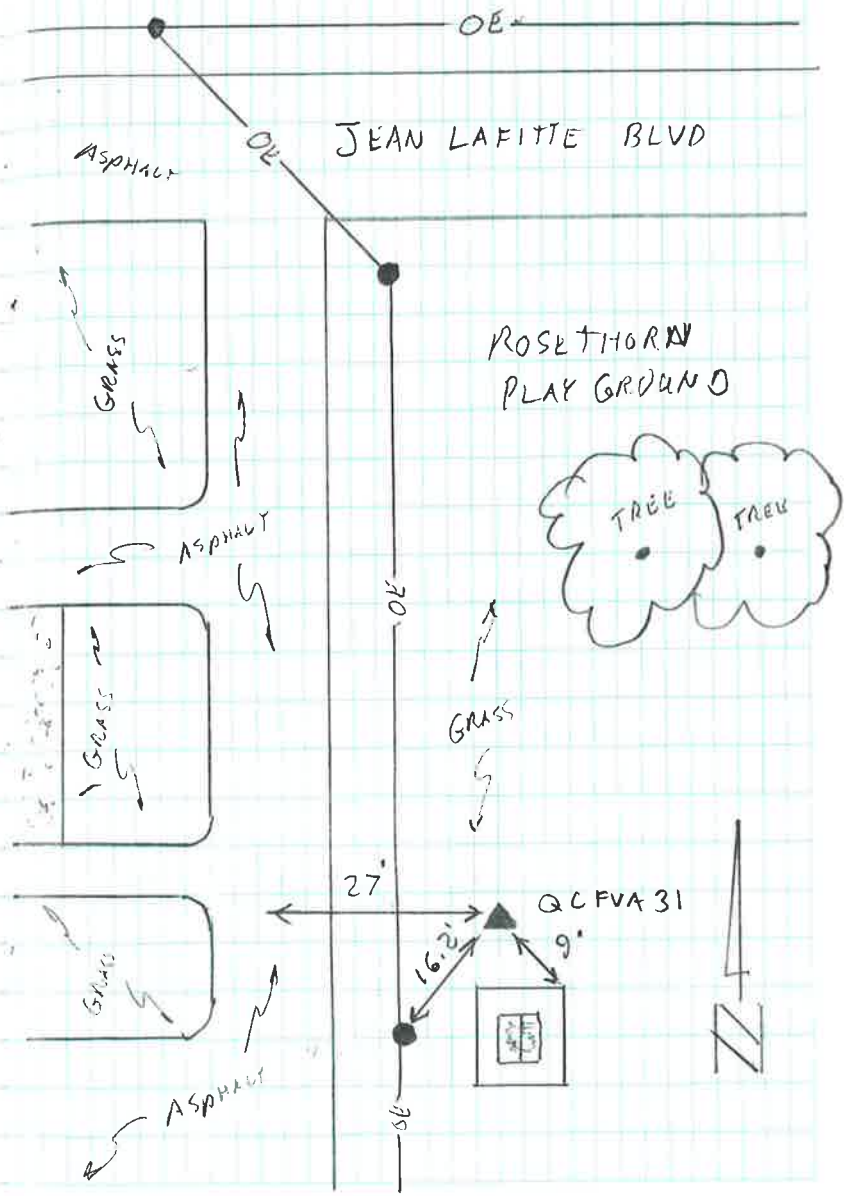
QCFVA 34


RES
4720
CHAIN LINK FENCE
4'
24'
QCFVA34
10.5'
GRASS
OE
OE
JEAN LAFITTE BLVD
ASPHALT
OE
OE
GRASS
ASPHALT DRIVE
BRUSH

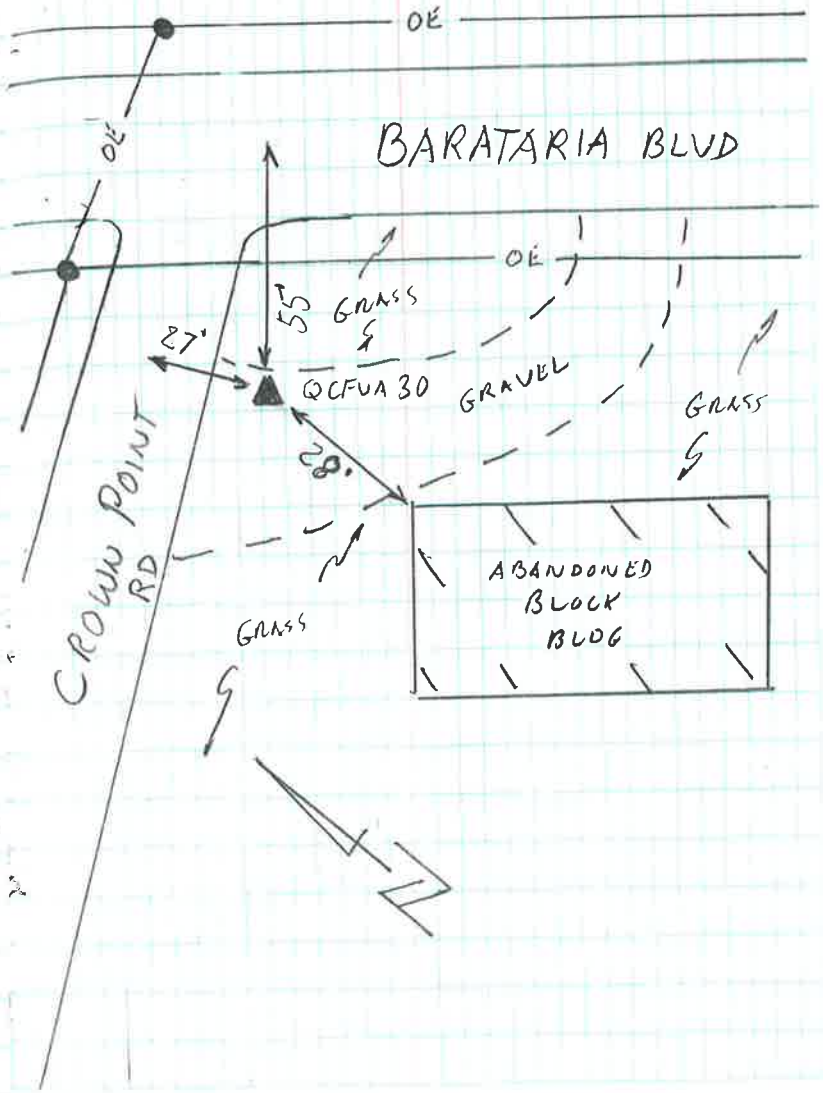
QCFVA 32


OE
OE
OE
JEAN LAFITTE BLVD
GRATE INLET
GRASS
GRAVEL DRIVE
3'
QCFVA 32
12'
26'
GRASS
WIRE FENCE
RES 1675
UTILITY POLE
GRASS
SIDEWALK

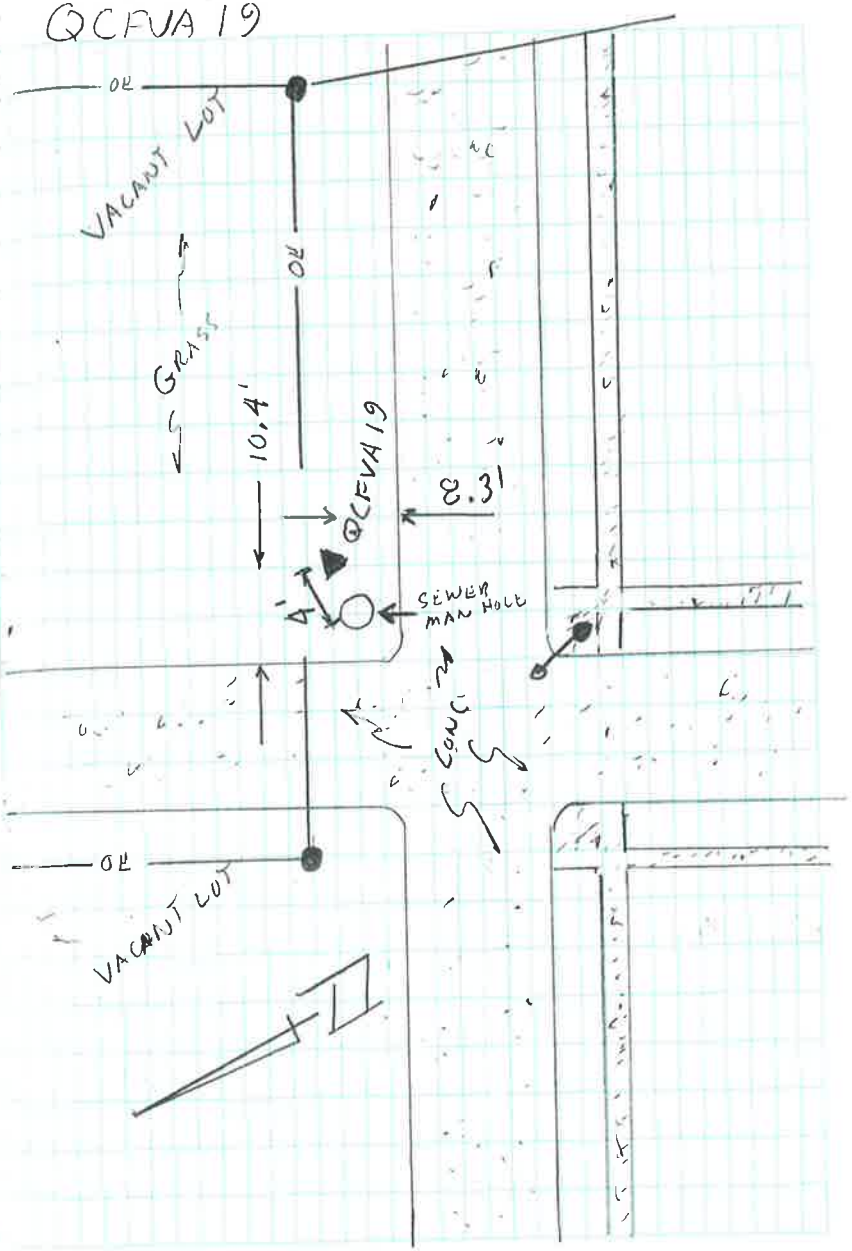
QCFVA 31


OE
JEAN LAFITTE BLVD
OE
ASPHALT
GRASS
ASPHALT
ROSETHORN
PLAY GROUND
TREE
TREE
20'
GRASS
GRASS
27'
QCFVA 31
16.2'
9'
ASPHALT
35'
N

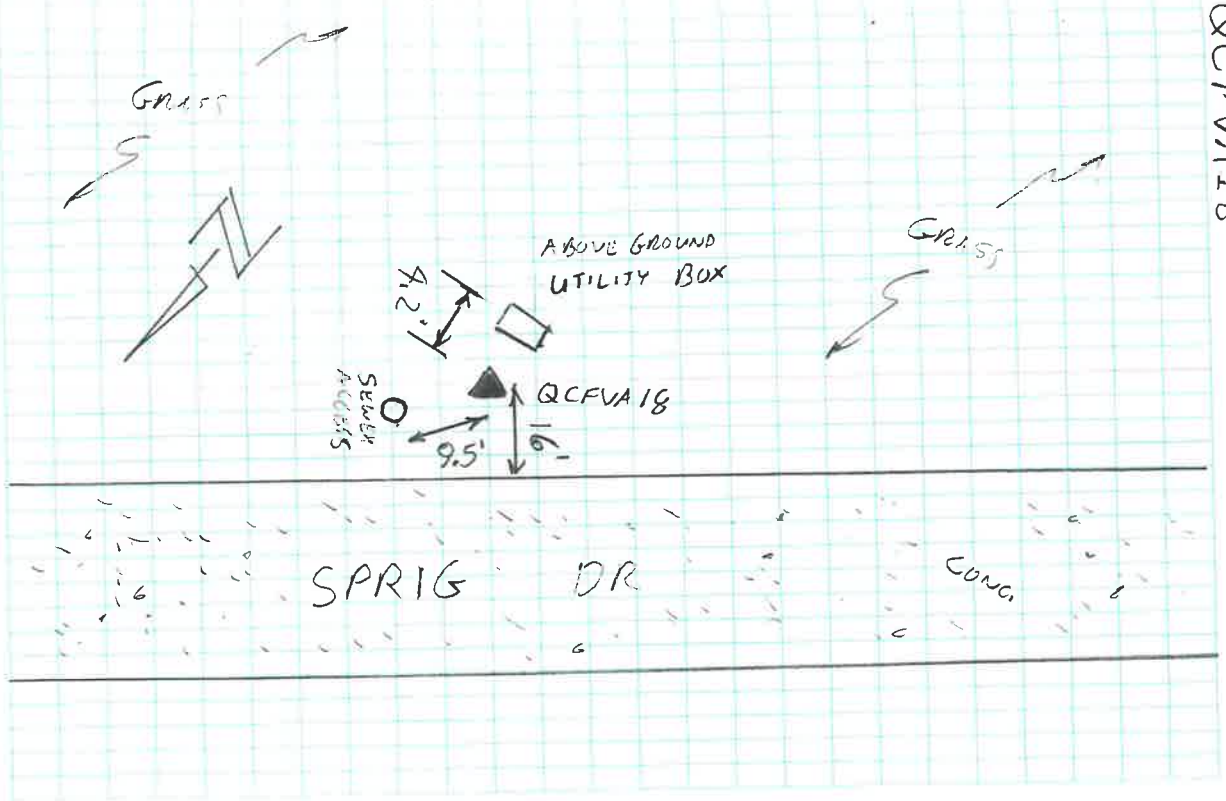
QCFUA 30


OE
OE
BARATARIA BLVD
OE
55'
GRASS
27'
QCFUA 30
GRAVEL
GRASS
28'
CROWN POINT RD
ABANDONED BLOCK BLDG
GRASS
N

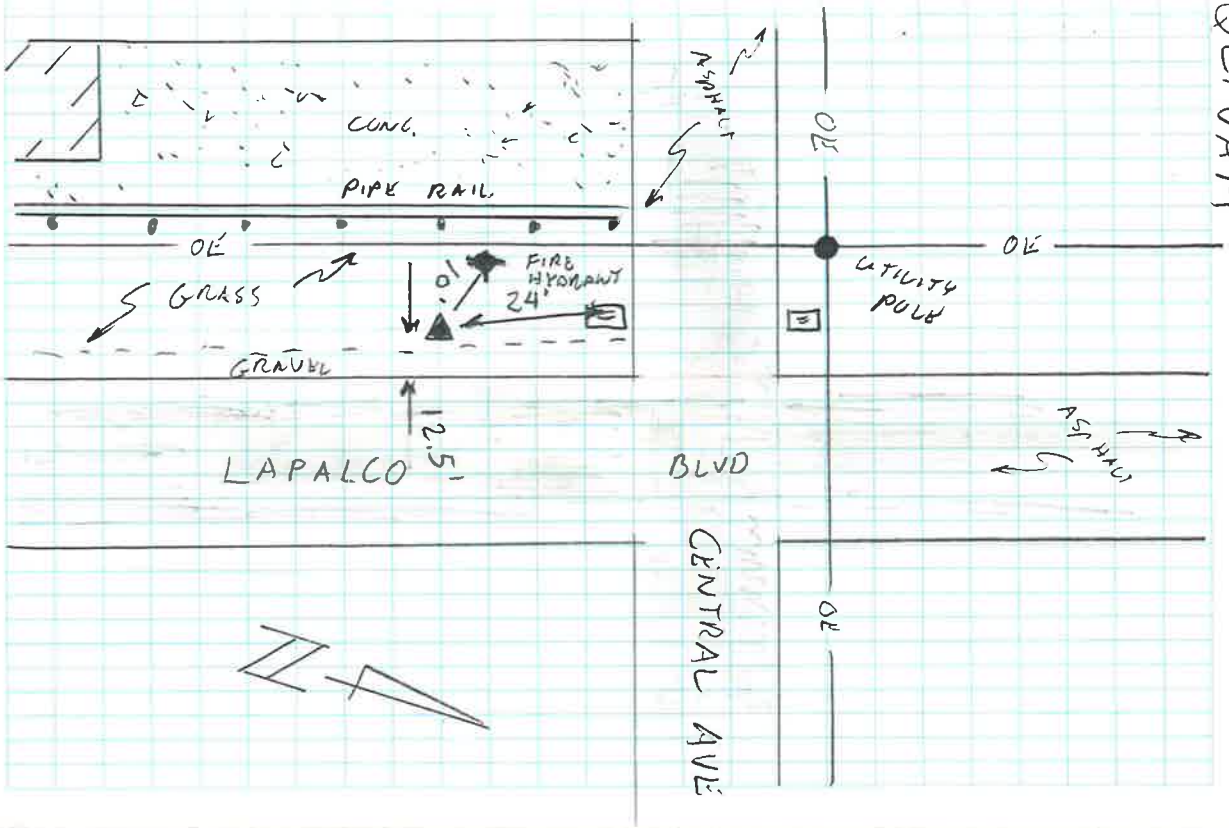
QCFUA 19


OL
VACANT LOT
GRASS
OL
10.4'
QCFUA19
0.3'
4'
SEWER MAN HOLE
CONC
OL
VACANT LOT

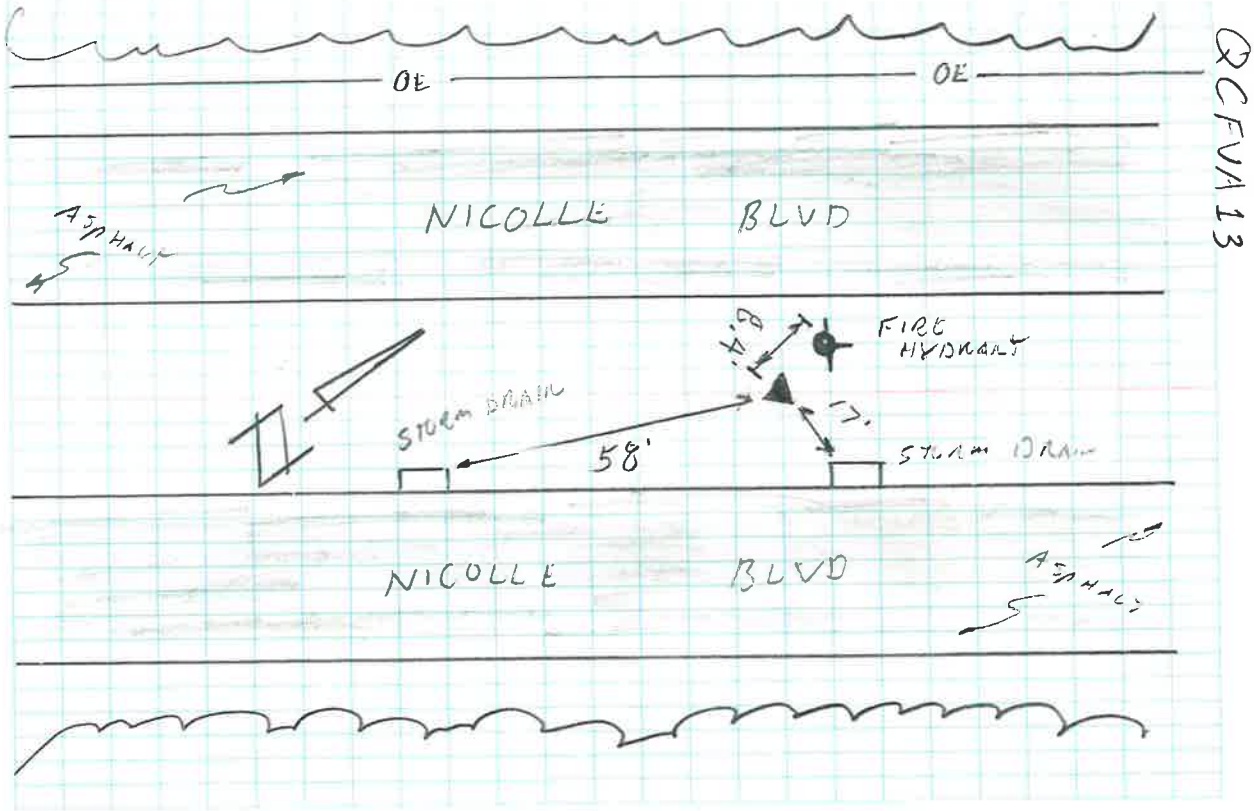
QCFVA18


GRASS
GRASS
ABOVE GROUND
UTILITY BOX
4.2'
QCFVA18
SEWER
ACCESS
9.5'
6'
SPRIG DR
CONC.

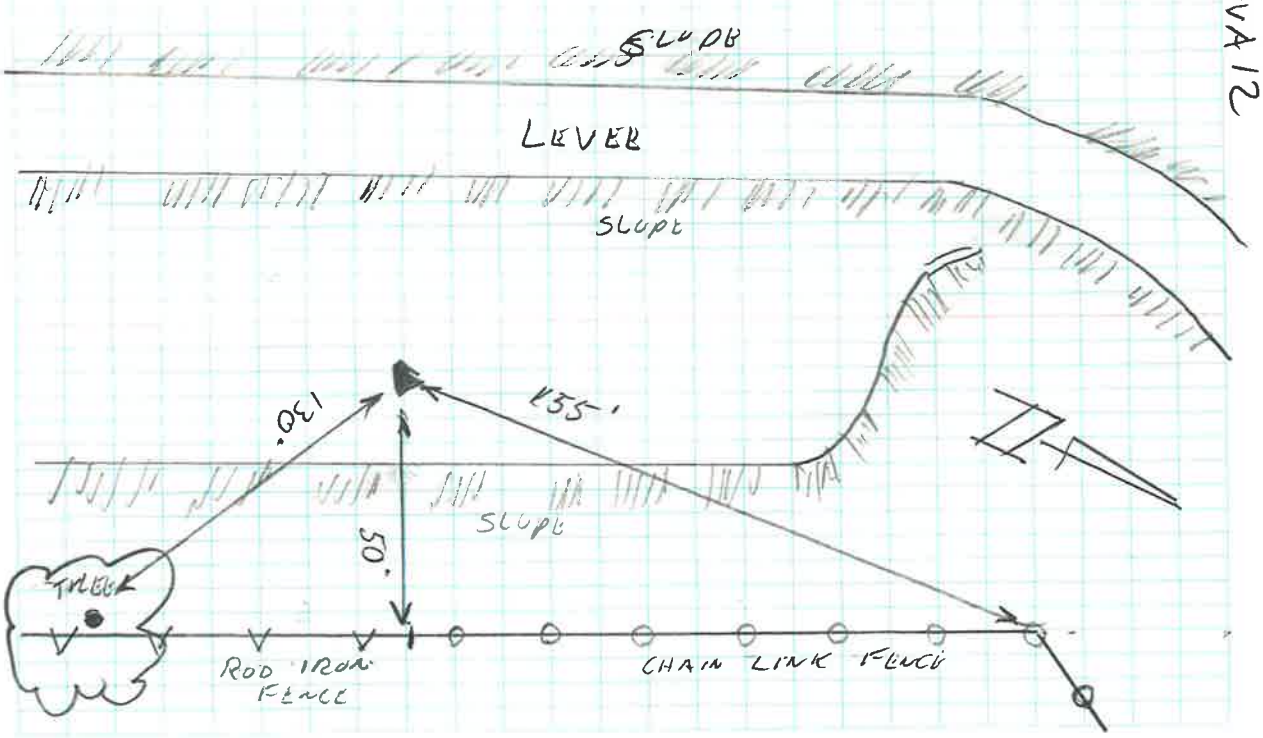
QCFVA 14


CONC.
PIPE RAIL
O/E
GRASS
GRAVEL
FIRE HYDRANT
24'
O/E
ASPHALT
O/E
UTILITY POLE
O/E
ASPHALT
12.5'
LAPALCO
BLVD
CENTRAL AVE
N

QCFVA13

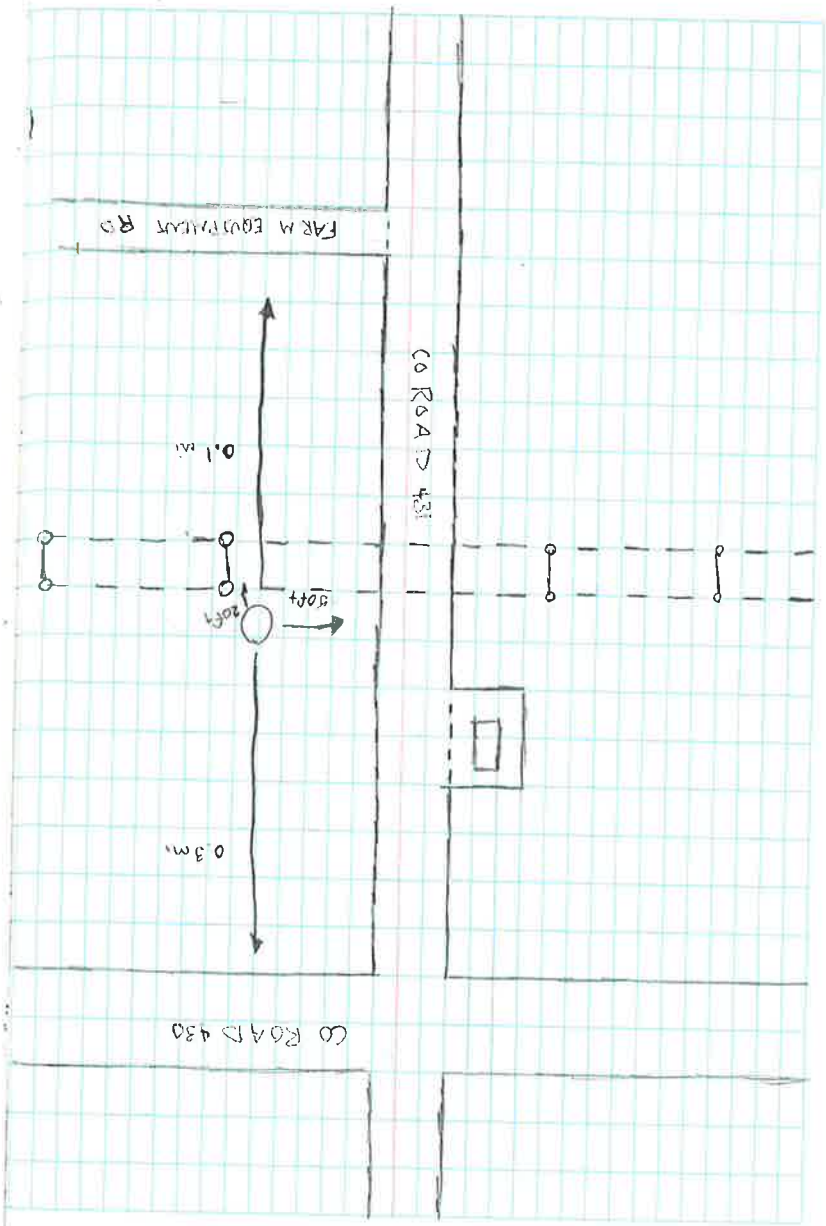

OE
OE
NICOLLE BLVD
ASPHALT
FIRE HYDRANT
STORM DRAIN
58'
17'
STORM DRAIN
NICOLLE BLVD
ASPHALT

QCFVA12

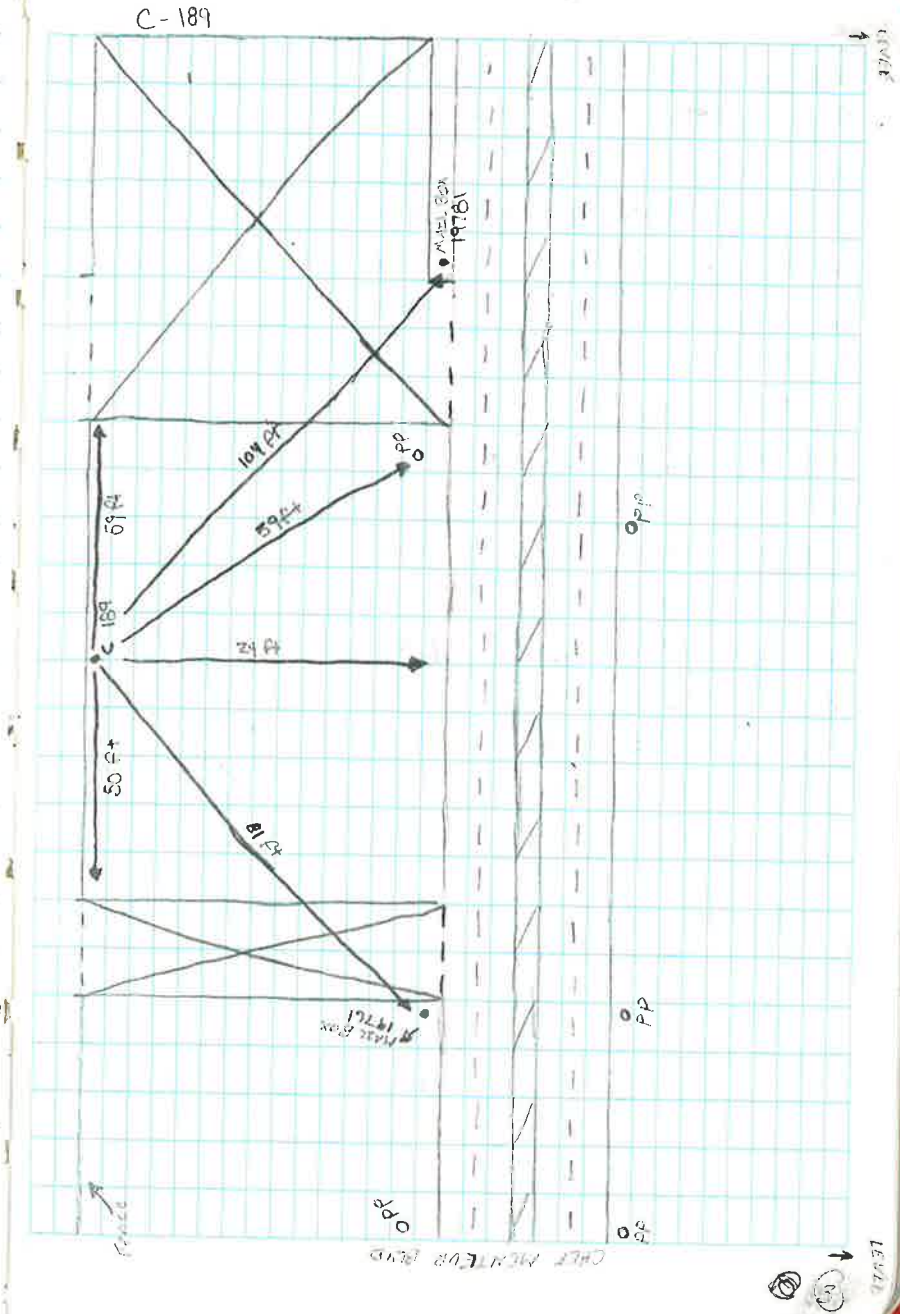

SLOPE
LEVEL
SLOPE
130'
155'
50'
SLOPE
TREES
ROD IRON FENCE
CHAIN LINK FENCE

New Orleans
12-101

Projects (continued)

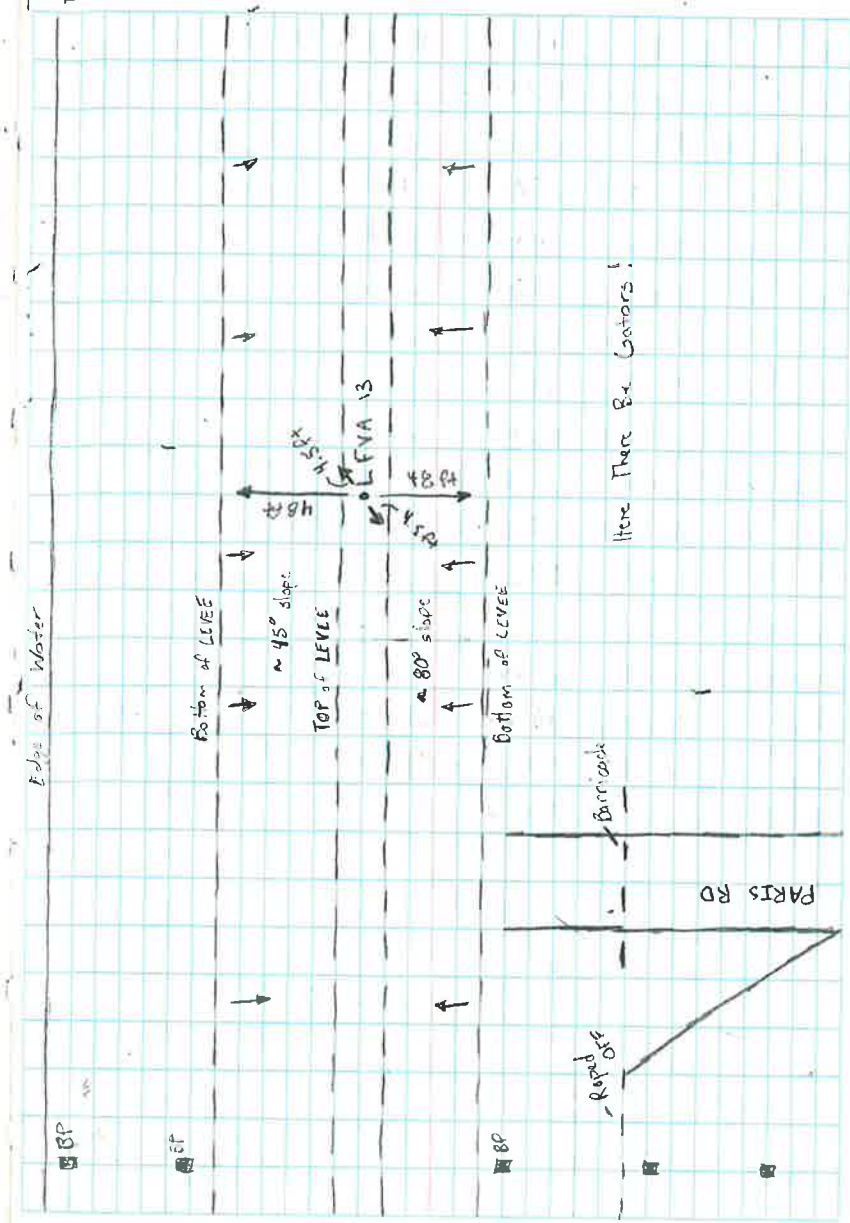


UNIT	B1-5221	RL-A	B1
DATE	2-19-12	2-19-12	2-19-12
Julian D	050	050	050
STATION	L FVA 15	C189	L FVA 18
Coll. Type	STATIC	STATIC	STATIC
Rec. Manu	LEICA	LEICA	LEICA
Rec. Mod	SR530	SR515	SR303
Rec S/N	30182	130521	30182
Ant P/N	667126	667126	667126
Ant Mod	LEIAS02	LEIAS02	LEIAS02
Ant S/N	11319	12609	11319
Ant HT	0.766	2.957	1.103
OFFSET	0.36m	RUN	0.36m
Ant ARP	1.126	2.957	1.463
START	18:39	18:38	16:19
STOP	23:43	23:42	17:42
TOTAL	5.00	05:04	1:22



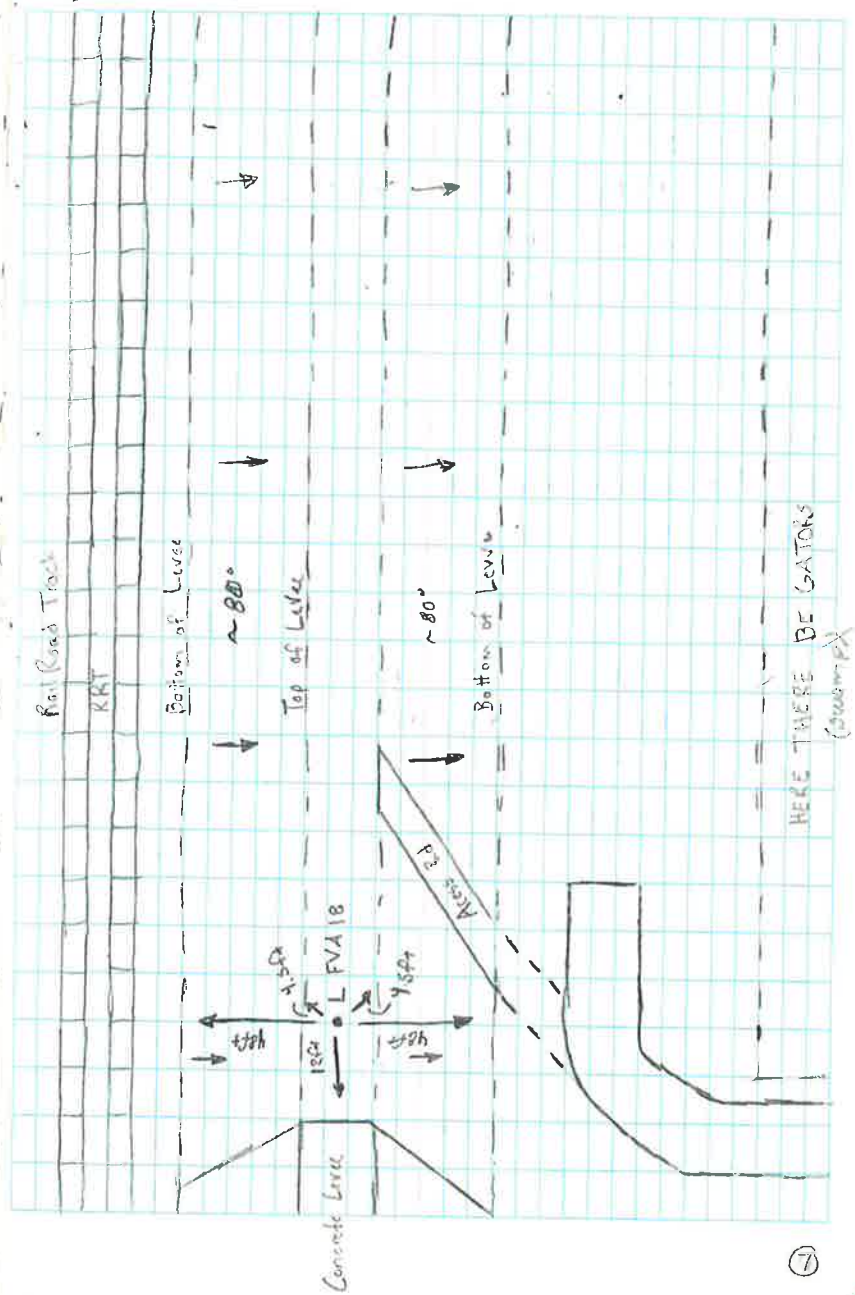
✓ UNIT	R1	B-1	B-1
✓ DATE	2-20-12	2-20-12	2-20-12
✓ JULIAN D	052	052	052
✓ STATION	V 375	L FVA 16	URBAN 2
✓ Coll. Type	STATIC	STATIC	STATIC
Rec Man	LEICA	LEICA	LEICA
Rec S/N	130521	30192	30192
Ant P/N	667126	667126	667126
Ant Mod	LEIAS02	LEIAS02	LEIAS02
Ant S/N	12609	11319	11319
✓ Ant HT	1.117	1.046	1.160
Off Set	0.36m	0.36m	0.36m
Ant. ARP	1.477	1.406	1.520
✓ START	16:19	11:54	15:02
✓ STOP	23:49	14:10	16:41
✓ TOTAL	7:25	2:16	1:34
Rec. Mod	SR530	SR530	SR530

L FVA 13 N 30 00 23.8 W 089 56 25.1

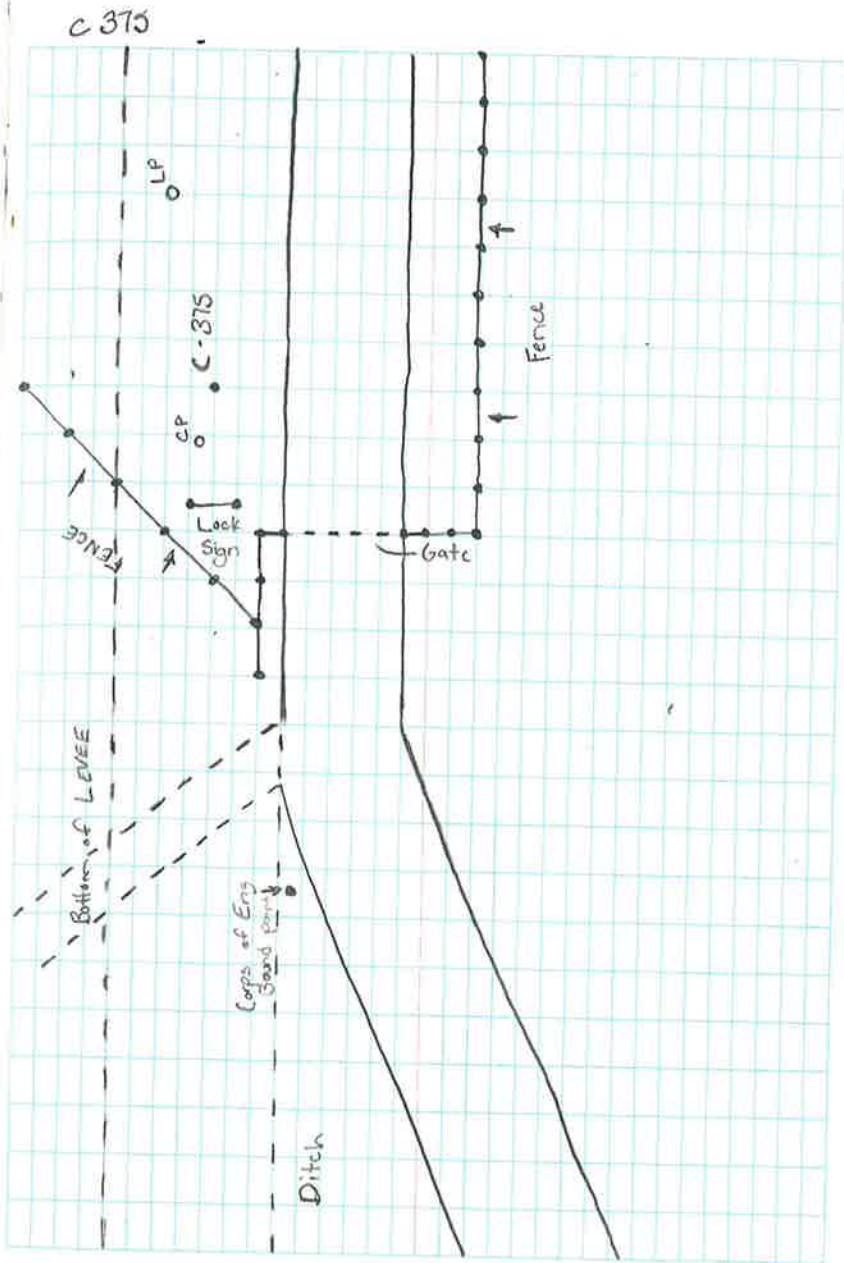


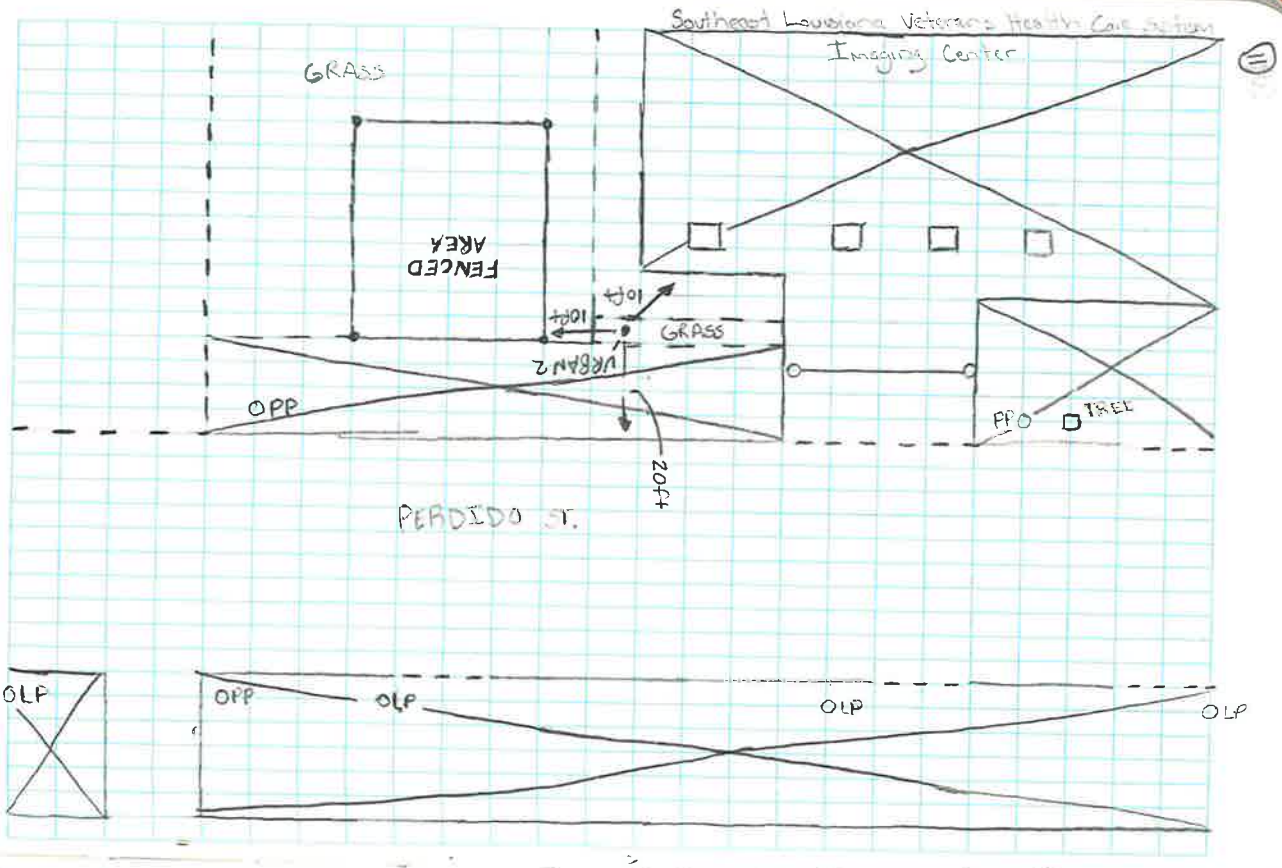
Unit	B-2	R-1 A	B-1
Date	2-21-12	2-21-12	2-21-12
Julian D	052	052	052
Station	FVA05	5720	LFVA09
Coll. Type	Static	Static	Static
Rec Man	LIECA	LIECA	Leica
Rec Mod	SR530	SR530	SR530
Rec S/N	30192	130521	30192
Ant P/N	667126	667126	667126
Ant Mod	LEIAS02	LEIAS02	LEIAS02
Ant S/N	11319	12609	11319
Ant HT	1.216	1.355	1.019
Off Set	0.36m	0.36m	0.36m
Ant Adj	1.576	1.715	1.379
Start	15:26	17:42	17:10
Stop	16:18	00:51	18:15
Total	06:51	07 09	1:05

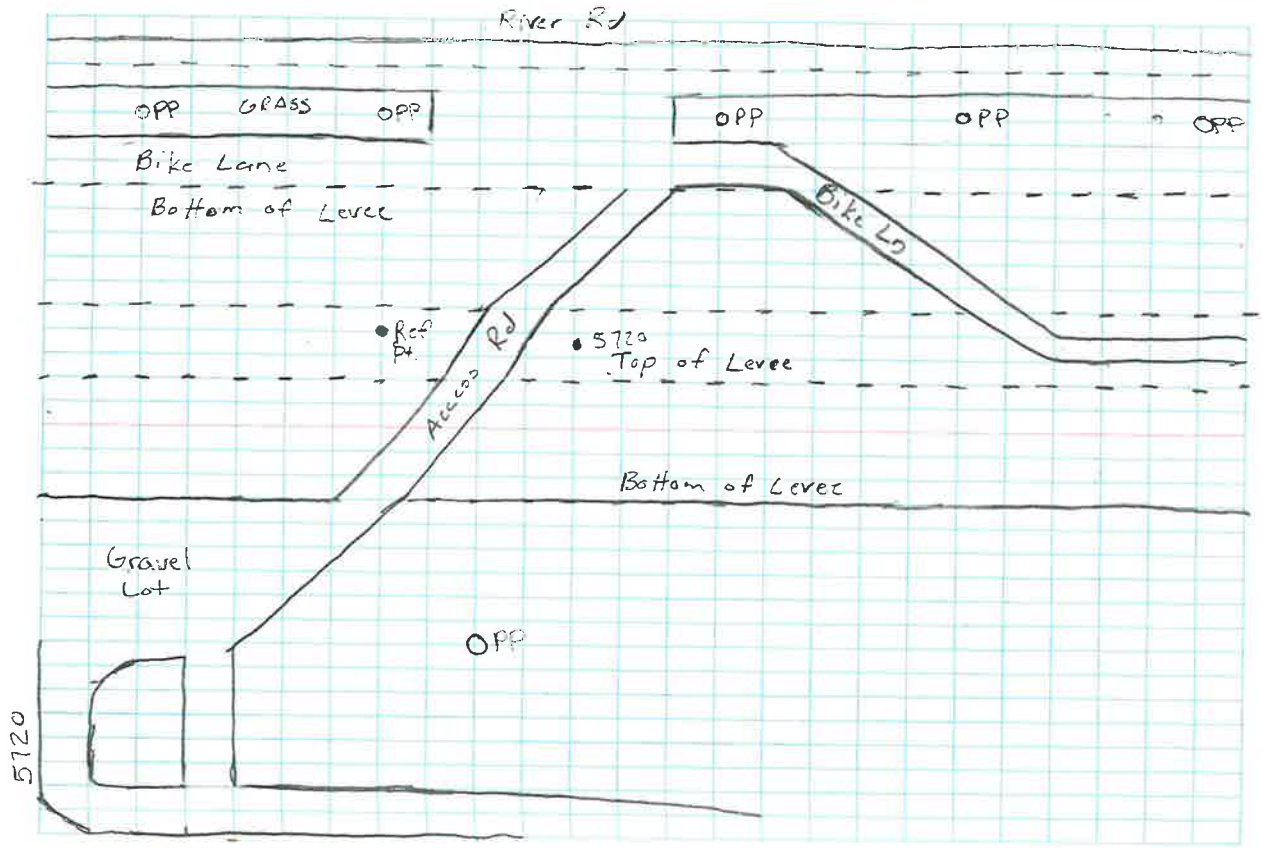
L FVA 18

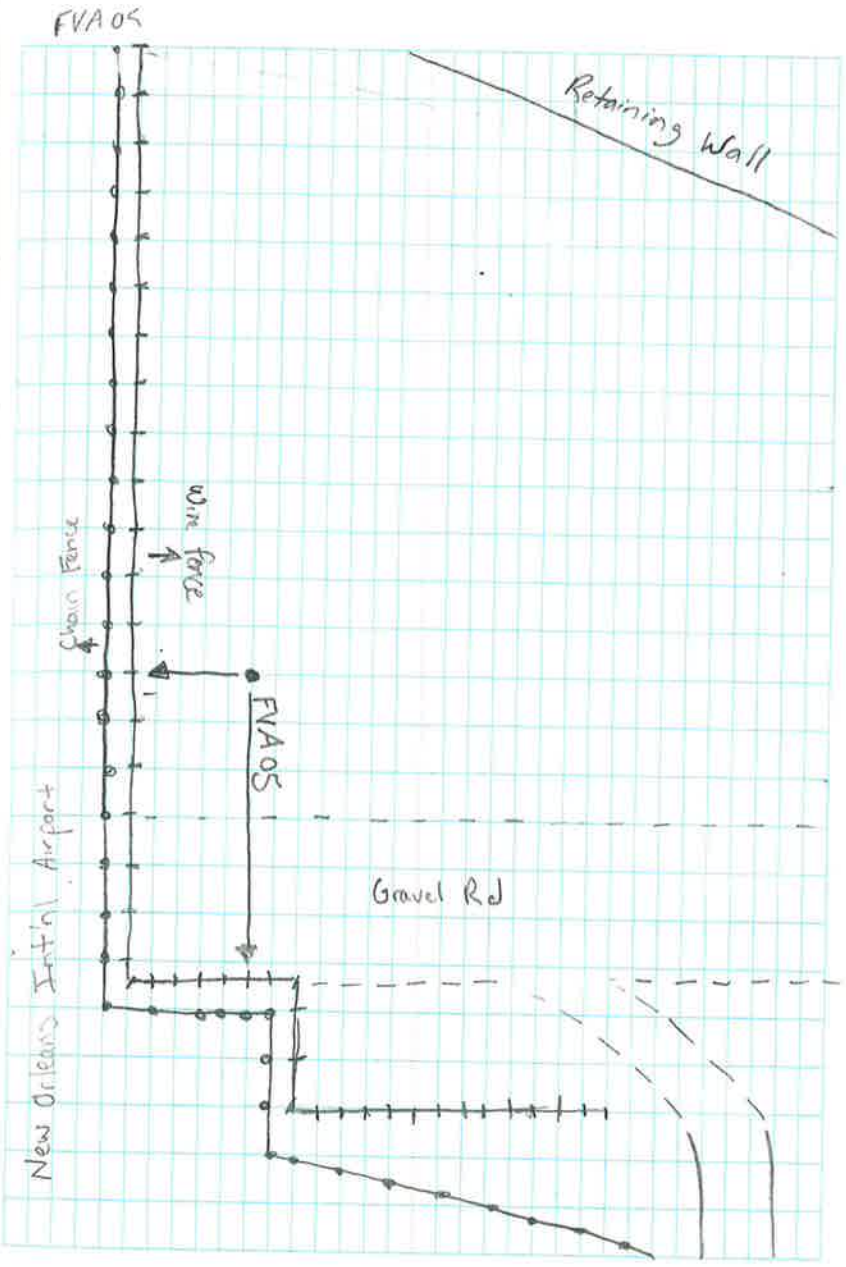


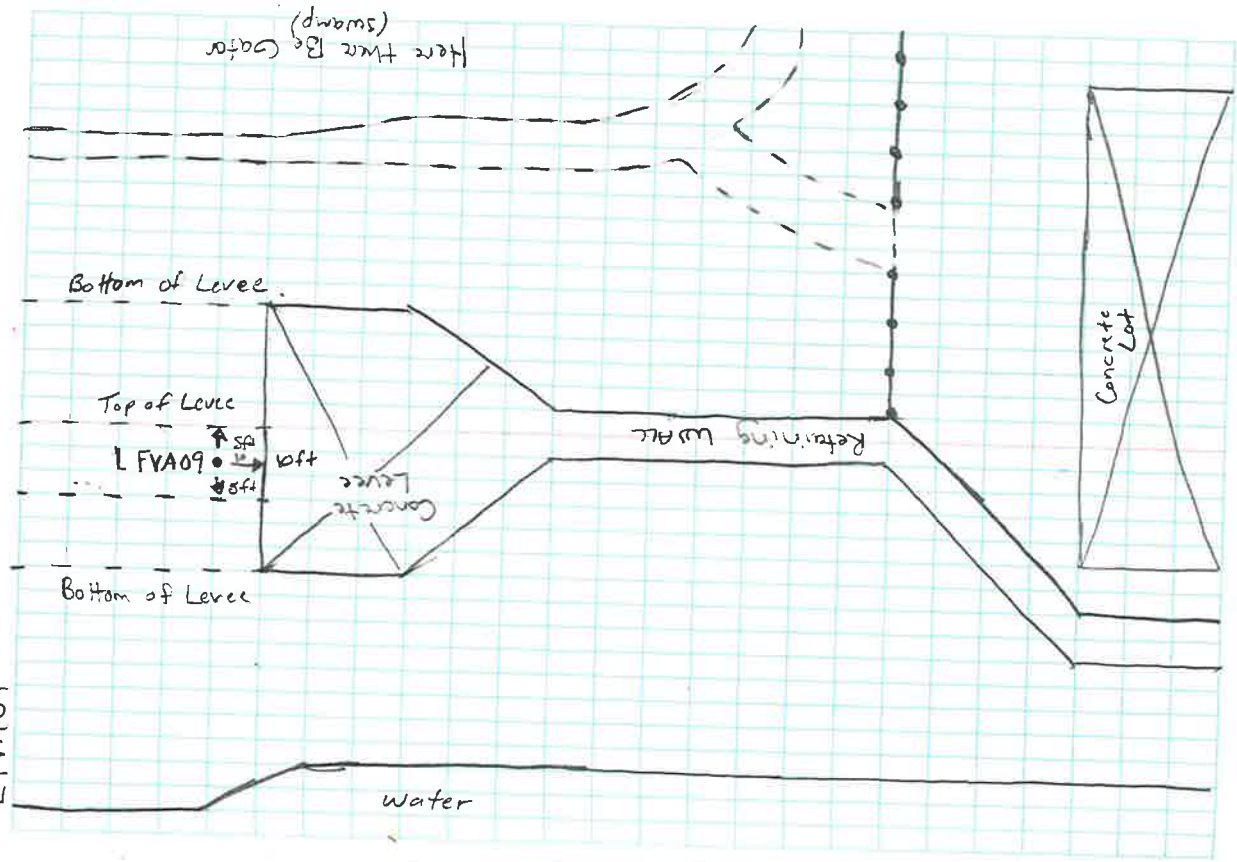
Unit	R-1 A	B-1	R-1	R-1
Date	02-22-12	02-22-12	02-22-12	02-22-12
Julian D	053	053	053	053
Station	L FVA02	B 369	LFVA09	LFVA10
Coll Type	Static	Static	Static	Static
Rec Man	LIECA	LEICA	LEICA	LEICA
Rec Mod	SR503	SR503	SR503	SR503
Rec S/N	130521	30192	130521	130521
Ant P/N	667126	667126	667126	667126
Ant Mod	LEIAS02	LEIAS02	LEIAS02	LEIAS02
Ant S/N	12609	11319	12609	12609
Ant HT	1.140	1.207	1.017	1.156
Off set	0.36m	0.36	0.36	0.36
Ant Arp	1.500	1.567	1.377	1.516
Start	15:50	16:47	19:35	16:39
Stop	18:27	21:45	23:53	17:30
Total	2:36:25		4:18:00	00:51:00




Southeast Louisiana Veterans Health Care System
Imaging Center
GRASS
FENCED AREA
10ft
10ft
GRASS
URBAN 2
OPP
20ft
PERDIDO ST.
PPO
TREE
URBAN 2
OLP
OPP
OLP
OLP
OLP


River Rd
OPP
GRASS
OPP
Bike Lane
Bottom of Levee
OPP
OPP
OPP
Bike Ln
Ref Pt.
5720
Top of Levee
Access Rd
Bottom of Levee
Gravel Lot
OPP
5720

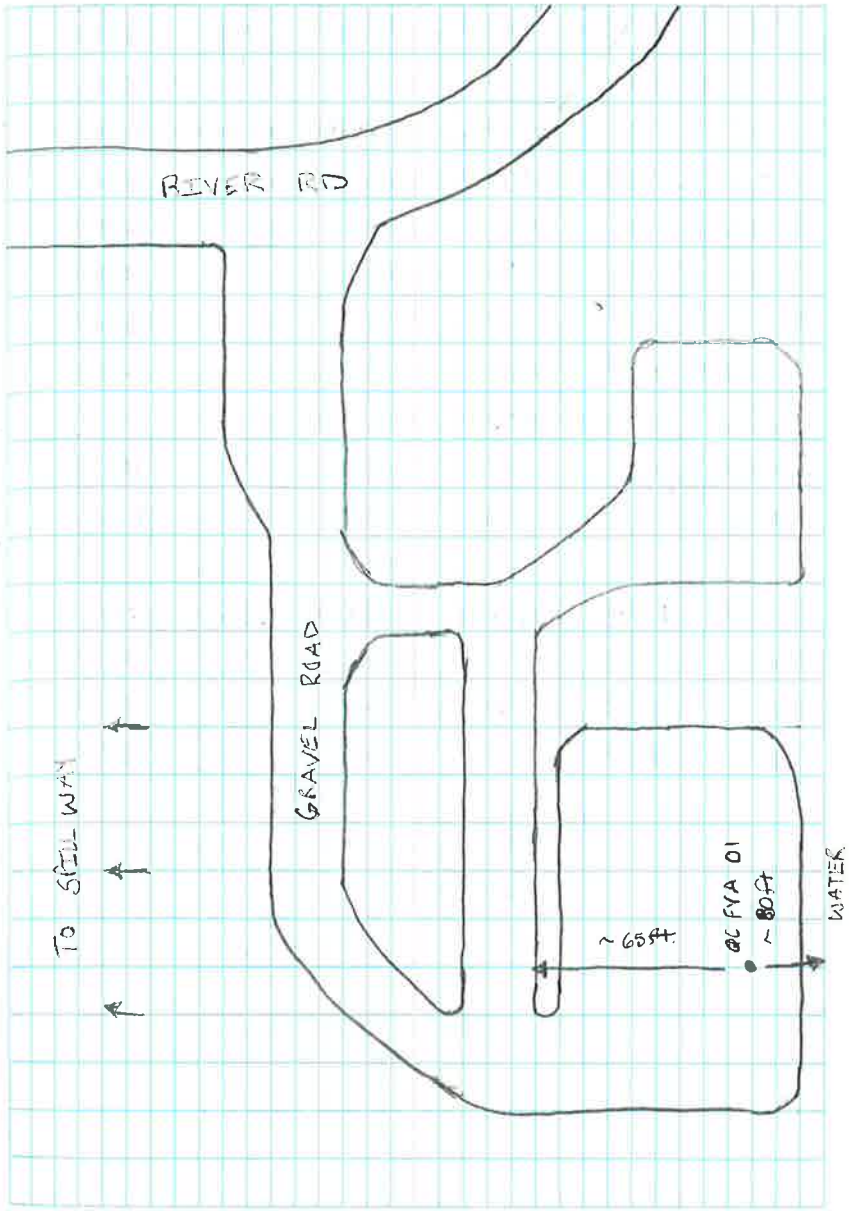

FVA 05
Retaining Wall
Chain Fence
Wire Fence
FVA 05
Gravel Rd
New Orleans Int'l Airport


Here there Be Gator (swamp)
Bottom of Levee
Top of Levee
L FVA09
5ft
1ft
8ft
Bottom of Levee
Concrete Levee
Retaining wall
Concrete Lot
L FVA09
Water

UNIT	B3 (33605)	R2
DATE	03-05-2012	03-05-2012
JULIAN D.	066	066
STATION	S188	BSZ
Ant. Type	ABGPS	ABGPS
Rec Man.	LIECA	LIECA
Rec Mod.	SR503	SR503
Rec S/N	136496	0034467
Ant P/N	667126	667126
Ant Mod.	LIEA502	LIEA502
Ant S/N	15894	126091
Ant HT.	1.245	1.172
OFFSET	0.36m	0.36m
Ant ARP	1.605	1.532
START	14:32	15:13
STOP	01:53	01:04
TOTAL	11:21:05	10:01

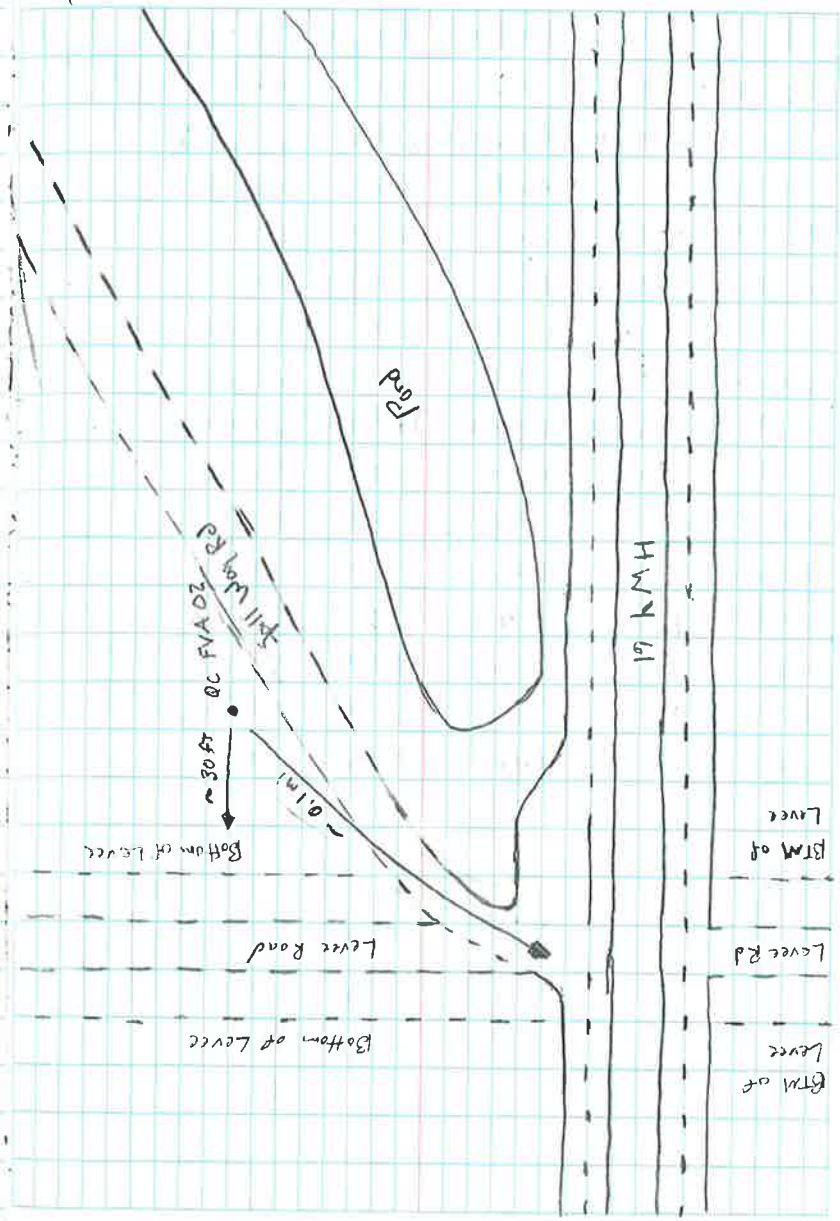
UNIT	B3	B3	B3	B3	B3
DATE	3/8/2012	3/8/2012	3/8/2012	3/8/2012	3/8/2012
Julian D.	069	069	069	069	069
Station	QC FVA 01	QC FVA 02	QC FVA 03	QC FVA 04	QC FVA 05
Coll. Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LIECA	LIECA	LIECA	LIECA	LIECA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136496	136496	136496	136496	136496
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LIEAS02	LIEAS02	LIEAS02	LIEAS02	LIEAS02
Ant S/N	15894	15894	15894	15894	15894
Ant HT.	1.200	1.212	1.120	1.215	1.255
Off Set	0.36m	0.36m	0.36m	0.36m	0.36m
Ant. ARP	1.560	1.572	1.480	1.575	1.615
Start	18:22	19:31	22:55	22:00	21:23
Stop	18:44	19:53	23:18	23:22	21:44
Total	22:00	22:00	24:00	24:00	21:00

QC FVA 01

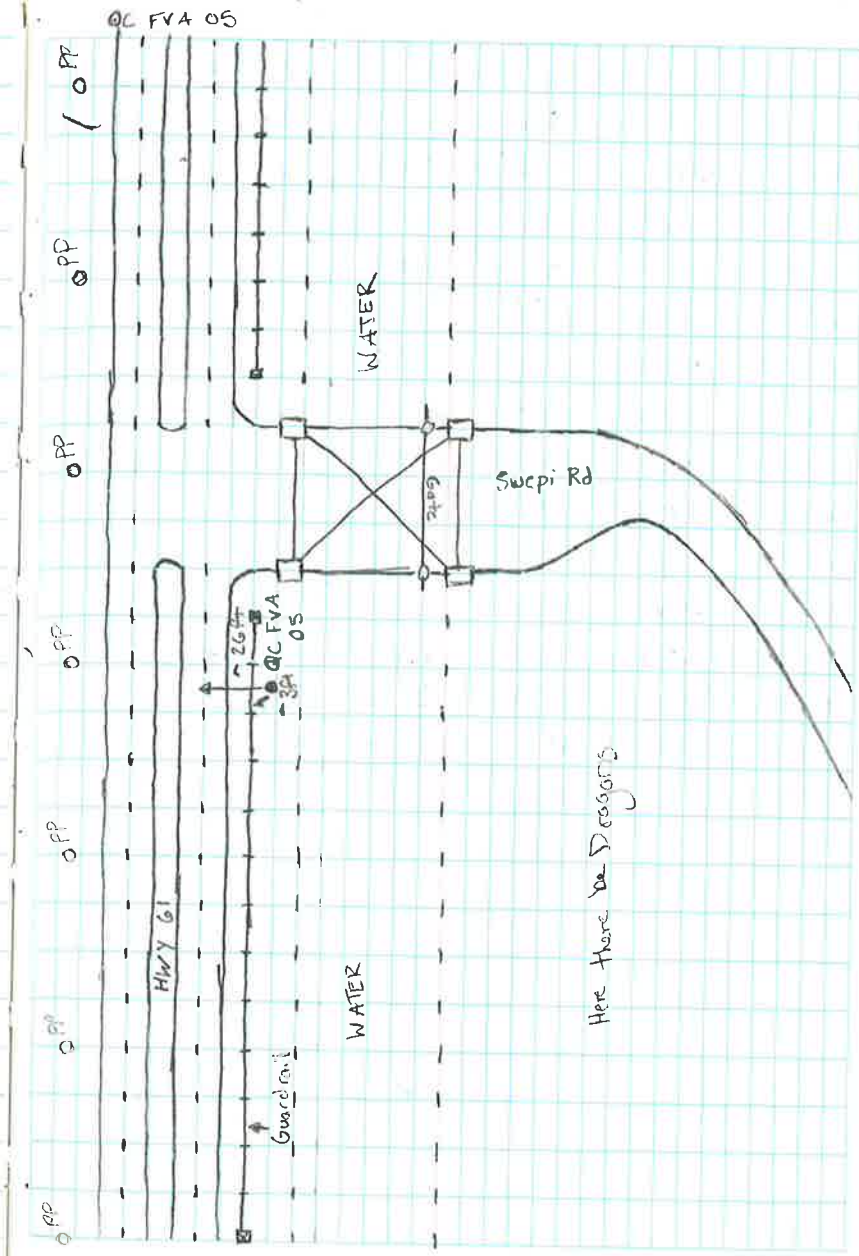


Unit	B3	B3	B3	B3	B3
Date	3/8/2012	3/9/2012	3/9/2012	3/9/2012	3/9/2012
Julian D.	069	070	070	070	070
Station	QC FVA01	QCFVA06	QCFVA07	QCFVA08	QCFVA10
Coll. Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LIECA	LIECA	LIECA	LIECA	LIECA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136496	136496	136496	136496	136496
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LIEAS02	LIEAS02	LIEAS02	LIEAS02	LIEAS02
Ant S/N	15894	15894	15894	15894	15894
Ant HT	1.205	1.126	1.207	1.208	1.154
Off Set	0.36m	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.565	1.486	1.567	1.568	1.514
Start	23:57	14:47	15:40	16:47	18:09
Stop	00:23	15:12	16:03	17:08	18:35
Total	27:00	25:00	24:06	21:00	27:00

QC FVA 02

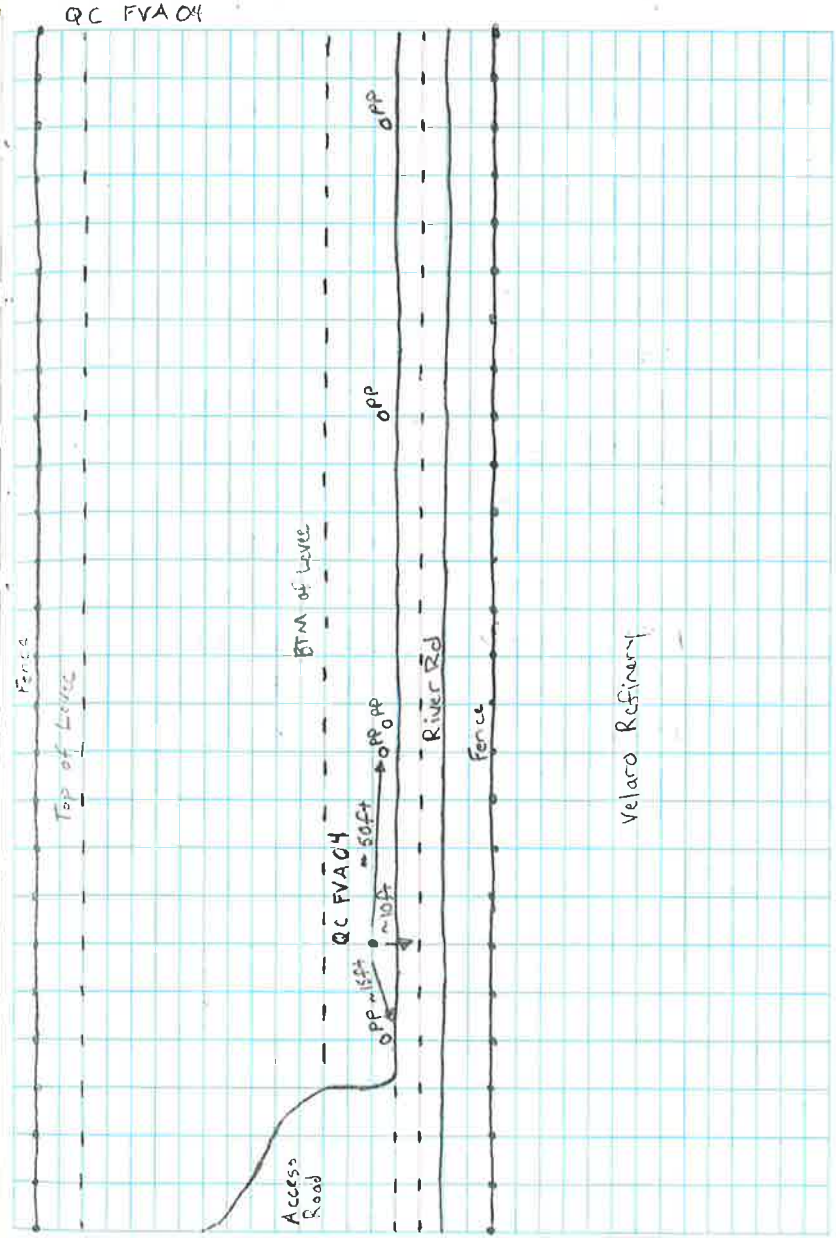


UNIT	B3	B3	B3	B3
DATE	3/9/2012	3/9/2012	3/9/2012	3/9/2012
JULIAN D	070	070	070	070
STATION	QC FVA 11	QC FVA 15	QC FVA 16	QC FVA 17
COLL TYPE	ABGPS	ABGPS	ABGPS	ABGPS
REC MAN	LIECA	LIECA	LIECA	LIECA
Rec MOD	SR530	SR530	SR530	SR530
Rec S/N	136496	136496	136496	136496
Ant P/N	667126	667126	667126	667126
Ant MOD	LEIAS02	LEIAS02	LEIAS02	LEIAS02
Ant S/N	15894	15894	15894	15894
Ant HT	1.283	1.128	1.217	1.212
OFF SET	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.643	1.488	1.577	1.572
START	19:22	21:09	20:14	22:25
STOP	19:42	21:51	20:38	22:46
TOTAL	20:00	21:00	24:00	21:00

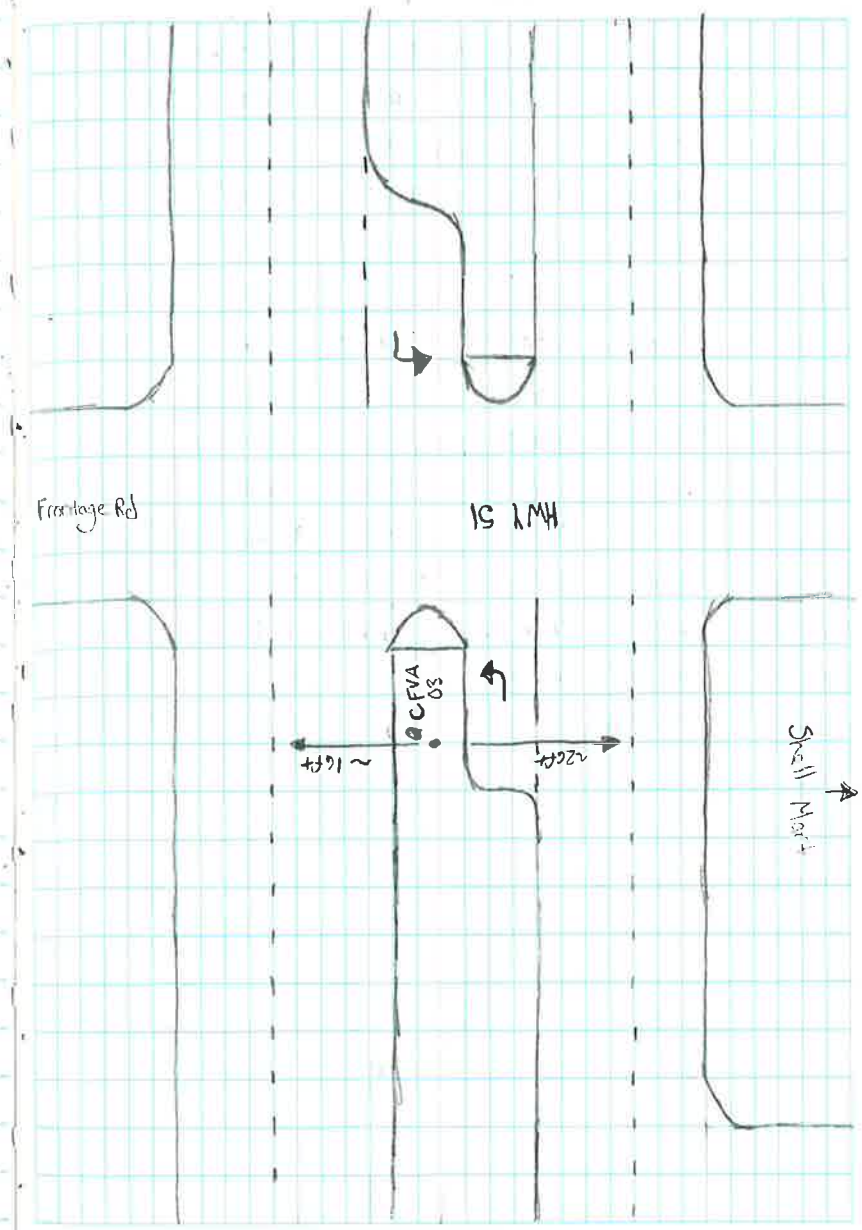


Unit	R3	B1	R2	B1	R3
Date	3/14/2012	3/14/2012	3/14/2012	3/15/2012	3/15/2012
Julian D	074	074	074	075	075
Station	695	BS2	S188	695	S188
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec MAN	LIECA	LIECA	LIECA	LIECA	LIECA
Rec MOD	SR530	SR530	SR530	SR530	SR530
Rec S/N	136496	130521	136534	30192	136496
Ant PN	667126	667126	667126	667126	667126
Ant MOD	LIEAS02	LIEAS02	LIEAS02	LIEAS02	LIEAS02
Ant S/N	15694	12609	5151	11319	15694
Ant HT	1.183	1.256	1.271	1.104	1.298
Off Set	0.36m	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.543	1.616	1.631	1.464	1.658
START	19:59	21:02	22:01	13:48	14:31
STOP	02:27	03:12	03:44	05:27	04:54
TOTAL		06:09	05:43		19:23

QC FVA 04

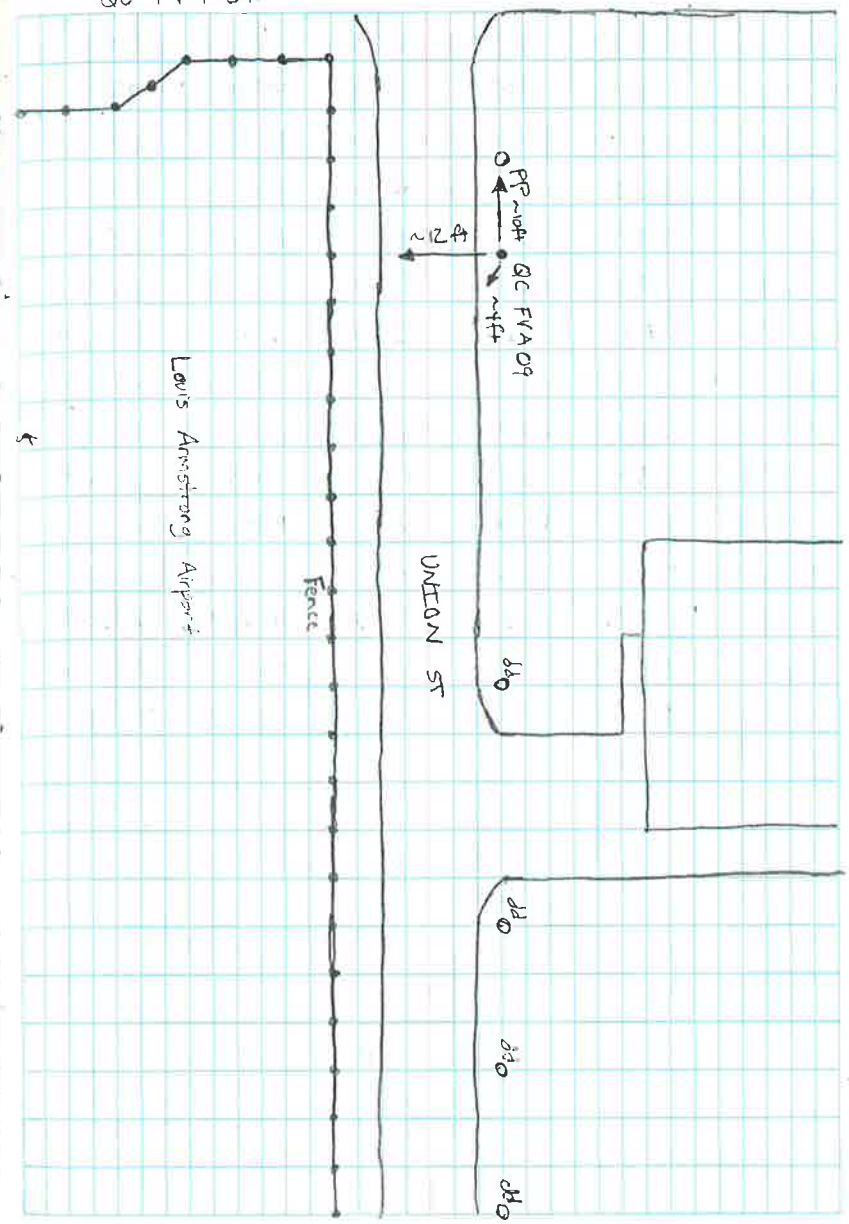


Unit	R2	R1	R3	R2
Date	03/15/2012	3/16/2012	3/16/2012	3/16/2012
Julian D	075	076	076	076
Station	BS2	V375	BS2	SIRS
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LEICA	LEICA	LEICA	LEICA
Rec Mod	SR530	SR530	SR530	SR530
Rec S/N	136514	30192	136496	136584
Ant P/N	667126	667126	667126	667126
Ant Mod	LEIAS02	LEIAT502	LEIAT502	LEIAT502
Ant S/N	5151	11319	15694	5151
Ant Ht	1.372	1.233	1.300	1.322
Off Set	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.732	1.593	1.660	1.682
Start	15:06	17:52	18:48	19:30
Stop	04:26	03:00	03:34	04:08
Total	13:22	09:09		



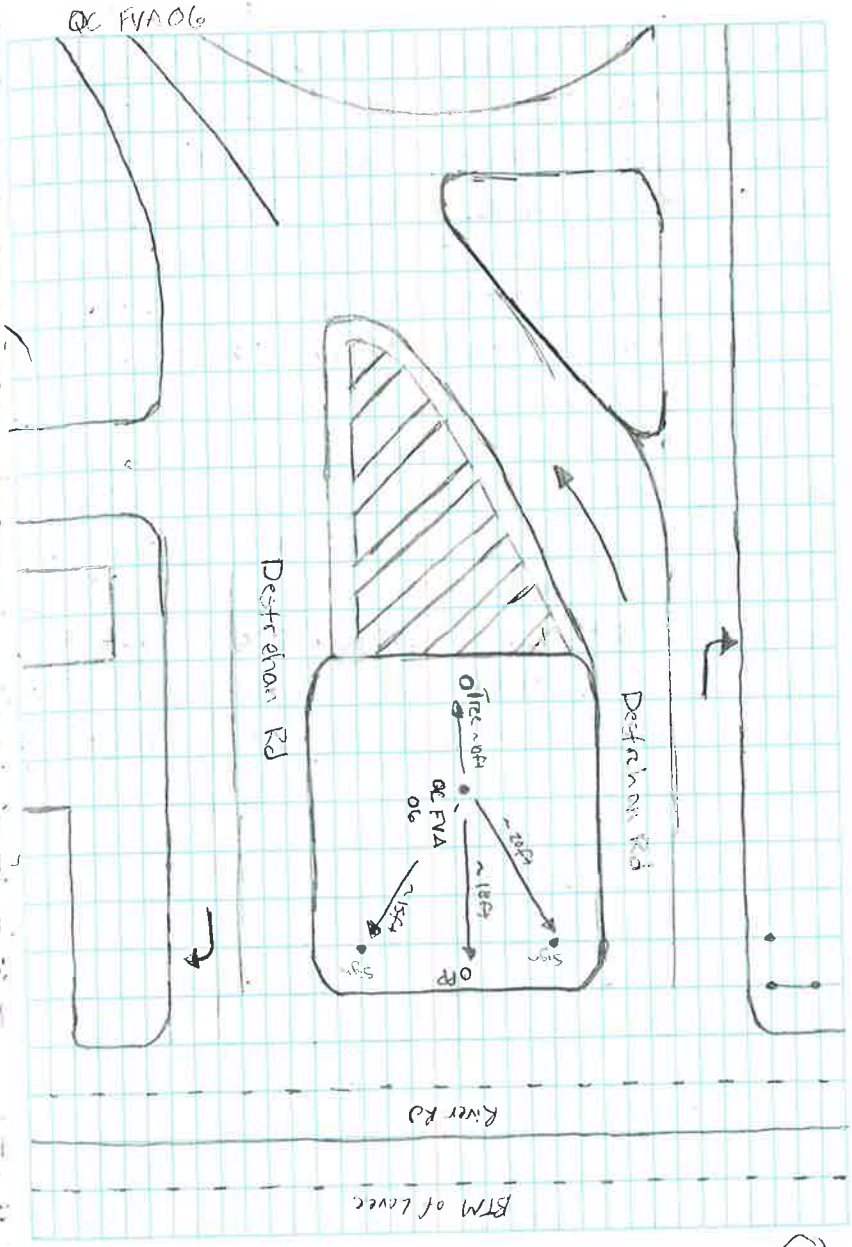
UNIT	B1	R2	R3	B2	R3
DATE	3/17/2012	3/17/2012	3/17/2012	3/18/2012	3/18/2012
Julian D	077	077	077	078	078
Station	V 375	LAKEFRONT	A 148	V 375	A 148
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LIECA	LIECA	LIECA	LIECA	LIECA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	30192	136534	136496	30192	136496
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LIEA502	LIEA502	LIEA502	LIEA502	LIEA502
Ant S/N	11319	5151	15894	11319	15894
Ant HT	1.255	1.316	2.000.	1.142	2.000
Off set	0.36m	0.36m	Rod	0.36M	Rod
Ant ARP	1.595	1.676	2.000	1.502	2.000
Start	14:28	15:40	16 06	14:38	17:31
Stop	01. 12		03:39		04:27
Total					

QC FVA 09



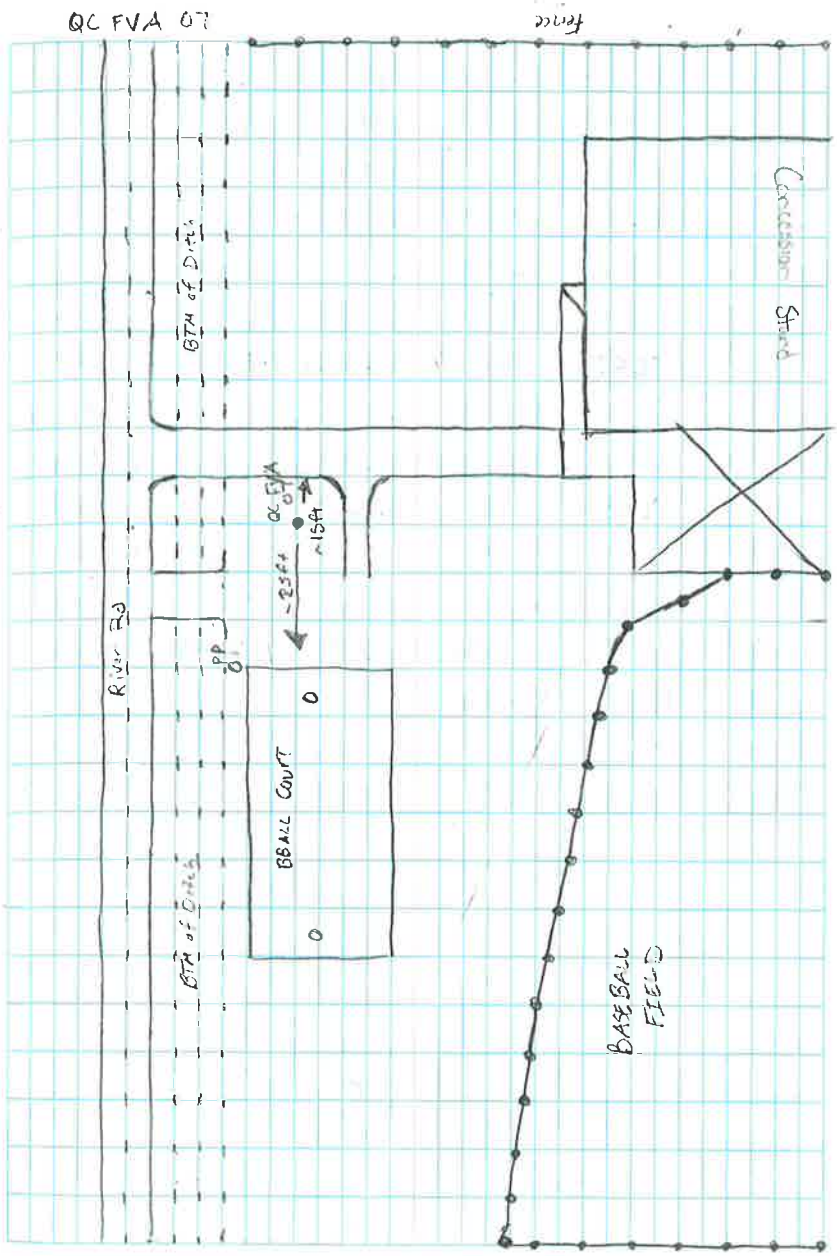
Unit	R2	R2	R2	R1	B2
DATE	3/18/2012	3/18/2012	3/19/2012	3/19/2012	3/19/2012
Julian D	078	078	079	079	079
Station	LAKEFRONT	LAKEFRONT	L FVA 16	L 278	L FVA 12
Coll. Type	ABGPS	ABGPS	STATIC	STATIC	STATIC
Rec. Man	LIECA	LIECA	LIECA	LIECA	LIECA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec. SIN	34467	34467	34467	130521	34467
Ant. P/N	667126	667126	667126	667126	667126
Ant Mod	LIEAS02	LIEAS02	LIEAS02	LIEAS02	LIEAS02
Ant SIN	E376	E376	E376	12609	E376
Ant. HT	1.221	1.211	1.250	1.314	1.330
Off Set	0.36m	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.581	1.571	1.610	1.671	1.690
Start	20:44	01:03	11:23	15:06	15:44
Stop	22:42	04:40	03:37	17:40	20:55
Total					

(41)



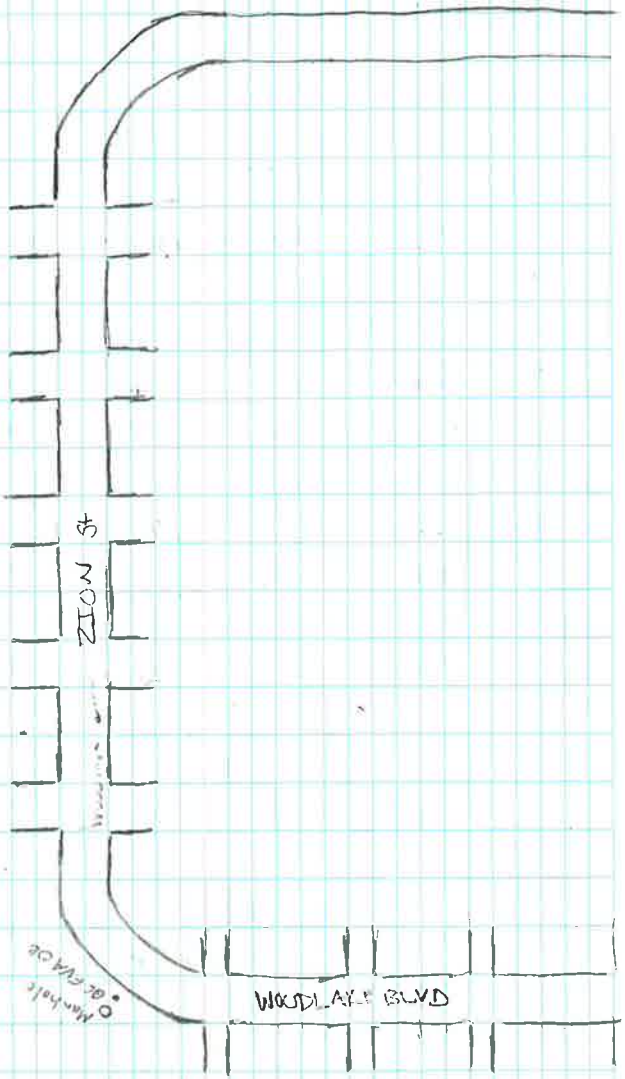
(43)

Unit	R3	B2		R1	R1
DATE	3/19/2012	3/19/2012	3/19/2012	3/19/2012	3-19-12
Julian D.	079	079	079	079	079
Station	C 189	L FVA 02	L FVA 19	QC FVA 46	QC FVA 33
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LIECA	Leica	Leica	LIECA	Leica
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136496	34467	130521	130521	130521
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LIEAS02	LEIAT502	LEIAT502	LIEAS02	LEIAT502
Ant S/N	15694	8376	12609	12609	12609
Ant HT	2.957	1.391	1.154	1.335	1.233
Off Set	RUD	0.36m	0.36m	0.36m	0.36 m
Ant ARP	2.957	1.751	1.514	1.745	1.593
Start	16 29	23:24	16:26	21:05	00:13
Stop	19 96	01.4%	21:00	21:36	00:47
Total	03 17				



Unit	R1	R2	R1	R1	
Date	3/20/2012	3/20/2012	3/20/2012	3/20/2012	3/20/2012
Julian D	080	080	080	080	080
Station	QC FVA 16	L FVA19	QC FVA20	QC FVA24	L FVA02
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LEICA	LEICA	LEICA	LEICA	LEICA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136521	136534	136521	136521	136521
Ant P/N	667126	667126	667126	667126	667126
Ant Mod	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
Ant S/N	12609	5151	12609	12609	12609
Ant HT	1.272	1.194	1.125	1.229	1.260
Off Set	0.36m	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.632	1.554	1.485	1.589	1.620
Start	14:34	16:26	17:14	18:07	18:42
Stop	15:14	21:00	17:35	18:28	19:38
Total	00:20	04:33	00:21	00:21	00:56

QC FVA 08



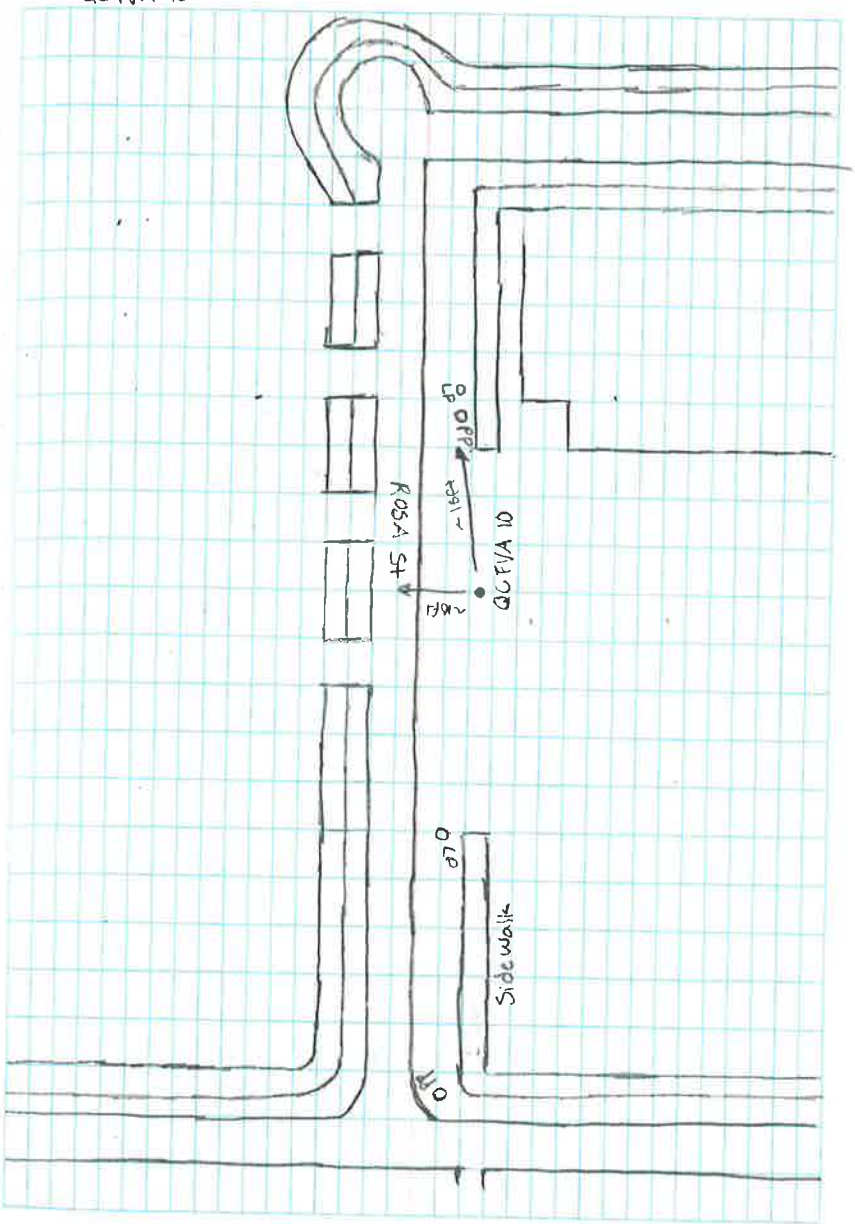
Unit	R1	R1	R1	R1
Date	03/21/2012	03/21/2012	03/21/2012	03/21/2012
Julian D	081	081	081	081
Station	2012-26	2012-27	2012-28	2012-29
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS
Rec Manf	LIECA	LIECA	LIECA	LIECA
Rec Mod	SR530	SR530	SR530	SR530
Rec S/N	130521	130521	130521	130521
Ant P/N	667126	667126	667126	667126
Ant Mod	LIEAS02	LIEAS02	LIEAS02	LIEAS02
Ant S/N	12609	12609	12609	12609
Ant HT	1.236	1.325	1.359	1.358
Off Set	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.596	1.685	1.719	1.758
Start	18:21	19:33	20:44	22:30
Stop	18:46	19:53	21:49	22:50
Total	00:25	00:20	00:20	00:20

N 39 05 016
E 095 12 082

BUMP PROJECT

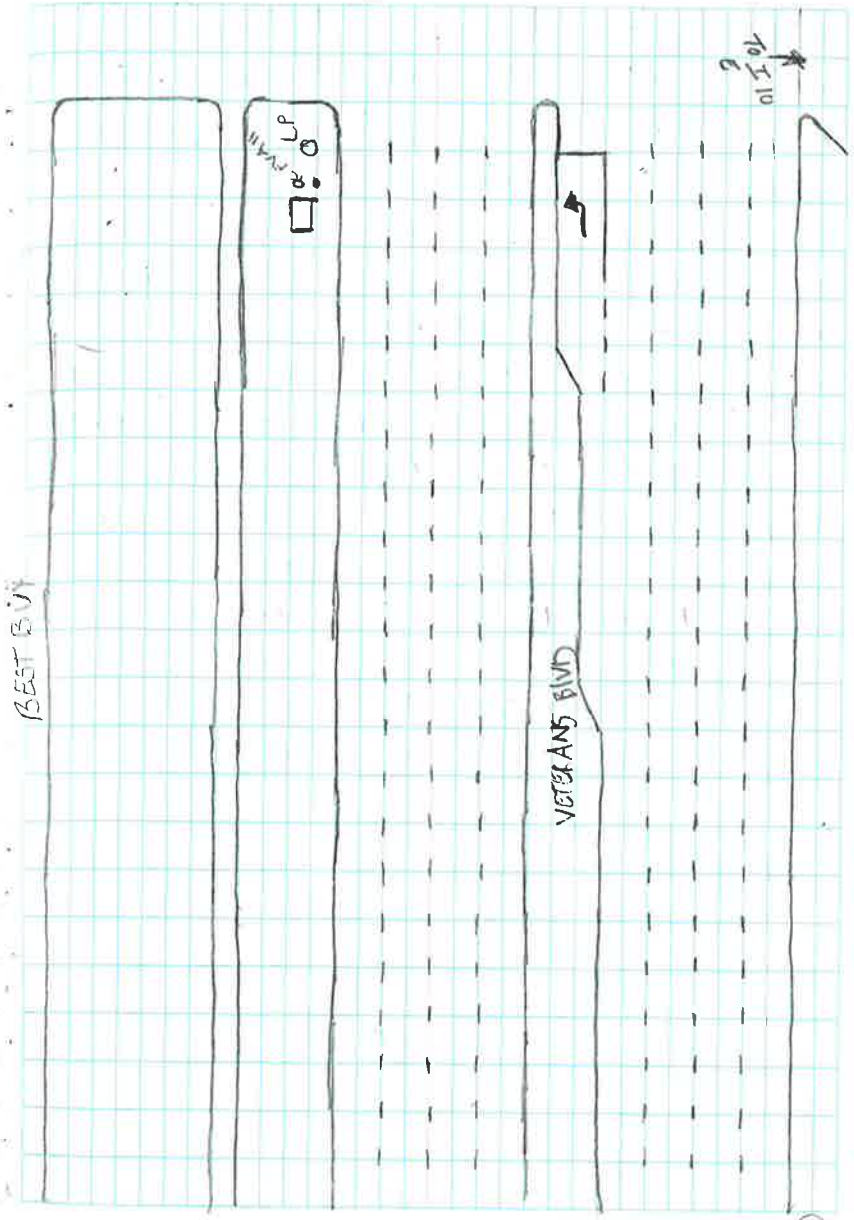
NOT PART OF NUCOE

QC FVA 10



Unit	B2	R2	R3	B2	B3
Date	3/24/2012	3/24/2012	3/24/2012	3/24/2012	3/25/2012
Julian D.	084	084	084	084	85
Station	V375	BS2	LAKE FRONT	B360	BS2
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LIECA	LIECA	LIECA	LIECA	LEICA
Rec Mod	SR530	SR530	SR530	SR530	SR536
Rec S/N	34467	136534	136496	34467	136512
Ant. P/N	667126	667126	667126	667126	667126
Ant Mod.	LIEAS02	LIEAS02	LIEAS02	LIEAS02	LGIAT502
Ant S/N	8376	5151	15894	8376	7526
Ant HT	1.166	1.155	1.170	1.338	1.314
Off Set	0.36m	0.36m	0.36m	0.36m	0.36
Ant ARP	1.526	1.515	1.530	1.698	1.674
Start	13:20	14:07	15:00	14:27	10:24
Stop	05:54	06:31	22:28	05:11	23:44
Total	16:34	16:24			13:20

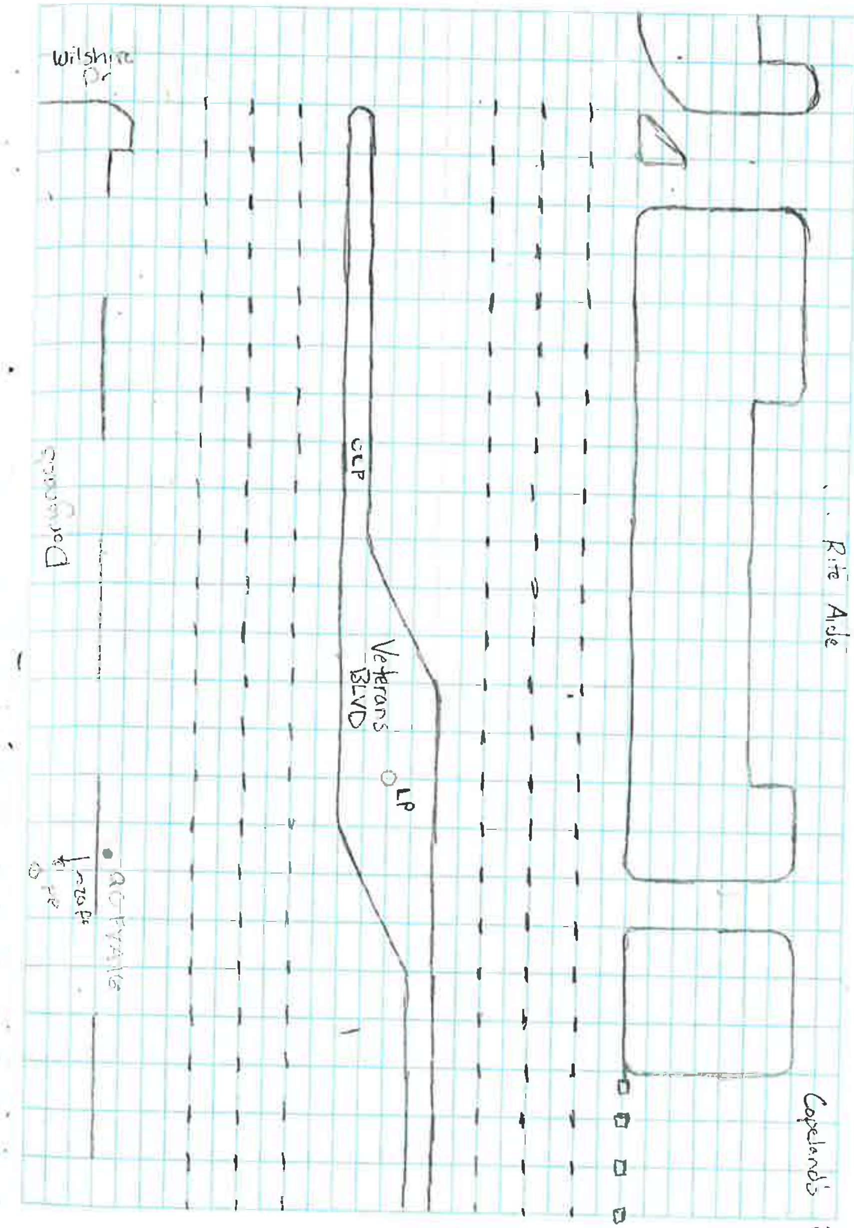
QC FAIL

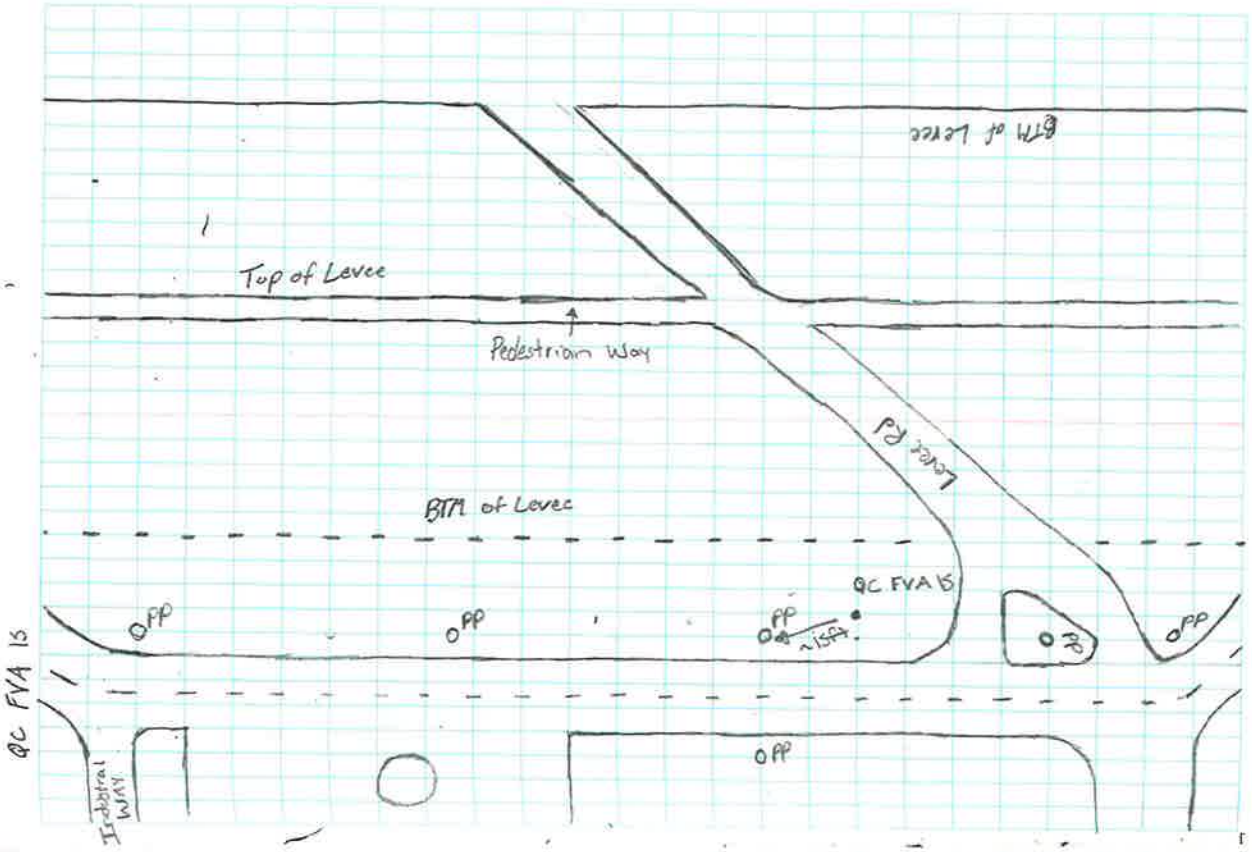


UNIT	R2	B2	R1	R1	
DATE	3/25/2012	3/25/2012	3-25-12	3-25-12	
Julian D	085	085	085	085	085
Station	S188	V375	Port Gib	QC FVA03	QCFVA08
Coll Type	ABGPS	ABGPS	ABGPS	ABGPS	ABGPS
Rec Man	LEICA	LEICA	LEICA	LEICA	LEICA
Rec Mod	SR530	SR530	SR530	SR530	SR530
Rec S/N	136534	30122	130521	130521	
Ant. P/N	667126	667126	667126	667212	667212
Ant Mod.	LEIAT502	LEIAT502	LEIAT502	LEIAT502	LEIAT502
Ant S/N	5151	11319	12609	12609	
Ant HT	1.224	1.228	1.259	1.290	
Off set	0.36m	0.36m	0.36m	0.36m	0.36m
Ant ARP	1.584	1.588	1.619	1.650	
Start	10:52	11:35	14:58	21:54	
Stop	23:14	00:24	18:40	22:[illegible]	
Total	12:22	12:49	03:42	00:22	

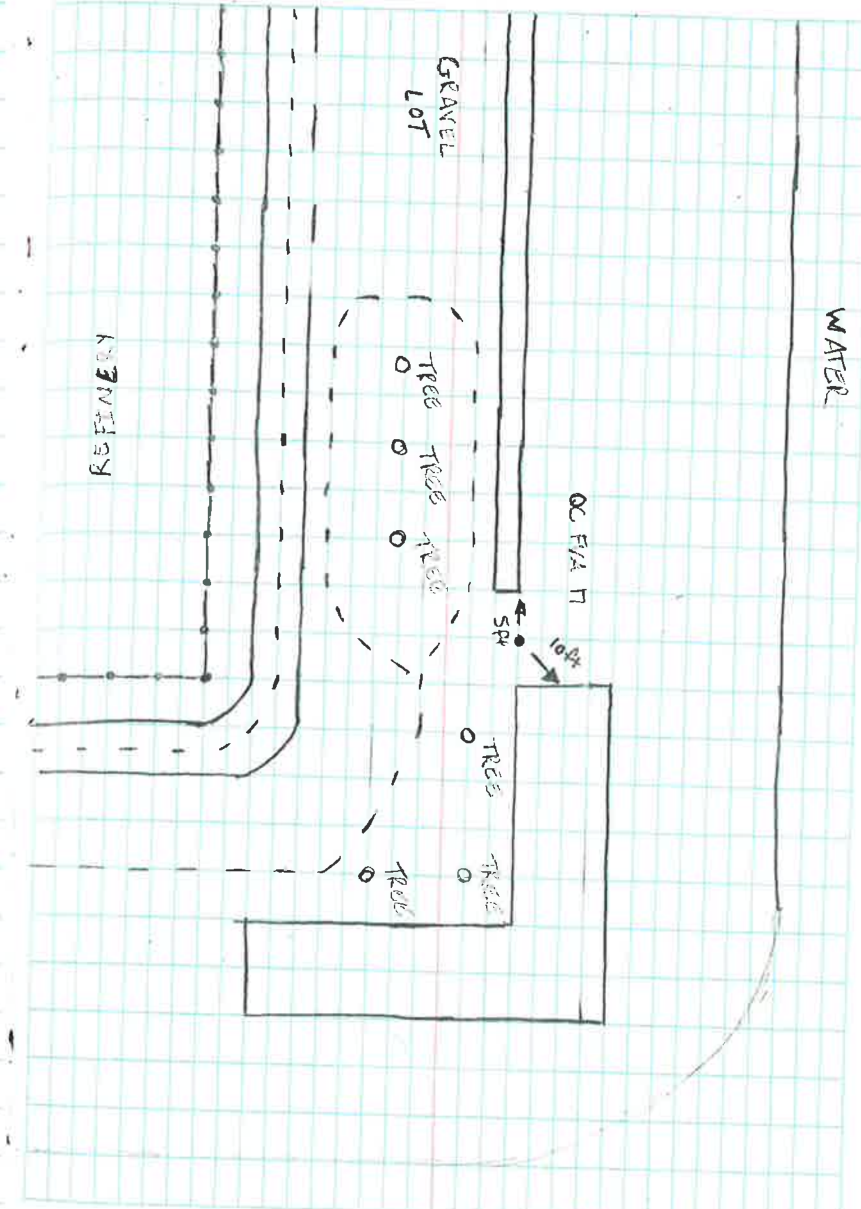
PORT GIBSON
NOT PART OF
NOCOE

QC FVA16




Top of Levee
Pedestrian Way
BTM of Levee
QC FVA 15
OPP
OPP
OPP
~15FT
OPP
OPP
Industrial Way

QC FVA 17


GRAVEL LOT
REFINERY
TREE
TREE
TREE
QC FVA 17
SR
104
TREE
TREE
TREE
WATER

NEW ORLEANS
CORE OF ENGINEERS

LIDAR

12 - 101

(02 - 23 - 2012)

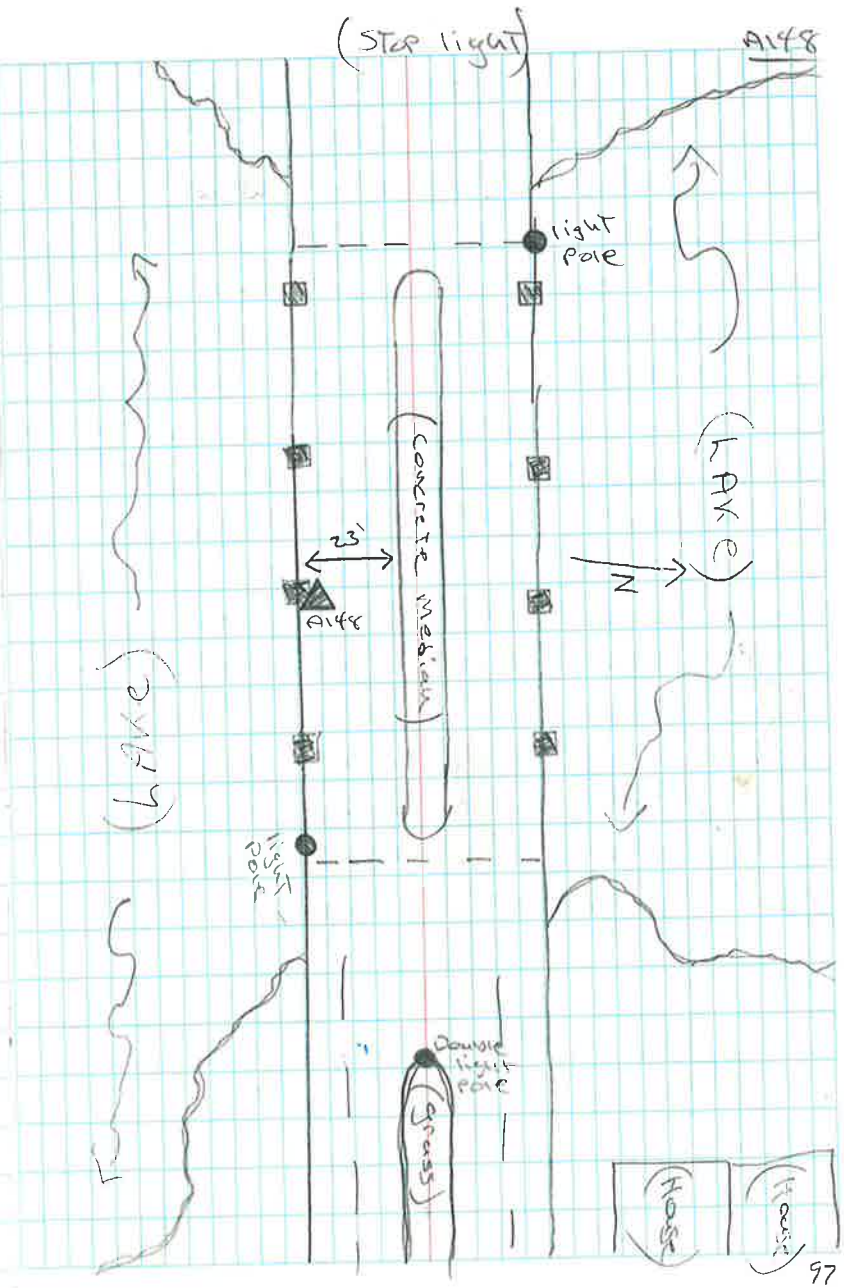
- Network static sessions
- RTK sessions
- Urban canyons
- GPS Flight Support

	R1	B1	R1	R1
Unit	unlock	S221	unlock	unlock
Date	2-23-12	2-23-12	2-23-12	2-23-12
Julian D	054	054	054	054
Station	LFUA4	LFUA10	A148	urban 1
Coll type	Static	Static	Static	Static
Rec. man	heica	heica	heica	heica
Rec. Mod	SR530	SR530	SR530	SR530
Rec. S/n	130521	30182	130521	130521
Ant P/n	667126	667126	667124	667126
Ant mod	AT502	AT502	AT502	AT502
Ant S/n	12609	11319	12609	12609
Ant Ht	1.300	1.271	2.00	1.278
Offset	0.360	0.360	Traverse Pole	0.360
Ant Arp	1.660	1.631	2.00	1.638
Start	15:47	10:35	19:24	21:11
Stop	17:59	15:04	20:24	23:20
Total	02:12	04:31	01:00	02:09
Cost	09:47	10:35	13:24	15:11
Cost	11:59	15:04	14:24	17:20

SF SF SF SF

(Deadman ant pole)

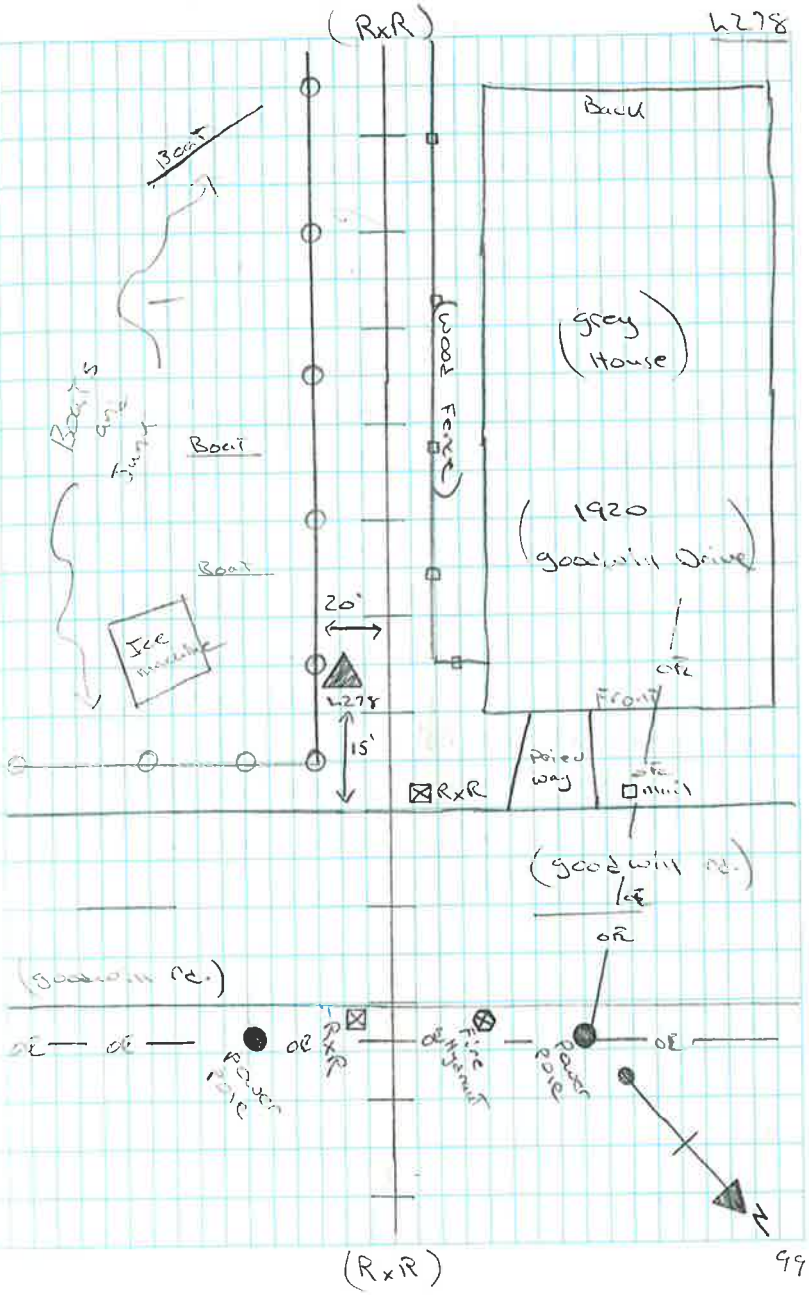
96



97

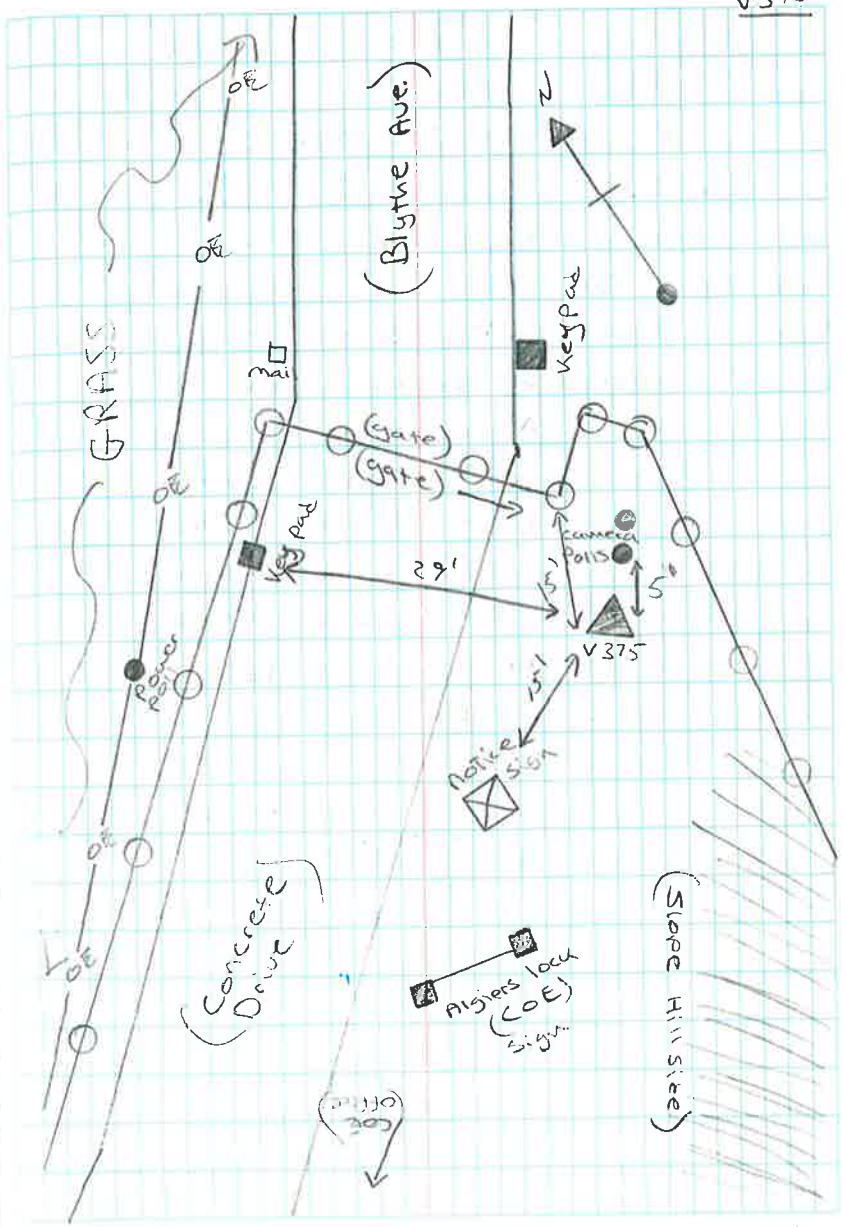
	R1	B1	B1	R1
Unit	5221	6545	unlocal	5221
Date	2-24-12	2-24-12	2-24-12	2-25-12
Julian D	055	055	055	056
Station	L278	LFVA13	V375	G95
Coll type	Static	Static	Static	Static
Rec. man.	heica	heica	heica	heica
Rec. mod	SR530	SR530	SR530	SR530
Rec. S/N	130521	30182	30182	130521
ANT P/N	667126	667126	667126	667126
ANT Mod.	AT502	AT502	AT502	AT502
ANT S/N	126009	11319	11319	126009
ANT HT.	1.295	1.257	1.186	1.477
OFFSET	0.360	0.360	0.360	0.360
ANT APP	1.655	1.617	1.546	1.837
START	15:00	10:08	14:40	17:02
STOP	22:05	13:30	15:50	19:10
Total	07:05	03:21	01:10	02:07
COST	09:00	10:09	14:40	11:02
COST	16:05	13:30	15.50	13:10
	SF	SF	SF	SF

L278



	B1	R1	B1	B1
Unit	unlock	unlock	unlock	
Date	2-25-12	2-25-12	2-25-12	2-26-12
Julian D.	056	056	056	057
Station	LFVA06	LFVA09	LFVA01	LFVA03
Coll Type	Static	Static	Static	RTK Base
Rec. Man	Leica	Leica	Leica	Leica
Rec. Mod	SR530	SR530	SR530	SR530
Rec. S/N	30182	130521	30182	30182
Ant. P/N	6667126	6667126	6667126	6667126
Ant Mod.	AT502	AT502	AT502	AT502
Ant S/N	11319	12609	11319	11319
Ant HT	1.256	1.169	1.217	1.186
offset	0.360	0.360	0.360	0.360
Ant Avg	1.616	1.529	1.577	1.546
Start	11:30	20:56	15:39	15:20
Stop	12:53	00:18	17:39	19:54
Total	01:22	03:21	01:59	04.34
COST	11.20	14.56	15.39	09.20
COST	12:53	18:18	17.39	13:54
	SF	SF	SF	SF

V375



	B1	B1	B1	B1
Date	2-26-12	2-27-12	2-28-12	2-29-12
Julian D.	057	058	059	060
Station	LFUA12	FUA5	LFUA06	LFUA20
Coll Type.	RTK Base	RTK Base	RTK Base	RTK Base
Rec. Man.	heica	heica	heica	heica
Rec. mod.	SR530	SR530	SR530	SR530
Rec S/N	30182	30182	30182	30182
ANT P/N	667126	667126	667126	667126
ANT mod.	AT502	AT502	AT502	AT502
ANT S/N	11319	11319	11319	11319
ANT HT	1.218	1.165	1.268	1.274
OFFSET	0.360	0.360	0.360	0.360
ANT ARP	1.578	1.525	1.628	1.634
START	20:37	17:23	16.19	16:12
STOP	00:060	23:47	23:59	22:37
TOTAL	03:39	06:23	7.39	06:24
COST	14:27	11:23	10:19	10:12
COST	18:04	17:47	17:59	16:37
	SF	SF	SF	SF

unit	B1	B1	B1	B1
Date	3-1-12	3-2-12	3-2-12	3-2-12
Julian D.	061	062	062	062
Station	LFUA01	LFUA09	LFUA08	LFUA17
Coll Type	RTK Base	RTK Base	RTK Base	RTK Base
Rec. man.	heica	heica	heica	heica
Rec. mod.	SR530	SR530	SR530	SR530
Rec S/n	30182	30182	30182	30182
Ant P/N	661724	661724	661724	661724
Ant mod.	AT502	AT502	AT502	AT502
Ant S/n	11319	11319	11319	11319
Ant HT	1.166	1.171	1.181	1.243
Offset	0.360	0.360	0.360	0.360
Ant App	1.526	1.531	1.541	1.603
Start	15:15	13:32	18:04	22:48
Stop	22:46	16:50	21:36	02:11
Total	07:31	03:18	03:31	03:23
COST	09:15	07:32	12.04	16:48
COST	16:46	10:50	15:36	20:11
	SF	SF	SF	SF

Unit	B1	B1	B1	R1
Date	3-3-12	3-3-12	3-3-12	3-4-12
Station ID.	063	063	063	064
Station	LFVA13	LFVA13	LFVA13	V375
Coll. Type	RTK Base	RTK Base	RTK Base	ABGPS
Rec. Man.	heica	heica	heica	heica
Rec Mod.	SR530	SR530	SR530	SR530
Rec S/n	30182	30182	30182	30182
Ant P/n	6607126	6607126	6607126	6607126
Ant Mod.	AT502	AT502	AT502	AT502
Ant S/n	11319	11319	11319	11319
Ant HT	1.231	1.167	1.174	1.069
OBS Set	0.360	0.360	0.360	0.360
Ant APP	1.591	1.527	1.534	1.429
Start	17:22	22:13	00:53	14:12
Stop	21:23	?	01:21	22:15
Total	04 00	?	00:28	08:03
COST	11.22	16:13	18:53	08:12
COST	15:23	?	19:21	16:15
	SF	SF (Tri-pod Blow over)	SF	SF (Session 1)

Unit	B1	R	B1
Date	3-4-12	3-4-12	3-4-12
Julian D.	064	064	064
Station	A148	V375	A148
Cal Type	ABGPS	ABGPS	ABGPS
Rec. Man.	heica	heica	heica
Rec. mod.	SR530	SR530	SR530
Rec s/n	130521	30182	130521
Ant p/n	667126	667126	667126
Ant mod.	AT502	AT502	AT502
Ant s/n	12609	11319	12609
Ant HT	2.00	1.069	2.00
offset	—	0.360	—
Ant ARP	Rod	1.429	Rod
START	17:18	22:22	23:12
STOP	23:06	04:09	05:02
Total	05:47	?	05:49
CDST	11:18	16:22	17:12
CDST	17:06	?	23:02
	SF	SF	SF
	(session 1)		(session 2)
	(Dew2 main set up)	(session 2)	(Dew2 main set up)
		(Power-100SC: 12:00 midnight)	

	B2	B3	B2
Unit	4623	3365	4623
Date	3-6-12	3-6-12	3-6-12
Julian D.	066	064	066
Station	S 188	BS 2	S 188
Ant. Type	ABGPS	ABGPS	ABGPS
Rec Mfr.	Leica	Leica	Leica
Rec. Mod.	SR530	SR530	SR530
Rec S/n	34467	136512	34467
Ant P/n	667124	667124	667124
Ant mod.	AT502	AT502	AT502
Ant S/n	8376	7526	8376
Ant HT	1.154	1.172	1.156
Offset	0.360	0.360	0.360
Ant ARP	1.516	1.532	1.516
Start	12:30	13:15	17:13
Stop	17:12	02:22	03:01
Total	04:42	13:08	09:48
COST	00:30	07:15	11:13
COST	11:12	20:22	21:01

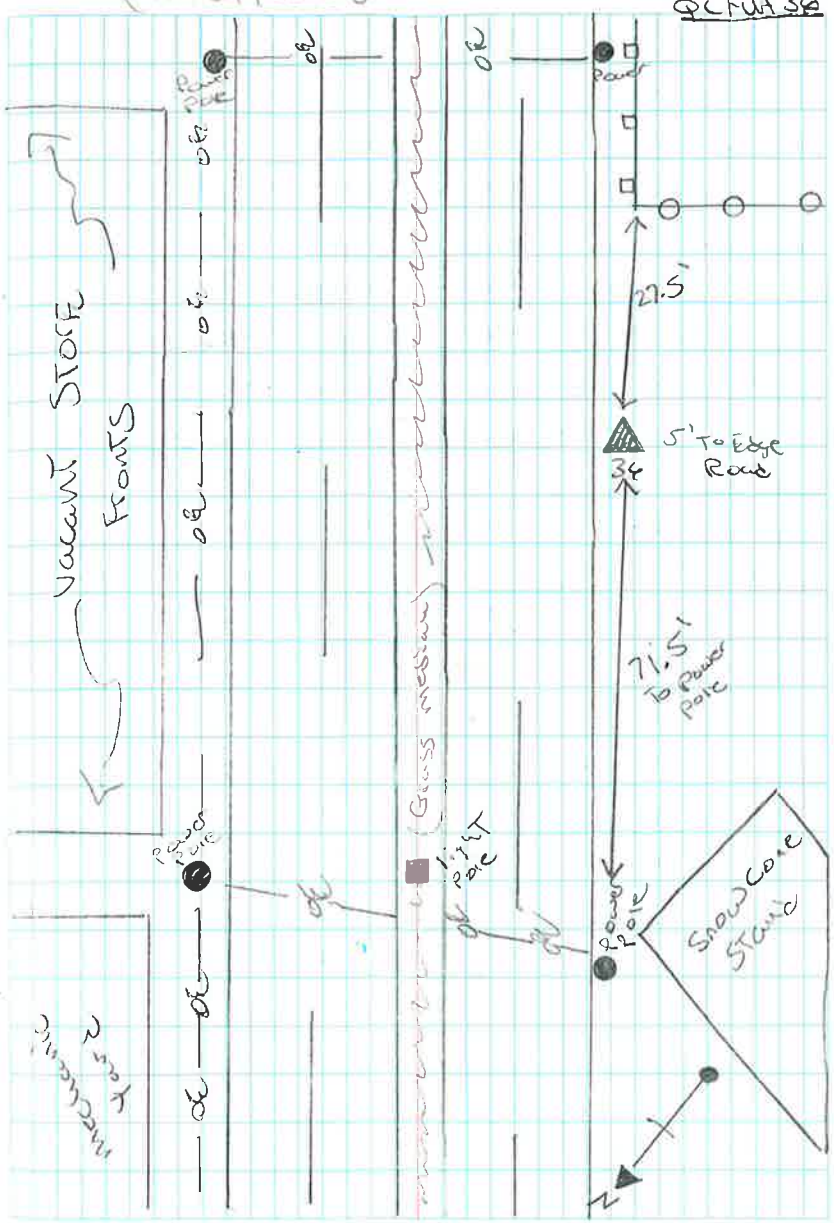
SF SF SF

(Swap Ant.)

unit	R2	R2	R2	R2
Date	3-8-12	3-8-12	3-8-12	3-8-12
Julian D.	068	068	068	068
Station	QC 38	QC 39	QC 43	QC 44
Coll Type.	ABGPS	ABGPS	ABGPS	ABGPS
Rec. man.	heica	heica	heica	heica
Rec. mod.	SR530	SR530	SR530	SR530
Rec S/n	34467	34467	34467	34467
Ant P/n	667126	667126	667126	667126
Ant mod.	heiaT502	heiaT502	heiaT502	heiaT502
Ant S/n	5151	5151	5151	5151
Ant HT	1.161	1.180	1.090	1.236
Offset	0.360	0.360	0.360	0.360
Ant ARP	1.521	1.540	1.450	1.596
Start	16:24	17:30	18:37	19:30
Stop	16:45	17:50	18:58	19:50
Total	00:20	00:20	00:20	00:20
COST	10:24	11:30	12:37	13:30
CDST	10:45	11:50	12:58	13:50

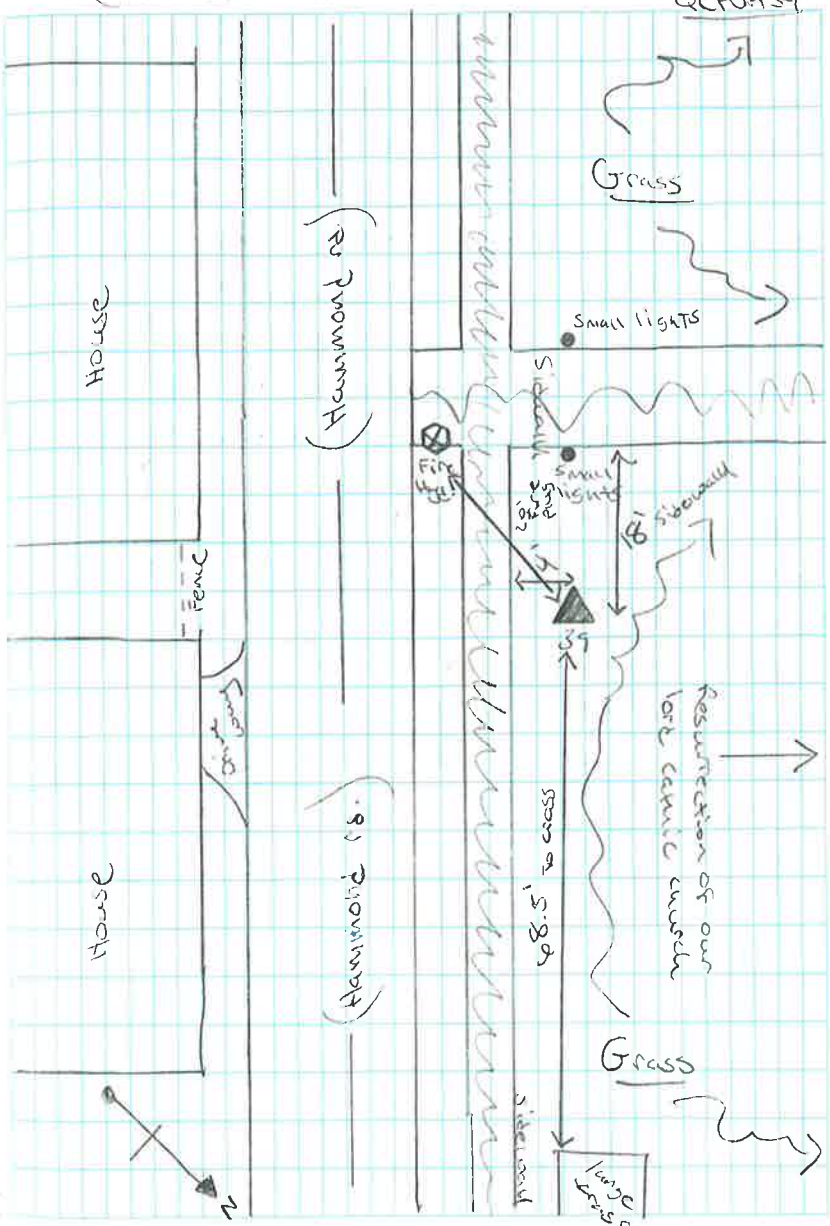
{30, 01, 53.1 / 90 01, 36.2} HH

QCFUA 38



Unit	R2	R2	R2	R2
Date	3-8-12	3-8-12	3-9-12	3-9-12
Julian D.	068	068	069	069
Station	QC 49	QC 21	QC29	QC 28
Coll Type.	ABGPS	ABGPS	ABGPS	ABGPS
Rec man.	heica	heica	heica	heica
Rec mod.	SR530	SR530	SR530	SR530
Rec s/n.	34467	34467	34467	34467
Ant P/n	6671260	6671260	6671260	6671260
Ant mod.	heiAT502	HeiAT502	heiAT502	heiAT502
Ant s/n	5151	5151	5151	5151
Ant Ht	1.180	1.165	1.231	1.216
OBSET	0.360	0.360	0.360	0.360
Ant Amp	1.540	1.525	1.591	1.576
Start	21:56	23:06	15:34	16:16
Stop	22:16	23:26	15:54	16:36
Total	00:20	00:20	00:20	00:20
COST	15:56	17:06	09:34	10:16
COST	16:16	17:26	09 54	10:36

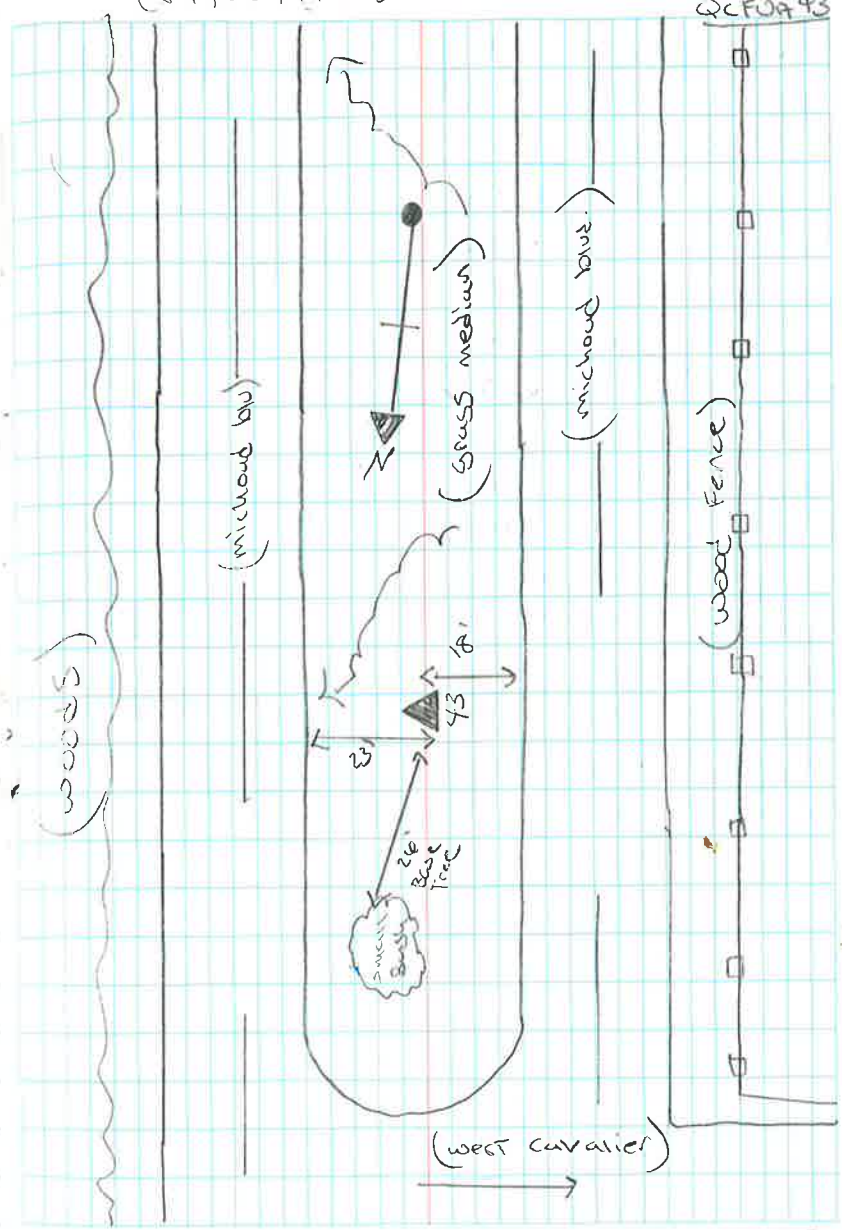
{30.09, 22.0} HH
{89.56, 20.1}



Unit	R2	R2	R2	R2
Date	3-8-12	3-8-12	3-8-12	3-8-12
Julian D.	069	069	069	069
Station	QC 20	QC 22	QC 24	QC 25
Coll. Type.	ABGPS	ABGPS	ABGPS	ABGPS
Rec. man.	Leica	Leica	Leica	Leica
Rec. Mod.	SR530	SR530	SR530	SR530
Rec. S/n	34467	34467	34467	34467
ANT P/n	667124	667124	667124	667124
ANT Mod	Leiat502	Leiat502	Leiat502	Leiat502
ANT S/n	5151	5151	5151	5151
ANT HT.	1.236	1.243	1.199	1.270
OFFSET	0.360	0.360	0.360	0.360
ANT AMP	1.596	1.603	1.559	1.630
START	17:35	18:49	20:00	21:36
STOP	17:55	19:09	20:20	21:56
TOTAL	00:20	00:20	00:20	00:20
COST	11:35	12:49	14:20	15:36
COST	11:55	13:09	14:00	15:56

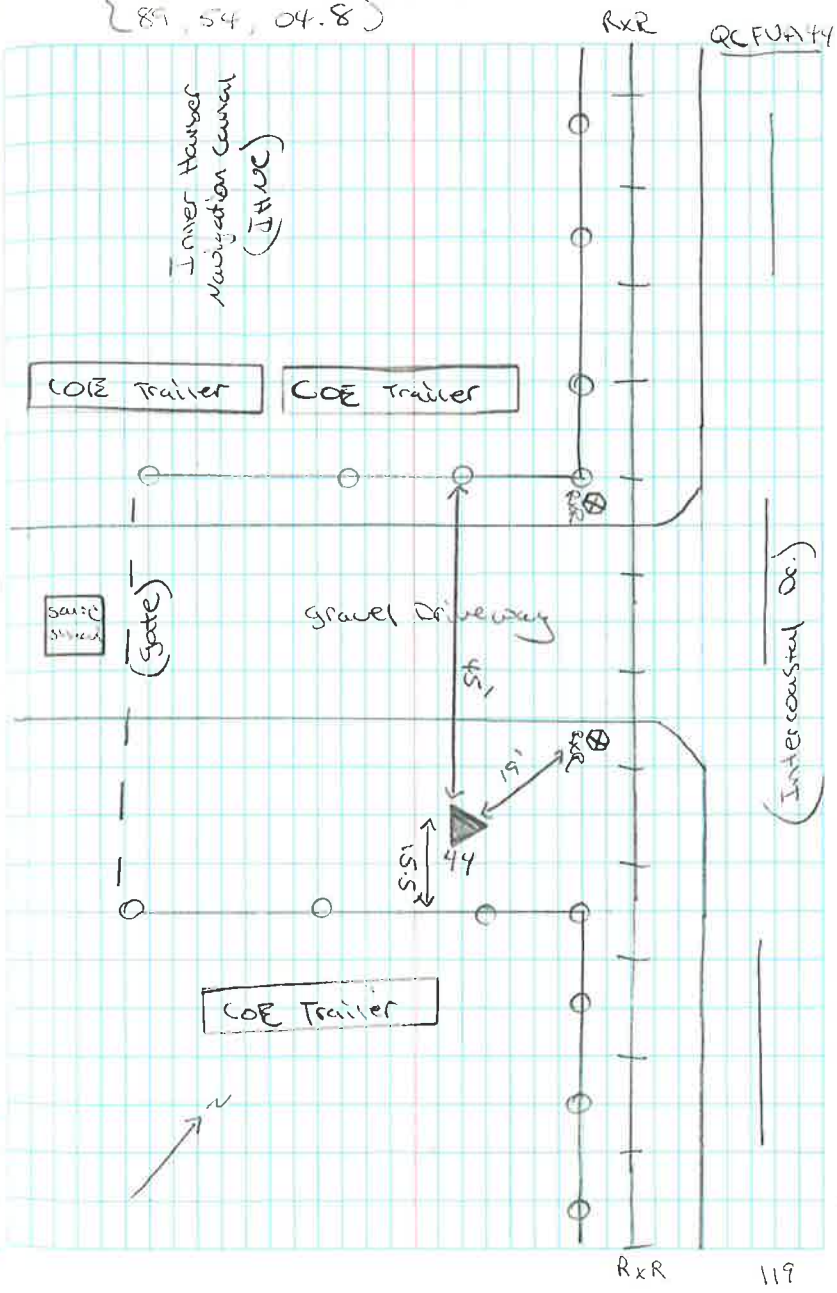
{30, 03, 28.8
89, 55, 49.6} HH

QCFUA43



Unit	R2	R2
Date	3-8-12	3-8-12
Julian D.	068	069
Station	QC 26	QC 27
Coll Type	ARGPS	ARGPS
Rec. Man.	Leica	Leica
Rec Mod.	SR530	SR530
Rec. S/n	344467	344467
Ant P/n	667126	667126
Ant mod.	LeiaT502	LeiaT502
Ant S/n	5151	5151
Ant Ht.	1.182	1.134
Offset	0.360	0.360
Ant Mp	1.542	1.494
Start	22:35	23:18
Stop	22:55	23:38
Total	00:20	00:20
CDST	16:35	17:18
CDST	16:55	17:38

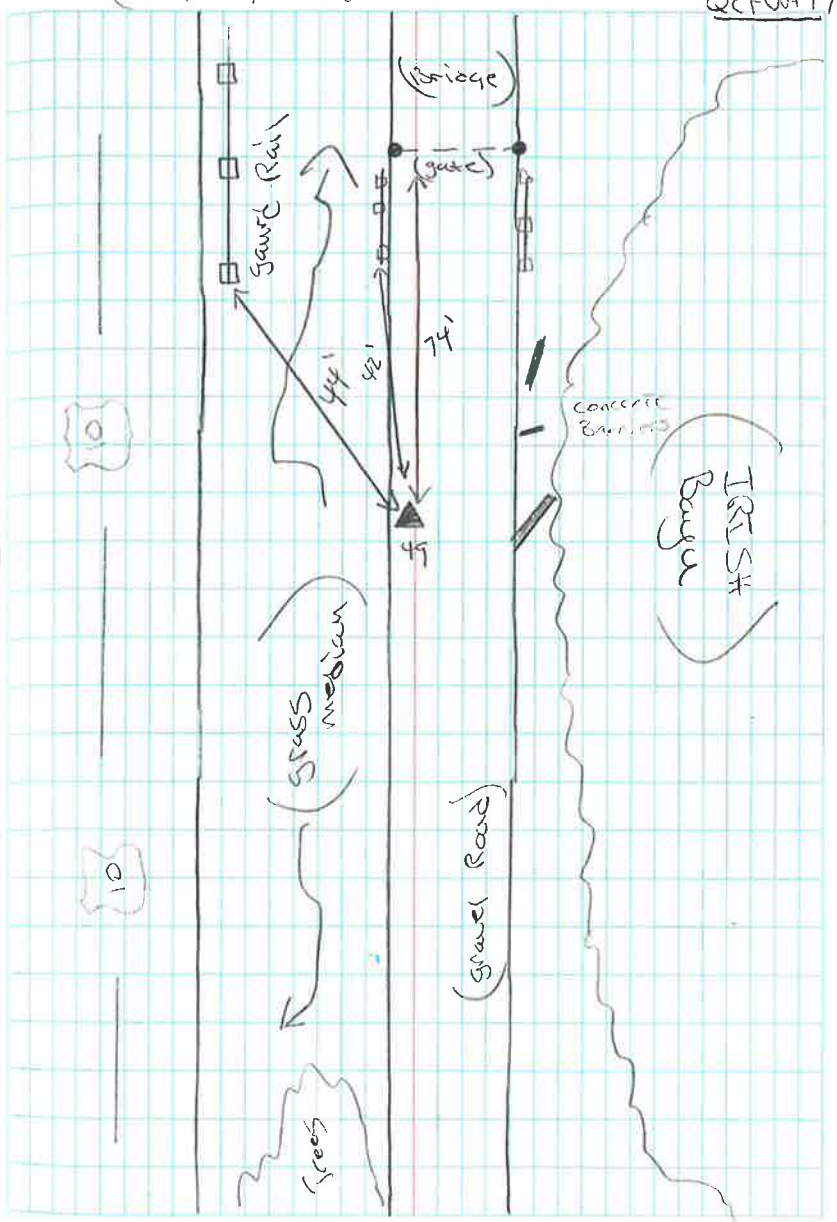
{30, 01, 22.0} HH
{89, 54, 04.8}



120

{30, 08, 14.9
89, 52, 12.5} HH

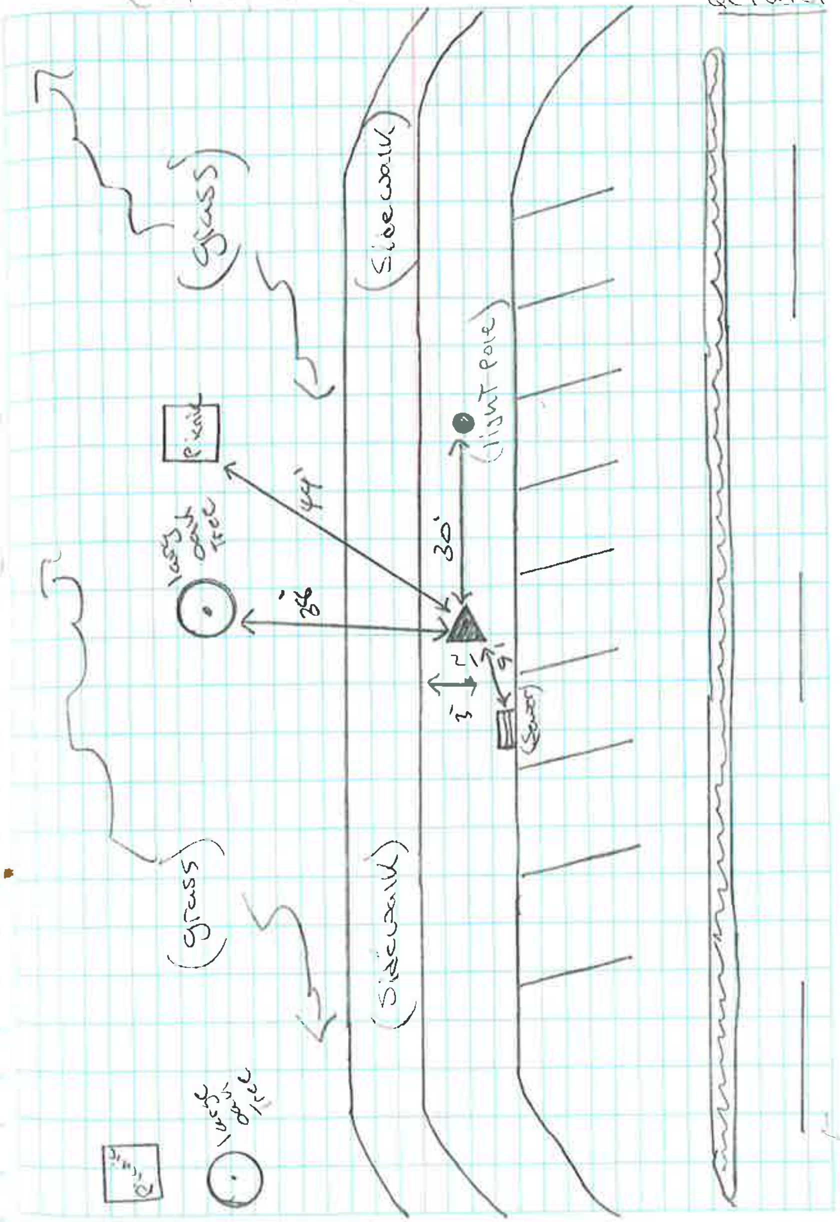
QCFW149



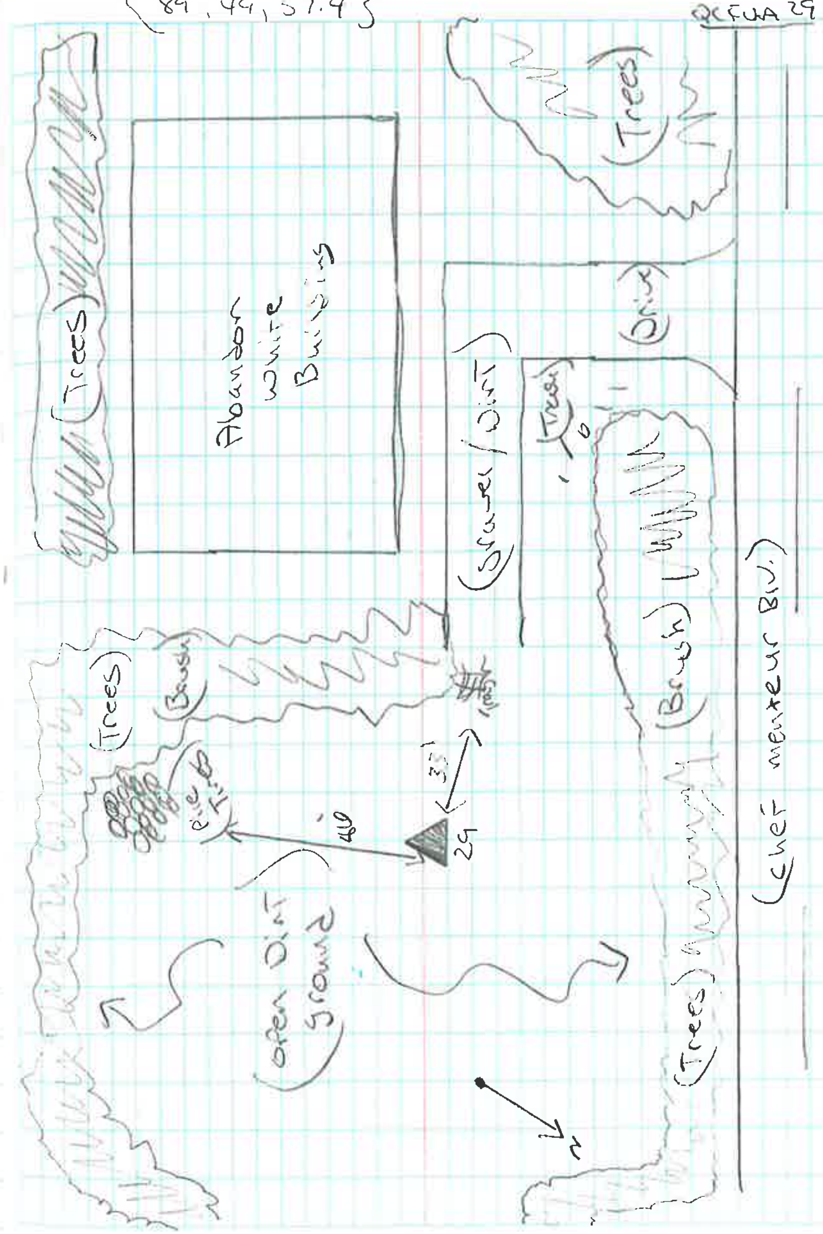
121

{30, 01, 45.6} MH
{90, 05, 33.7}

QC FUN21

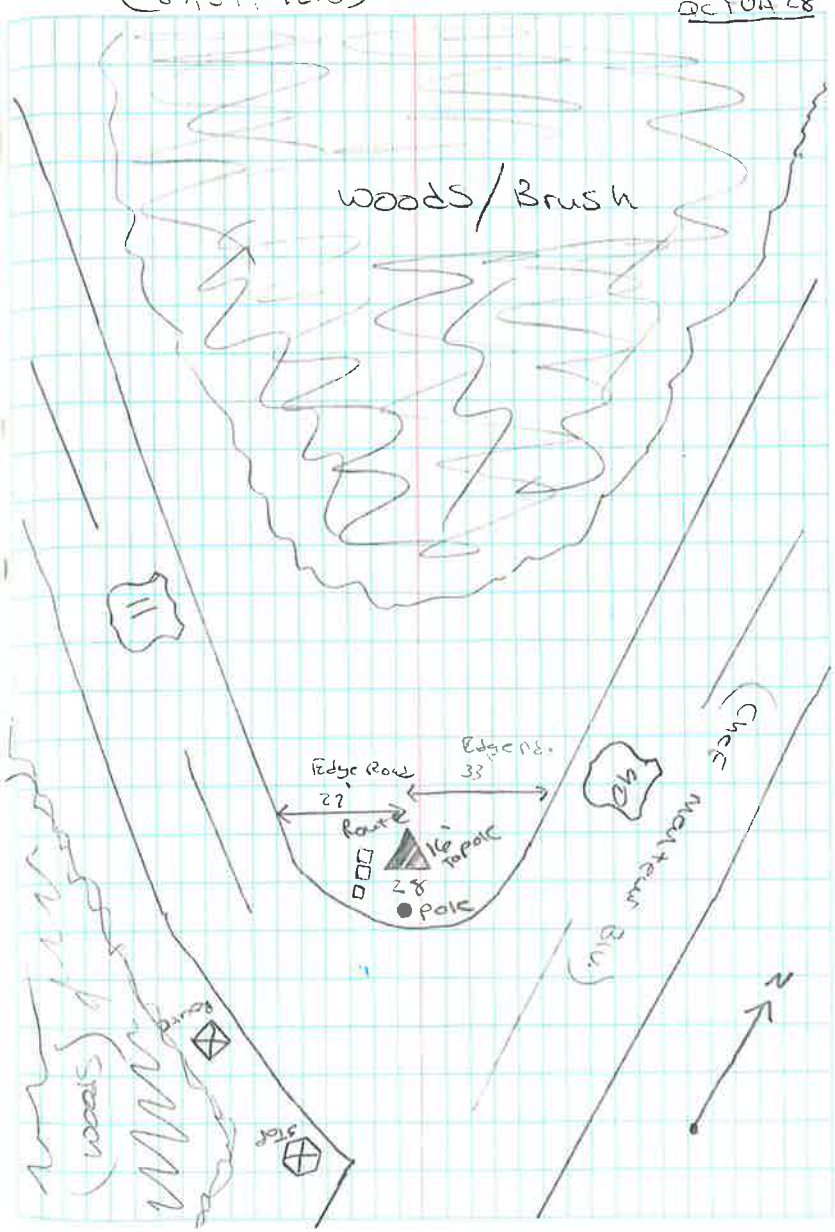


{30, 04, 01.1 / 89, 44, 57.4} HH



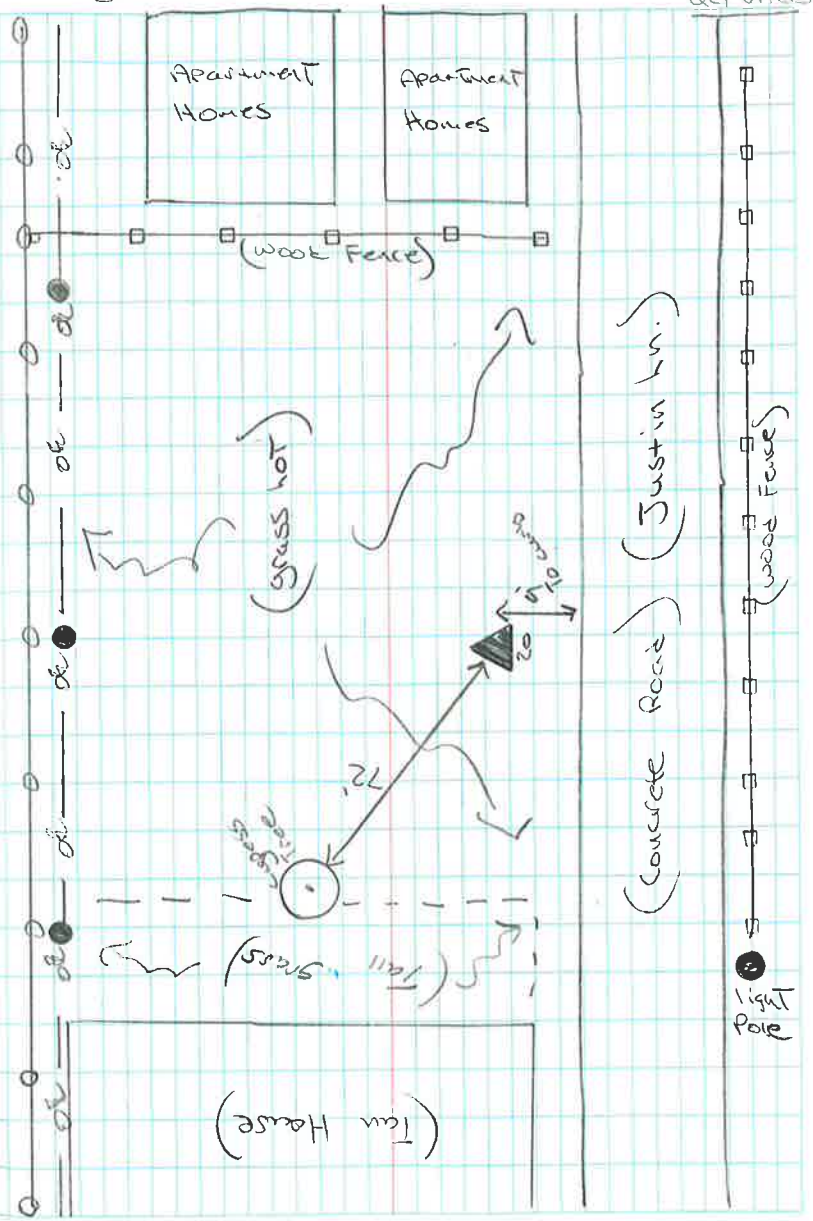
{30, 04, 29.5
 89, 51, 42.5} HH

DC FOA 28



{29, 52, 48.4
{90, 02, 52.2 HH

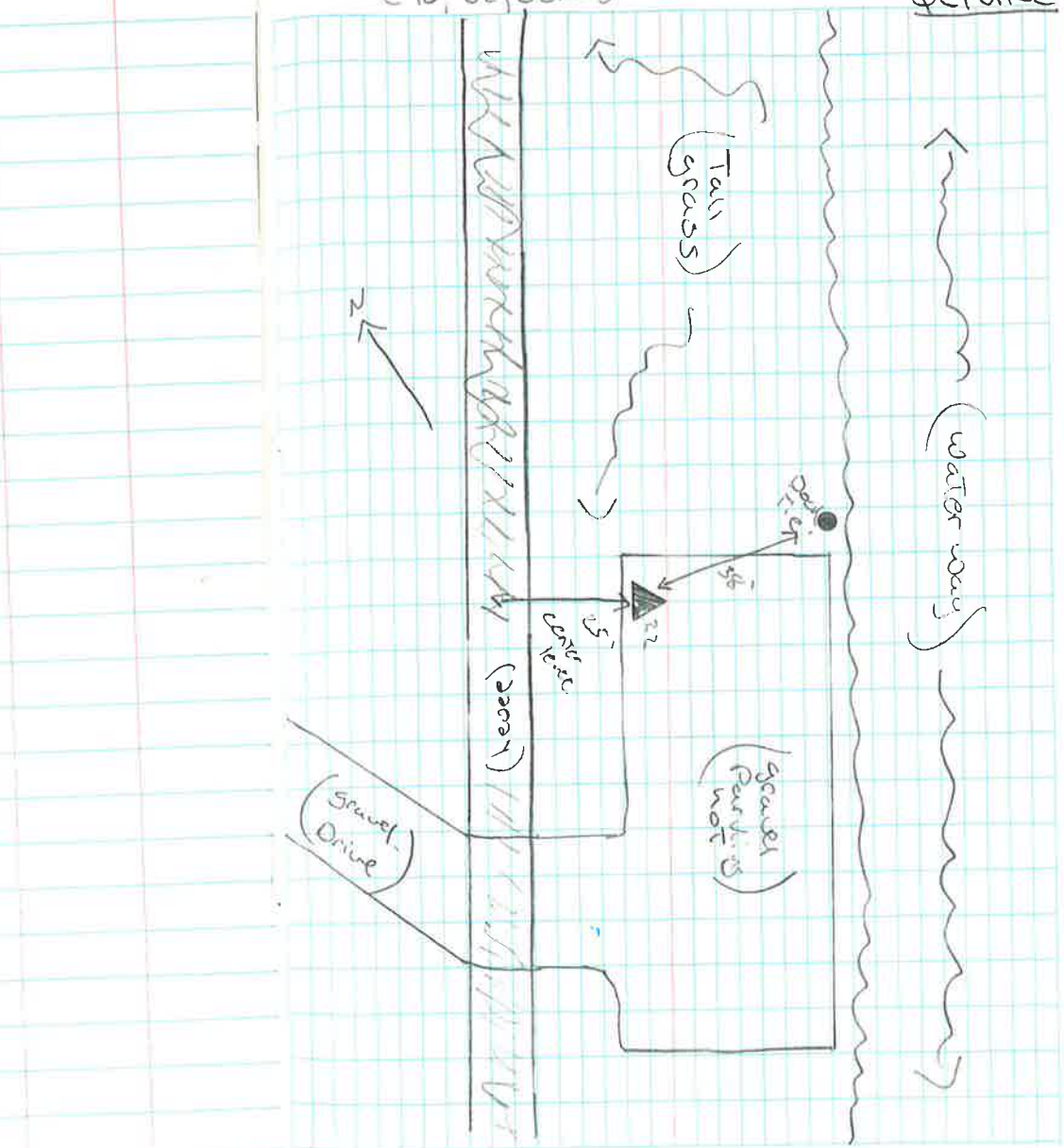
QCFVA20



130

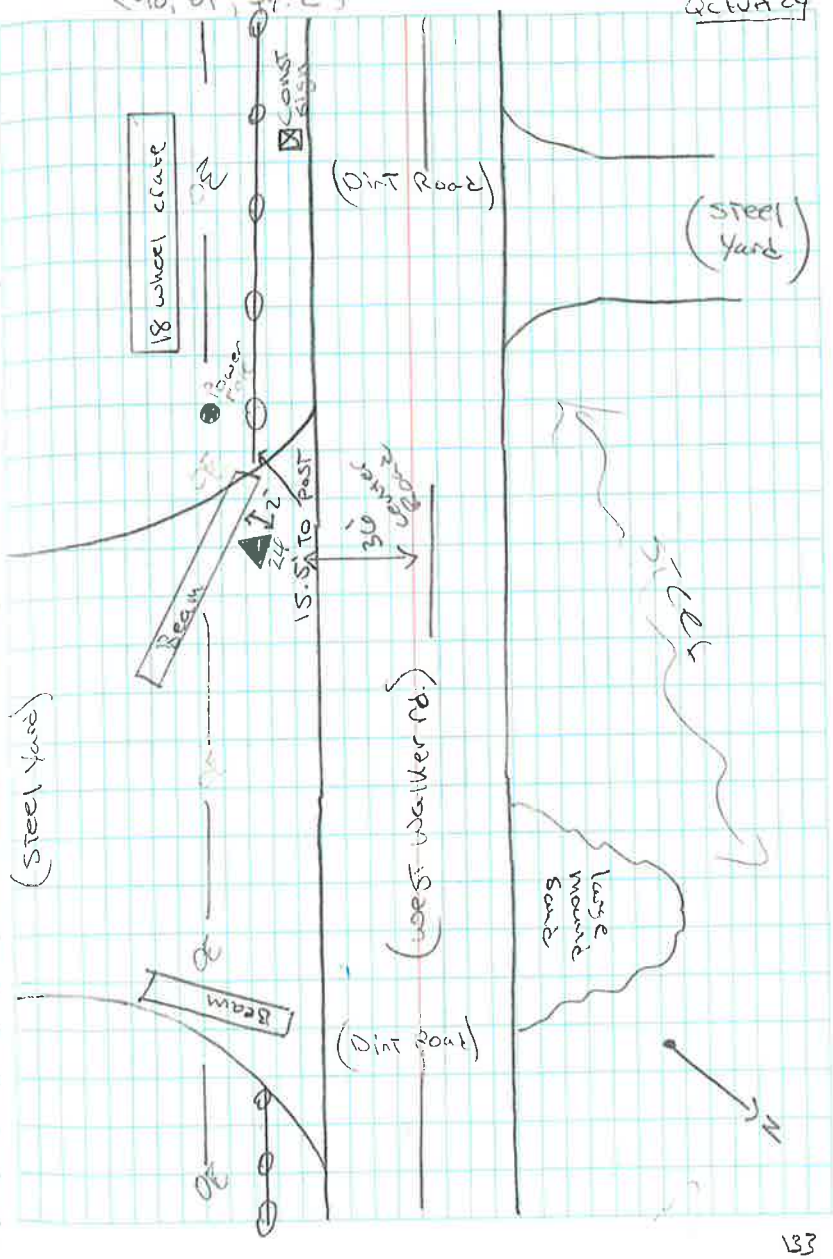
{29, 50, 05.1
 90, 02, 53.6} HH

QCFUAZZ



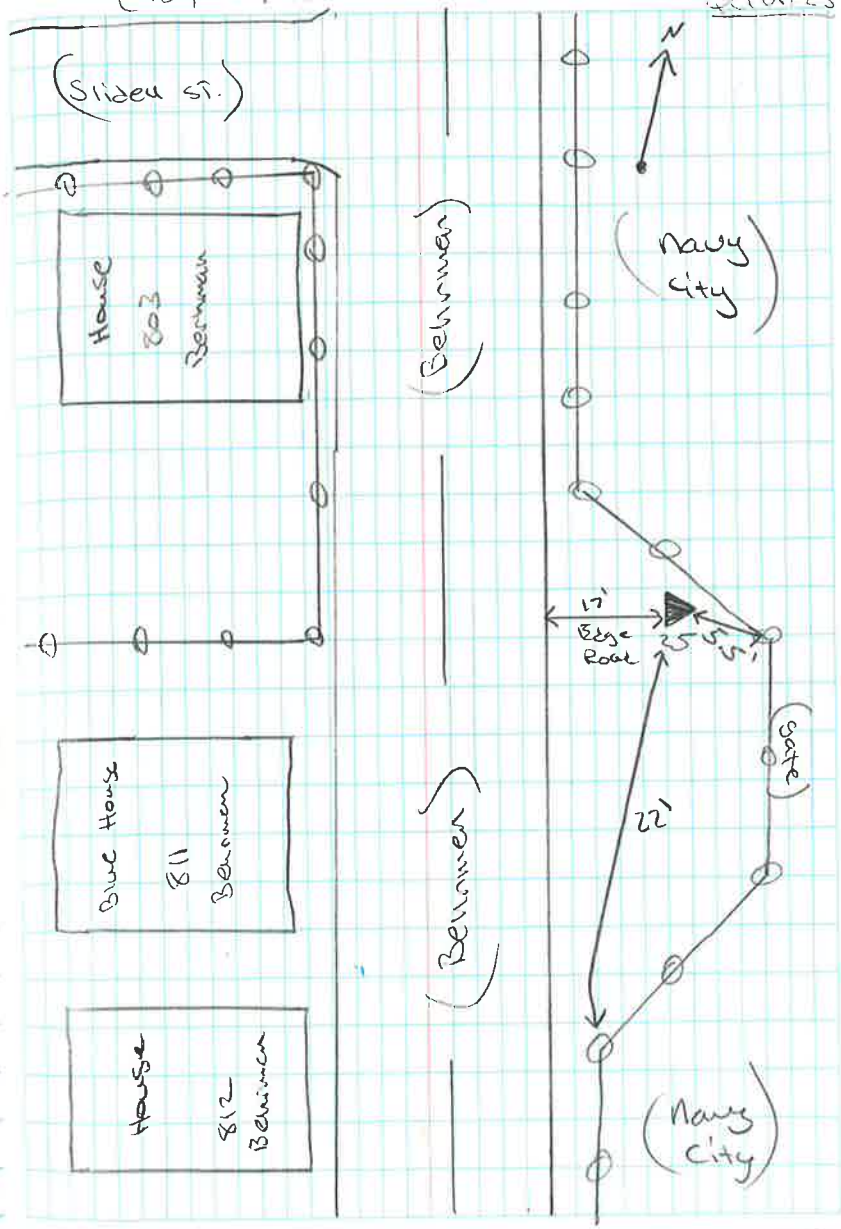
131

{29,47 ; 21.0}HH
{90,01 ; 47.2}



{29, 56, 48.7
{90, 02, 11.8 } NH

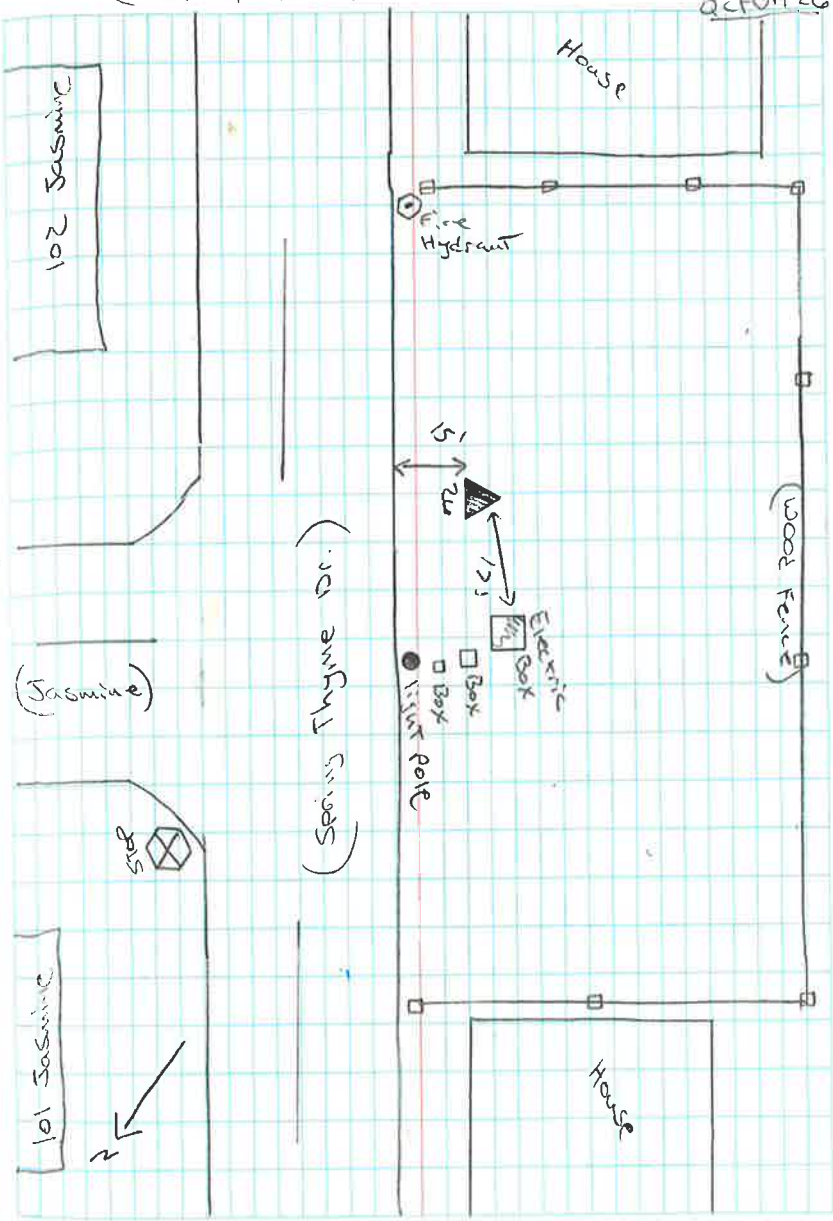
REF ON 25



136

{29, 52, 02.0
{89, 59, 31.2 } HH

QCFUN26

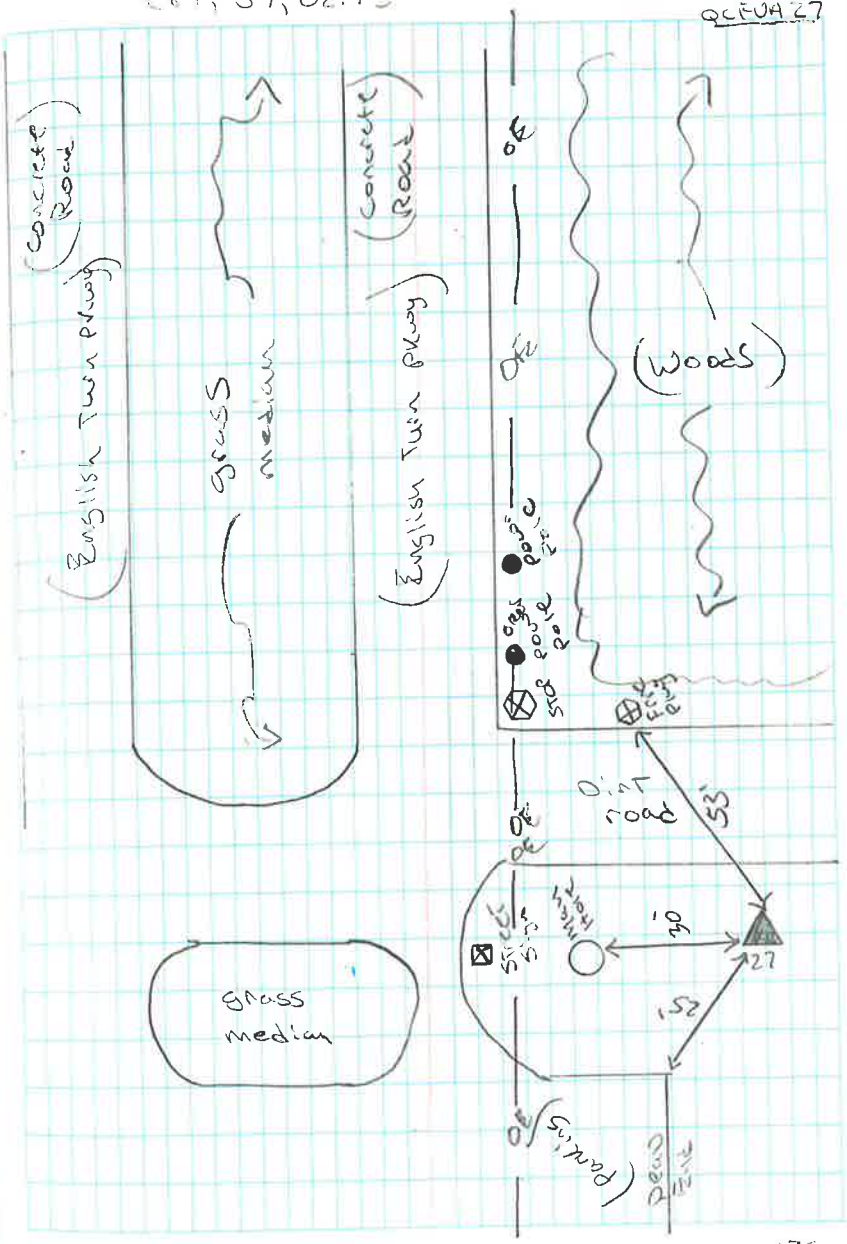


137

138

{29, 54, 34.2
89, 57, 02.7} HH

QCFUA 27



139

Appendix D: National Geodetic Survey (NGS) Datasheets

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 14, 2012
 DH3214 ***********************************************************************
 DH3214  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 DH3214  DESIGNATION -  5720+98.12=PLMS 597
 DH3214  PID         -  DH3214
 DH3214  STATE/COUNTY-  LA/ST CHARLES
 DH3214  USGS QUAD   -  LULING (1992)
 DH3214
 DH3214                        *CURRENT SURVEY CONTROL
 DH3214  ______________________________________________________________________
 DH3214* NAD 83(2007)-  29 56 24.28492(N)    090 19 29.10957(W)     ADJUSTED
 DH3214* NAVD 88     -         8.33   (meters)      27.3    (feet)  GPS OBS(2006.81)
 DH3214  **This station is located in a suspected subsidence area (see below).
 DH3214  ______________________________________________________________________
 DH3214  EPOCH DATE  -        2002.00
 DH3214  X           -     -31,352.729 (meters)                     COMP
 DH3214  Y           -  -5,531,470.629 (meters)                     COMP
 DH3214  Z           -   3,164,610.739 (meters)                     COMP
 DH3214  LAPLACE CORR-           0.17  (seconds)                    DEFLEC09
 DH3214  ELLIP HEIGHT-         -17.678 (meters)          (10/11/11) ADJUSTED
 DH3214  GEOID HEIGHT-         -25.99  (meters)                     GEOID09
 DH3214
 DH3214  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 DH3214  Type    PID    Designation                       North   East  Ellip
 DH3214  ----------------------------------------------------------------------
 DH3214  NETWORK DH3214 5720+98.12=PLMS 597                1.25   1.16   2.00
 DH3214  ----------------------------------------------------------------------
 DH3214  ELLP ORDER  -  FOURTH    CLASS I
 DH3214
 DH3214.The horizontal coordinates were established by GPS observations
 DH3214.and adjusted by the National Geodetic Survey in February 2007.
 DH3214
 DH3214.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 DH3214.See National Readjustment for more information.
 DH3214
 DH3214.The horizontal coordinates are valid at the epoch date displayed above
 DH3214.which is a decimal equivalence of Year/Month/Day.
 DH3214
 DH3214 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
 DH3214 ** and geoid heights are valid at the date of observation. These heights
 DH3214 ** must always be validated when used as control.
 DH3214
 DH3214 ** The orthometric height was determined by GPS observations using
 DH3214 ** precise GPS observation and processing techniques and a new
 DH3214 ** realization of GEOID03. It supersedes any height that may have been
 DH3214 ** previously determined for this station.
 DH3214
 DH3214 ** The geoid height was determined by a new realization of GEOID03 for the
 DH3214 ** epoch indicated which incorporates improved geoid heights for the
 DH3214 ** Southern Louisiana Subsidence area.
 DH3214 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
```

```
DH3214
DH3214.Photographs are available for this station.
DH3214
DH3214.The X, Y, and Z were computed from the position and the ellipsoidal ht.
DH3214
DH3214.The Laplace correction was computed from DEFLEC09 derived deflections.
DH3214
DH3214.The ellipsoidal height was determined by GPS observations
DH3214.and is referenced to NAD 83.
DH3214
DH3214.The geoid height was determined by GEOID09.
DH3214
DH3214;                    North         East     Units Scale Factor Converg.
DH3214;SPC LA S     -   160,053.052 1,097,364.174   MT  0.99992630   +0 30 15.5
DH3214;SPC LA S     -   525,107.39  3,600,268.96   sFT  0.99992630   +0 30 15.5
DH3214;UTM  15      - 3,315,155.825   758,223.710   MT  1.00042276   +1 20 09.4
DH3214
DH3214!             -  Elev Factor  x  Scale Factor =   Combined Factor
DH3214!SPC LA S     -   1.00000278  x   0.99992630  =   0.99992908
DH3214!UTM  15      -   1.00000278  x   1.00042276  =   1.00042554
DH3214
DH3214                          SUPERSEDED SURVEY CONTROL
DH3214
DH3214  ELLIP H (03/12/08)  -17.653  (m)                      GP(       ) 3 1
DH3214  ELLIP H (02/10/07)  -17.647  (m)                      GP(       )
DH3214  NAD 83(1992)-  29 56 24.28502(N)    090 19 29.10953(W) AD(       ) B
DH3214  ELLIP H (05/09/05)  -17.642  (m)                      GP(       ) 4 2
DH3214  NAVD 88 (01/05/06)    8.38   (m)           27.5    (f) GPS OBS
DH3214  NAVD 88 (05/09/05)    8.48   (m)           27.8    (f) GPS OBS
DH3214
DH3214.Superseded values are not recommended for survey control.
DH3214.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
DH3214.See file dsdata.txt to determine how the superseded data were derived.
DH3214
DH3214_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP5822315155(NAD 83)
DH3214
DH3214_MARKER: DD = SURVEY DISK
DH3214_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
DH3214_STAMPING: PLMS 597 1981
DH3214_MARK LOGO: USE
DH3214_PROJECTION: RECESSED 3 CENTIMETERS
DH3214_MAGNETIC: N = NO MAGNETIC MATERIAL
DH3214_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DH3214+STABILITY: SURFACE MOTION
DH3214_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DH3214+SATELLITE: SATELLITE OBSERVATIONS - July 27, 2010
DH3214
DH3214  HISTORY     - Date     Condition        Report By
DH3214  HISTORY     - UNK      MONUMENTED       USACE
DH3214  HISTORY     - 20030107 GOOD             3001
DH3214  HISTORY     - 20060419 GOOD             NGS
DH3214  HISTORY     - 20100727 GOOD             NGS
DH3214
DH3214                           STATION DESCRIPTION
DH3214
DH3214'DESCRIBED BY 3001, INC 2003 (MH)
DH3214'THE STATION IS LOCATED IN ST CHARLES PARISH AT ST ROSE,LA ABOUT 1.6
DH3214'MILES EAST OF  DESTRAHAN, LA AND 6.2 MILES SOUTHWEST OF KENNER, LA
DH3214'
DH3214'TO REACH THE STATION FROM THE INTERSECTION OF HWY 310 AND HWY 48 AT
```

DH3214'DESTRAHAN, LA GO EAST 2.95 MILES ALONG HWY 48 AND MARK ON RIGHT ON
DH3214'TOP OF LEVEE ACROSS ROAD FROM IMTT
DH3214'
DH3214'THE STATION IS A 3.5IN ROUND BRASS CAP SET IN CONCRETE, 0.5' BELOW
DH3214'GROUND SURFACE STAMPED PLMS 597 1987, SET IN THE CENTERLINE OF LEVEE
DH3214'ABOUT 125' SOUTHEAST OF CENTERLINE OF HWY 48, 135' NORTHEAST OF A
DH3214'LEVEE STATION MARKER POST 5720
DH3214
DH3214   STATION RECOVERY (2006)
DH3214
DH3214'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
DH3214'RECOVERED AS DESCRIBED.
DH3214
DH3214   STATION RECOVERY (2010)
DH3214
DH3214'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2010 (RWA)
DH3214'RECOVERED AS DESCRIBED.
DH3214'
DH3214'CONTACT MIKE MADERE OF INTERNATIONAL MATEX PRIOR TO OCCUPYING,
DH3214'504-468-3997

*** retrieval complete.
Elapsed Time = 00:00:02

The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

```
DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY  9, 2012
 AU0429 ***********************************************************************
 AU0429  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 AU0429  DESIGNATION -  A 148
 AU0429  PID         -  AU0429
 AU0429  STATE/COUNTY-  LA/ORLEANS
 AU0429  USGS QUAD   -  NEW ORLEANS EAST (1992)
 AU0429
 AU0429                        *CURRENT SURVEY CONTROL
 AU0429  ______________________________________________________________________
 AU0429* NAD 83(2007)-  29 59 20.98723(N)    090 05 14.21505(W)     ADJUSTED
 AU0429* NAVD 88     -         1.75   (meters)       5.7    (feet)  GPS OBS(2006.81)
 AU0429  **This station is located in a suspected subsidence area (see below).
 AU0429  **This station is included in the VTDP model (see below).
 AU0429  ______________________________________________________________________
 AU0429  EPOCH DATE  -        2002.00
 AU0429  X           -      -8,422.391 (meters)                    COMP
 AU0429  Y           -  -5,528,829.653 (meters)                    COMP
 AU0429  Z           -   3,169,321.140 (meters)                    COMP
 AU0429  LAPLACE CORR-           0.07  (seconds)                   DEFLEC09
 AU0429  ELLIP HEIGHT-         -24.384 (meters)          (10/11/11) ADJUSTED
 AU0429  GEOID HEIGHT-         -26.10  (meters)                    GEOID09
 AU0429
 AU0429  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AU0429  Type    PID    Designation                       North   East  Ellip
 AU0429  ----------------------------------------------------------------------
 AU0429  NETWORK AU0429 A 148                               1.00   0.80   2.14
 AU0429  ----------------------------------------------------------------------
 AU0429  ELLP ORDER  -  FOURTH    CLASS I
 AU0429
 AU0429.The horizontal coordinates were established by GPS observations
 AU0429.and adjusted by the National Geodetic Survey in February 2007.
 AU0429
 AU0429.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AU0429.See National Readjustment for more information.
 AU0429
 AU0429.The horizontal coordinates are valid at the epoch date displayed above
 AU0429.which is a decimal equivalence of Year/Month/Day.
 AU0429
 AU0429 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
 AU0429 ** and geoid heights are valid at the date of observation. These heights
 AU0429 ** must always be validated when used as control.
 AU0429
 AU0429 ** The orthometric height was determined with a Vertical Time-dependent
 AU0429 ** Positioning (VTDP) model and has been validated through GPS observations
 AU0429 ** for the epoch indicated (see www.ngs.noaa.gov/heightmod/VTDP).
 AU0429
 AU0429 ** The geoid height was determined by a new realization of GEOID03 for the
 AU0429 ** epoch indicated which incorporates improved geoid heights for the
 AU0429 ** Southern Louisiana Subsidence area
 AU0429 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
```

```
AU0429
AU0429.Photographs are available for this station.
AU0429
AU0429.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU0429
AU0429.The Laplace correction was computed from DEFLEC09 derived deflections.
AU0429
AU0429.The ellipsoidal height was determined by GPS observations
AU0429.and is referenced to NAD 83.
AU0429
AU0429.The geoid height was determined by GEOID09.
AU0429
AU0429;                    North         East     Units Scale Factor Converg.
AU0429;SPC LA S     -   165,718.905 1,120,228.627   MT  0.99992577   +0 37 22.9
AU0429;SPC LA S     -   543,696.11  3,675,283.42   sFT  0.99992577   +0 37 22.9
AU0429;UTM  15      - 3,321,156.788   781,016.430   MT  1.00057443   +1 27 24.6
AU0429
AU0429!             -  Elev Factor  x  Scale Factor =   Combined Factor
AU0429!SPC LA S     -   1.00000383  x   0.99992577  =   0.99992960
AU0429!UTM  15      -   1.00000383  x   1.00057443  =   1.00057826
AU0429
AU0429                          SUPERSEDED SURVEY CONTROL
AU0429
AU0429  ELLIP H (03/12/08)  -24.366  (m)                      GP(       ) 3 1
AU0429  ELLIP H (02/10/07)  -24.371  (m)                      GP(       )
AU0429  NAD 83(1992)-  29 59 20.98734(N)    090 05 14.21492(W) AD(2004.65) B
AU0429  ELLIP H (06/22/05)  -24.378  (m)                      GP(2004.65) 4 1
AU0429  NAVD 88 (06/22/05)    1.77   (m)           5.8    (f) GPS OBS
AU0429  NAVD 88 (12/05/96)    1.915  (m)           6.28   (f) ADJUSTED    1 1
AU0429  NAVD 88 (02/14/94)    1.907  (m)           6.26   (f) UNKNOWN     1 1
AU0429  NAVD 88 (06/15/91)    1.969  (m)           6.46   (f) UNKNOWN     1 1
AU0429  NGVD 29 (05/21/91)    1.967  (m)           6.45   (f) ADJUSTED    1 1
AU0429
AU0429.Superseded values are not recommended for survey control.
AU0429.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AU0429.See file dsdata.txt to determine how the superseded data were derived.
AU0429
AU0429_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP8101621156(NAD 83)
AU0429
AU0429_MARKER: DB = BENCH MARK DISK
AU0429_SETTING: 31 = SET IN A PAVEMENT SUCH AS STREET, SIDEWALK, CURB, ETC.
AU0429_SP_SET: SIDEWALK
AU0429_STAMPING: A 148 1951
AU0429_MARK LOGO: CGS
AU0429_MAGNETIC: N = NO MAGNETIC MATERIAL
AU0429_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY
AU0429_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AU0429+SATELLITE: SATELLITE OBSERVATIONS - August 03, 2010
AU0429
AU0429  HISTORY     - Date     Condition        Report By
AU0429  HISTORY     - 1951     MONUMENTED       CGS
AU0429  HISTORY     - 1969     GOOD             CGS
AU0429  HISTORY     - 1971     GOOD             NGS
AU0429  HISTORY     - 1977     GOOD             NGS
AU0429  HISTORY     - 1984     GOOD             LADTD
AU0429  HISTORY     - 1985     GOOD             NGS
AU0429  HISTORY     - 19901022 GOOD             NGS
AU0429  HISTORY     - 19941024 GOOD             NGS
AU0429  HISTORY     - 20040413 GOOD             NGS
AU0429  HISTORY     - 20051006 GOOD             NGS
```

```
AU0429  HISTORY     - 20060401 GOOD             NGS
AU0429  HISTORY     - 20060406 GOOD             NGS
AU0429  HISTORY     - 20080402 GOOD             SJB
AU0429  HISTORY     - 20090305 GOOD             WOOLPT
AU0429  HISTORY     - 20100803 GOOD             NGS
AU0429
AU0429                          STATION DESCRIPTION
AU0429
AU0429'DESCRIBED BY COAST AND GEODETIC SURVEY 1969
AU0429'IN NEW ORLEANS.
AU0429'AT NEW ORLEANS, AT THE JUNCTION OF WISNER BLVD AND DE SAIX BLVD, SET
AU0429'ON THE TOP OF THE CONCRETE PEDESTRAIN WALK ALONG THE SOUTH SIDE OF THE
AU0429'DE SAIX BLVD BRIDGE OVER BAYOU ST. JOHN, 32 FEET WEST OF THE EAST END
AU0429'OF THE BRIDGE, DIRECTLY OVER THE SOUTH END OF THE EAST ONE OF TWO
AU0429'PIERS UNDER THE BRIDGE, 4 FEET SOUTH OF THE SOUTH CURB LINE OF THE
AU0429'BRIDGE AND 1/2 FOOT ABOVE THE LEVEL OF THE BRIDGE FLOOR.
AU0429
AU0429                          STATION RECOVERY (1971)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1971
AU0429'RECOVERED IN GOOD CONDITION.
AU0429
AU0429                          STATION RECOVERY (1977)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1977
AU0429'RECOVERED IN GOOD CONDITION.
AU0429
AU0429                          STATION RECOVERY (1984)
AU0429
AU0429'RECOVERY NOTE BY LA TRANSP AND DEV 1984
AU0429'THE BENCH MARK WAS RECOVERED IN JULY 1984 AND FOUND IN GOOD CONDITION.
AU0429'THE 1969 DESCRIPTION IS ADEQUATE TO RECOVER THE BENCH MARK.
AU0429
AU0429                          STATION RECOVERY (1985)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1985
AU0429'RECOVERED IN GOOD CONDITION.
AU0429
AU0429                          STATION RECOVERY (1990)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
AU0429'IN NEW ORLEANS, AT THE INTERSECTION OF WISNER AND DE SAIX BOULEVARDS,
AU0429'IN TOP OF AND 9.8 M (32.2 FT) WEST OF THE EAST END OF THE SOUTH
AU0429'CONCRETE PEDESTRIAN WALKWAY OF THE DE SAIX BOULEVARD OVERPASS OF
AU0429'BAYOU SAINT JOHN, DIRECTLY OVER THE SOUTH END OF THE MOST EASTERLY OF
AU0429'TWO BRIDGE PIERS, 1.2 M (3.9 FT) SOUTH OF THE SOUTH BRIDGE CURB, AND
AU0429'0.15 M (0.49 FT) ABOVE THE LEVEL OF THE HIGHWAY.
AU0429
AU0429                          STATION RECOVERY (1994)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)
AU0429'IN NEW ORLEANS, AT THE INTERSECTION OF WISNER AND DE SAIX BOULEVARDS,
AU0429'IN TOP OF AND 9.8 M (32.2 FT) WEST OF THE EAST END OF THE SOUTH
AU0429'CONCRETE SIDEWALK OF THE DE SAIX BOULEVARD BRIDGE SPANNING BAYOU SAINT
AU0429'JOHN, DIRECTLY OVER THE SOUTH END OF THE MOST EASTERLY OF 2 PIERS
AU0429'UNDER THE BRIDGE, 50.0 M (164.0 FT) EAST OF THE CENTERLINE OF THE
AU0429'NORTHBOUND LANES OF WISNER BOULEVARD, 1.2 M (3.9 FT) SOUTH OF THE
AU0429'SOUTH CURB OF DE SAIX BOULEVARD, AND 0.2 M (0.7 FT) ABOVE THE LEVEL OF
AU0429'DE SAIX BOULEVARD.
AU0429
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AU0429                          STATION RECOVERY (2004)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
AU0429'RECOVERED AS DESCRIBED
AU0429
AU0429                          STATION RECOVERY (2005)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)
AU0429'RECOVERED AS DESCRIBED
AU0429
AU0429                          STATION RECOVERY (2006)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (DB)
AU0429'RECOVERED AS DESCRIBED.
AU0429
AU0429                          STATION RECOVERY (2006)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AU0429'RECOVERED AS DESCRIBED.
AU0429
AU0429                          STATION RECOVERY (2008)
AU0429
AU0429'RECOVERY NOTE BY SJB GROUP INCORPORATED 2008 (BH)
AU0429'RECOVERED IN GOOD CONDITION.
AU0429
AU0429                          STATION RECOVERY (2009)
AU0429
AU0429'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
AU0429'RECOVERED AS DESCRIBED
AU0429
AU0429                          STATION RECOVERY (2010)
AU0429
AU0429'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2010 (RWA)
AU0429'RECOVERED AS DESCRIBED.

*** retrieval complete.
Elapsed Time = 00:00:02
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The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 14, 2012
 AU2163 ***********************************************************************
 AU2163  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 AU2163  DESIGNATION -  B 369
 AU2163  PID         -  AU2163
 AU2163  STATE/COUNTY-  LA/JEFFERSON
 AU2163  USGS QUAD   -  BERTRANDVILLE (1992)
 AU2163
 AU2163                        *CURRENT SURVEY CONTROL
 AU2163  ______________________________________________________________________
 AU2163* NAD 83(2007)-  29 46 05.46850(N)    090 06 01.68883(W)     ADJUSTED
 AU2163* NAVD 88     -         1.80   (meters)       5.9    (feet)  GPS OBS(2006.81)
 AU2163  **This station is located in a suspected subsidence area (see below).
 AU2163  ______________________________________________________________________
 AU2163  EPOCH DATE  -        2002.00
 AU2163  X           -      -9,716.301 (meters)                     COMP
 AU2163  Y           -  -5,541,030.885 (meters)                     COMP
 AU2163  Z           -   3,148,082.032 (meters)                     COMP
 AU2163  LAPLACE CORR-           0.70  (seconds)                    DEFLEC09
 AU2163  ELLIP HEIGHT-         -23.670 (meters)          (10/11/11) ADJUSTED
 AU2163  GEOID HEIGHT-         -25.45  (meters)                     GEOID09
 AU2163
 AU2163  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AU2163  Type    PID    Designation                       North   East  Ellip
 AU2163  ----------------------------------------------------------------------
 AU2163  NETWORK AU2163 B 369                               0.96   0.80   2.18
 AU2163  ----------------------------------------------------------------------
 AU2163  OBS GRAVITY -     979,308.2   (mgal)                      GRAV_OBS
 AU2163
 AU2163  ELLP ORDER  -  FOURTH    CLASS I
 AU2163
 AU2163.The horizontal coordinates were established by GPS observations
 AU2163.and adjusted by the National Geodetic Survey in February 2007.
 AU2163
 AU2163.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AU2163.See National Readjustment for more information.
 AU2163
 AU2163.The horizontal coordinates are valid at the epoch date displayed above
 AU2163.which is a decimal equivalence of Year/Month/Day.
 AU2163
 AU2163 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
 AU2163 ** and geoid heights are valid at the date of observation. These heights
 AU2163 ** must always be validated when used as control.
 AU2163
 AU2163 ** The orthometric height was determined by GPS observations using
 AU2163 ** precise GPS observation and processing techniques and a new
 AU2163 ** realization of GEOID03. It supersedes any height that may have been
 AU2163 ** previously determined for this station.
 AU2163
 AU2163 ** The geoid height was determined by a new realization of GEOID03 for the
 AU2163 ** epoch indicated which incorporates improved geoid heights for the
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AU2163 ** Southern Louisiana Subsidence area.
AU2163 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
AU2163
AU2163.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU2163
AU2163.The Laplace correction was computed from DEFLEC09 derived deflections.
AU2163
AU2163.The ellipsoidal height was determined by GPS observations
AU2163.and is referenced to NAD 83.
AU2163
AU2163.The geoid height was determined by GEOID09.
AU2163
AU2163.The observed gravity was obtained from relative gravimeter ties
AU2163.to the IGSN71 gravity network.
AU2163
AU2163;                    North         East     Units Scale Factor Converg.
AU2163;SPC LA S     -   141,212.872 1,119,219.801   MT  0.99993394   +0 36 59.2
AU2163;SPC LA S     -   463,295.90  3,671,973.63   sFT  0.99993394   +0 36 59.2
AU2163;UTM  15      - 3,296,622.944   780,361.821   MT  1.00056994   +1 26 25.9
AU2163
AU2163!             -  Elev Factor  x  Scale Factor =   Combined Factor
AU2163!SPC LA S     -   1.00000372  x   0.99993394  =   0.99993766
AU2163!UTM  15      -   1.00000372  x   1.00056994  =   1.00057366
AU2163
AU2163                          SUPERSEDED SURVEY CONTROL
AU2163
AU2163  ELLIP H (03/12/08)  -23.656  (m)                       GP(       ) 3 1
AU2163  ELLIP H (02/10/07)  -23.651  (m)                       GP(       )
AU2163  NAD 83(1992)-  29 46 05.46861(N)    090 06 01.68847(W) AD(2004.65) B
AU2163  ELLIP H (06/22/05)  -23.668  (m)                       GP(2004.65) 4 1
AU2163  NAVD 88 (06/22/05)    1.84   (m)            6.0    (f) LEVELING    3
AU2163  NAVD 88 (12/05/96)    1.975  (m)            6.48   (f) ADJUSTED    1 2
AU2163  NAVD 88 (02/14/94)    1.928  (m)            6.33   (f) UNKNOWN     1 2
AU2163  NGVD 29 (??/??/??)    2.020  (m)            6.63   (f) ADJUSTED    1 2
AU2163
AU2163.Superseded values are not recommended for survey control.
AU2163.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AU2163.See file dsdata.txt to determine how the superseded data were derived.
AU2163
AU2163_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYN8036196622(NAD 83)
AU2163
AU2163_MARKER: F = FLANGE-ENCASED ROD
AU2163_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
AU2163_SP_SET: STAINLESS STEEL ROD
AU2163_STAMPING: B 369 1984
AU2163_MARK LOGO: NGS
AU2163_PROJECTION: RECESSED 30 CENTIMETERS
AU2163_MAGNETIC: I = MARKER IS A STEEL ROD
AU2163_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AU2163_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AU2163+SATELLITE: SATELLITE OBSERVATIONS - September 18, 2010
AU2163_ROD/PIPE-DEPTH: 36.6 meters
AU2163
AU2163  HISTORY     - Date     Condition        Report By
AU2163  HISTORY     - 1984     MONUMENTED       NGS
AU2163  HISTORY     - 1984     GOOD             LA-051
AU2163  HISTORY     - 19940826 GOOD             NGS
AU2163  HISTORY     - 20040415 GOOD             NGS
AU2163  HISTORY     - 20060429 GOOD             NGS
AU2163  HISTORY     - 20090224 GOOD             WOOLPT
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AU2163  HISTORY     - 20090314 GOOD             LOWE
AU2163  HISTORY     - 20090502 GOOD             LOWE
AU2163  HISTORY     - 20100918 GOOD             USACE
AU2163
AU2163                          STATION DESCRIPTION
AU2163
AU2163'DESCRIBED BY NATIONAL GEODETIC SURVEY 1984
AU2163'0.7 KM (0.45 MI) NORTH FROM LAFITTE.
AU2163'0.7 KM (0.45 MI) NORTH ALONG STATE HIGHWAY 3134 FROM THE CENTER OF THE
AU2163'BRIDGE OVER THE INTERCOASTAL WATERWAY WHICH IS ABOUT 12.9 KM (8.0 MI)
AU2163'SOUTH OF MARRERO AND 8.0 KM 5.0 MI) NORTH OF LAFITTE AT THE NORTH END
AU2163'OF THE BRIDGE, 7.31 METERS (24.0 FT) EAST OF THE CENTERLINE OF THE
AU2163'BRIDGE, 1.21 METERS (4.0 FT) SOUTH-SOUTHEAST OF THE NORTH END OF THE
AU2163'CONCRETE BRIDGE RAIL, 0.60 METERS (2.0 FT) EAST OF THE EAST FACE OF
AU2163'THE CONCRETE BRIDGE RAIL AND 0.97 METERS (3.2 FT) SOUTH OF THE SOUTH
AU2163'FACE OF THE WINGWALL.  NOTE, DRIVING RATE 32 SECONDS PER FOOT.  ROD
AU2163'ANCHORED.
AU2163'THE MARK IS 0.54 METERS  E FROM A WITNESS POST.
AU2163'THE MARK IS 0.30 M BELOW HIGHWAY 3134.
AU2163
AU2163                          STATION RECOVERY (1984)
AU2163
AU2163'RECOVERY NOTE BY JEFFERSON PARISH LOUISIANA 1984
AU2163'RECOVERED IN GOOD CONDITION.
AU2163
AU2163                          STATION RECOVERY (1994)
AU2163
AU2163'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)
AU2163'9.6 KM (5.95 MI) SOUTHERLY ALONG STATE HIGHWAY 3134 FROM THE JUNCTION
AU2163'OF STATE HIGHWAY 45 (BARATARIA BOULEVARD) IN MARRERO, 7.3 M (24.0 FT)
AU2163'EAST OF THE CENTERLINE OF THE HIGHWAY, 1.2 M (3.9 FT) SOUTH-SOUTHEAST
AU2163'OF THE NORTH END OF A BRIDGE SPANNING THE INTRACOASTAL WATERWAY, 1.0 M
AU2163'(3.3 FT) SOUTH OF THE SOUTH FACE OF A WINGWALL, 0.6 M (2.0 FT) EAST OF
AU2163'THE EAST FACE OF THE BRIDGE RAILING, AND 0.3 M (1.0 FT) BELOW THE
AU2163'LEVEL OF THE HIGHWAY.  NOTE--ACCESS TO THE DATUM POINT IS THROUGH A
AU2163'5-INCH LOGO CAP.
AU2163
AU2163                          STATION RECOVERY (2004)
AU2163
AU2163'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
AU2163'RECOVERED AS DESCRIBED
AU2163
AU2163                          STATION RECOVERY (2006)
AU2163
AU2163'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AU2163'RECOVERED AS DESCRIBED.
AU2163
AU2163                          STATION RECOVERY (2009)
AU2163
AU2163'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
AU2163'RECOVERED AS DESCRIBED
AU2163
AU2163                          STATION RECOVERY (2009)
AU2163
AU2163'RECOVERY NOTE BY LOWE ENGINEERS 2009 (RW)
AU2163'RECOVERED IN GOOD CONDITION.
AU2163
AU2163                          STATION RECOVERY (2009)
AU2163
AU2163'RECOVERY NOTE BY LOWE ENGINEERS 2009 (RW)
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AU2163'RECOVERED IN GOOD CONDITION.
AU2163
AU2163                          STATION RECOVERY (2010)
AU2163
AU2163'RECOVERY NOTE BY US ARMY CORPS OF ENGINEERS 2010 (JTH)
AU2163'MARK RECOVERED AS DESCRIBED AND IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:01
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The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 14, 2012
 BH1119 ***********************************************************************
 BH1119  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 BH1119  DESIGNATION -  C 189
 BH1119  PID         -  BH1119
 BH1119  STATE/COUNTY-  LA/ORLEANS
 BH1119  USGS QUAD   -  CHEF MENTEUR (1994)
 BH1119
 BH1119                        *CURRENT SURVEY CONTROL
 BH1119  ______________________________________________________________________
 BH1119* NAD 83(2007)-  30 04 24.49882(N)    089 50 25.90036(W)     ADJUSTED
 BH1119* NAVD 88     -         0.61   (meters)       2.0    (feet)  LEVELING(2006.81)
 BH1119  **This station is located in a suspected subsidence area (see below).
 BH1119  **This station is included in the VTDP model (see below).
 BH1119  ______________________________________________________________________
 BH1119  EPOCH DATE  -        2002.00
 BH1119  X           -      15,375.443 (meters)                    COMP
 BH1119  Y           -  -5,524,136.205 (meters)                    COMP
 BH1119  Z           -   3,177,411.671 (meters)                    COMP
 BH1119  LAPLACE CORR-          -0.10  (seconds)                   DEFLEC09
 BH1119  ELLIP HEIGHT-         -25.680 (meters)          (03/12/08) ADJUSTED
 BH1119  GEOID HEIGHT-         -26.29  (meters)                    GEOID09
 BH1119
 BH1119  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 BH1119  Type    PID    Designation                      North   East  Ellip
 BH1119  ----------------------------------------------------------------------
 BH1119  NETWORK BH1119 C 189                             1.12   1.00   2.67
 BH1119  ----------------------------------------------------------------------
 BH1119  VERT ORDER  -  THIRD
 BH1119  ELLP ORDER  -  THIRD     CLASS I
 BH1119
 BH1119.The horizontal coordinates were established by GPS observations
 BH1119.and adjusted by the National Geodetic Survey in February 2007.
 BH1119
 BH1119.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 BH1119.See National Readjustment for more information.
 BH1119
 BH1119.The horizontal coordinates are valid at the epoch date displayed above
 BH1119.which is a decimal equivalence of Year/Month/Day.
 BH1119
 BH1119.The orthometric height was determined by differential leveling.
 BH1119.The vertical network tie was performed by a horz. field party for horz.
 BH1119.obs reductions. Reset procedures were used to establish the elevation.
 BH1119
 BH1119.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BH1119
 BH1119.The Laplace correction was computed from DEFLEC09 derived deflections.
 BH1119
 BH1119.The ellipsoidal height was determined by GPS observations
 BH1119.and is referenced to NAD 83.
 BH1119
 BH1119.The geoid height was determined by GEOID09.
 BH1119
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BH1119;                    North         East     Units Scale Factor Converg.
BH1119;SPC LA S     -   175,347.831 1,143,914.383   MT  0.99992654   +0 44 47.1
BH1119;SPC LA S     -   575,287.01  3,752,992.44   sFT  0.99992654   +0 44 47.1
BH1119;UTM  16      - 3,330,329.694   226,183.455   MT  1.00052512   -1 25 27.5
BH1119
BH1119!             -  Elev Factor  x  Scale Factor =   Combined Factor
BH1119!SPC LA S     -   1.00000403  x   0.99992654  =   0.99993057
BH1119!UTM  16      -   1.00000403  x   1.00052512  =   1.00052916
BH1119
BH1119                          SUPERSEDED SURVEY CONTROL
BH1119
BH1119  ELLIP H (02/10/07)  -25.696  (m)                      GP(       )
BH1119  NAD 83(1992)-  30 04 24.49899(N)    089 50 25.90012(W) AD(2004.65) B
BH1119  ELLIP H (06/22/05)  -25.720  (m)                      GP(2004.65) 4 1
BH1119  ELLIP H (01/21/03)  -25.681  (m)                      GP(       ) 4 2
BH1119  NAD 83(1993)-  30 04 24.49852(N)    089 50 25.89947(W) AD(       ) 1
BH1119  NAD 83(1992)-  30 04 24.49854(N)    089 50 25.89947(W) AD(       ) 1
BH1119  ELLIP H (01/21/93)  -25.658  (m)                      GP(       ) 4 2
BH1119  NAD 83(1986)-  30 04 24.51432(N)    089 50 25.89678(W) AD(       ) 1
BH1119  NAVD 88 (06/22/05)    0.63   (m)           2.1    (f) LEVELING    3
BH1119  NAVD 88 (12/05/96)    0.794  (m)           2.61   (f) ADJUSTED    1 1
BH1119  NAVD 88 (02/14/94)    0.789  (m)           2.59   (f) UNKNOWN     1 1
BH1119  NAVD 88 (06/15/91)    0.810  (m)           2.66   (f) UNKNOWN     1 1
BH1119  NGVD 29 (05/21/91)    0.851  (m)           2.79   (f) ADJUSTED    1 1
BH1119
BH1119.Superseded values are not recommended for survey control.
BH1119.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BH1119.See file dsdata.txt to determine how the superseded data were derived.
BH1119
BH1119_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU2618330329(NAD 83)
BH1119
BH1119_MARKER: DB = BENCH MARK DISK
BH1119_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)
BH1119_SP_SET: COPPER-CLAD STEEL ROD
BH1119_STAMPING: C 189 1963
BH1119_MARK LOGO: CGS
BH1119_PROJECTION: RECESSED 5 CENTIMETERS
BH1119_MAGNETIC: I = MARKER IS A STEEL ROD
BH1119_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
BH1119_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BH1119+SATELLITE: SATELLITE OBSERVATIONS - April 28, 2009
BH1119_ROD/PIPE-DEPTH: 20.7 meters
BH1119_SLEEVE-DEPTH  : 1.00 meters
BH1119
BH1119  HISTORY     - Date     Condition        Report By
BH1119  HISTORY     - 1963     MONUMENTED       CGS
BH1119  HISTORY     - 1969     GOOD             CGS
BH1119  HISTORY     - 1970     GOOD             NGS
BH1119  HISTORY     - 1977     GOOD             NGS
BH1119  HISTORY     - 1978     GOOD             USE
BH1119  HISTORY     - 1985     GOOD             NGS
BH1119  HISTORY     - 1986     GOOD             NGS
BH1119  HISTORY     - 19880920 GOOD             LADTD
BH1119  HISTORY     - 19890123 GOOD
BH1119  HISTORY     - 19901101 GOOD             NGS
BH1119  HISTORY     - 19941024 GOOD             NGS
BH1119  HISTORY     - 20020703 GOOD             USACE
BH1119  HISTORY     - 20040413 GOOD             NGS
BH1119  HISTORY     - 20060108 GOOD             3001
BH1119  HISTORY     - 20060430 GOOD             NGS
BH1119  HISTORY     - 20090428 GOOD             WOOLPT
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BH1119
BH1119                          STATION DESCRIPTION
BH1119
BH1119'DESCRIBED BY COAST AND GEODETIC SURVEY 1969
BH1119'12.0 MI E FROM NEW ORLEANS.
BH1119'ABOUT 12.0 MILES EAST ALONG U. S. HIGHWAY 90 FROM THE I 10 OVERPASS
BH1119'OVER U. S. HIGHWAY 90 AT NEW ORLEANS, ABOUT 0.1 MILE NORTHWEST OF A
BH1119'LARGE METAL BUILDING FOR THE MARINE CENTER EAST, 58.7 FEET NORTHWEST
BH1119'OF THE SOUTH CORNER OF THE CHAIN LINK FENCE AROUND THE STORAGE YARD OF
BH1119'THE P. HUTCHISON DRAGLINE WORKS, 44 FEET NORTHEAST OF THE CENTER LINE
BH1119'OF THE WESTBOUND LANE OF THE HIGHWAY, 6 FEET EAST OF A 12-INCH OAK
BH1119'TREE, 0.9 FOOT SOUTHWEST OF FENCE LINE, 1.5 FEET NORTHWEST OF A METAL
BH1119'WITNESS POST, ABOUT LEVEL WITH THE HIGHWAY AND IS A DISK ON THE TOP OF
BH1119'A COPPER COATED STEEL ROD FLUSH WITH THE GROUND AND PROTECTED BY A 6
BH1119'INCH TILE WHICH IS FLUSH WITH THE GROUND.  THE ROD WAS DRIVEN TO A
BH1119'DEPTH OF 88 FEET.
BH1119
BH1119                          STATION RECOVERY (1970)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1970
BH1119'RECOVERED IN GOOD CONDITION.
BH1119
BH1119                          STATION RECOVERY (1977)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1977
BH1119'12.0 MILES EAST ALONG U.S. HIGHWAY 90 FROM THE INTERSTATE HIGHWAY
BH1119'10 OVERPASS, 0.1 MILE NORTHWEST OF A LARGE METAL BUILDING FOR
BH1119'HALTER MARINE SERVICES INCORPORATED, 44 FT. NORTHEAST OF THE CENTER
BH1119'LINE OF THE WEST BOUND LANES OF THE HIGHWAY, 59 FT. NORTHWEST
BH1119'OF THE SOUTH CORNER OF A STEEL MESH FENCE, 58.5 FT. SOUTHEAST OF
BH1119'THE APPROXIMATE CENTER LINE OF A SHELL DRIVEWAY LEADING NORTHEAST,
BH1119'6 FT. EAST OF A 12-INCH OAK TREE, 0.9 FT. SOUTHWEST OF A
BH1119'NORTHWEST-SOUTHEAST FENCE LINE, THE DISK IS PROTECTED BY A
BH1119'6-INCH SQUARE TILE.
BH1119
BH1119                          STATION RECOVERY (1978)
BH1119
BH1119'RECOVERY NOTE BY US ENGINEERS 1978
BH1119'RECOVERED IN GOOD CONDITION.
BH1119
BH1119                          STATION RECOVERY (1985)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1985
BH1119'RECOVERED IN GOOD CONDITION.
BH1119
BH1119                          STATION RECOVERY (1986)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986
BH1119'RECOVERED IN GOOD CONDITION.
BH1119
BH1119                          STATION RECOVERY (1988)
BH1119
BH1119'RECOVERY NOTE BY LA TRANSP AND DEV 1988
BH1119'ABOUT 19.3 KM (12.00 MI) EAST ALONG U.S. HIGHWAY 90 FROM THE
BH1119'INTERSTATE HIGHWAY 10 OVERPASS OVER U.S. HIGHWAY 90 AT NEW ORLEANS,
BH1119'ABOUT 0.2 KM (0.10 MI) NORTHWEST OF A LARGE METAL BUILDING FOR THE
BH1119'MARINE CENTER EAST, 17.9 M (58.7 FT) NORTHWEST OF THE SOUTH CORNER OF
BH1119'THE CHAIN LINK FENCE AROUND THE STORAGE YARD OF THE P. HUTCHINSON
BH1119'DRAGLINE WORKS, 13.4 M (44.0 FT) NORTHEAST OF THE CENTER LINE OF THE
BH1119'WESTBOUND LANE OF THE HIGHWAY, 6.7 M (22.0 FT) SOUTHEAST FROM THE
BH1119'CENTER OF A CHAIN LINK GATE, 0.3 M (1.0 FT) SOUTHWEST OF THE FENCE AND
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BH1119'0.5 M (1.6 FT) NORTHWEST OF A METAL WITNESS POST. THE MARK IS ABOUT
BH1119'LEVEL WITH THE HIGHWAY AND PROTECTED BY A 6-INCH TILE WHICH IS FLUSH
BH1119'WITH THE GROUND.
BH1119
BH1119 STATION RECOVERY (1989)
BH1119
BH1119'RECOVERED 1989
BH1119'RECOVERED IN GOOD CONDITION.
BH1119
BH1119 STATION RECOVERY (1990)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
BH1119'19.3 KM (12.0 MI) EASTERLY ALONG U.S. HIGHWAY 90 (CHEF MENTEUR
BH1119'HIGHWAY) FROM THE JUNCTION OF INTERSTATE HIGHWAY 10 IN NEW ORLEANS,
BH1119'0.2 KM (0.1 MI) NORTHWEST OF A LARGE METAL BUILDING (VACANT 1990),
BH1119'18.0 M (59.1 FT) NORTHWEST OF THE SOUTH CORNER OF STEEL MESH FENCE,
BH1119'17.8 M (58.4 FT) SOUTHEAST OF THE CENTER OF A SHELLED DRIVEWAY, 13.4
BH1119'M (44.0 FT) NORTHEAST OF THE CENTERLINE OF THE WESTBOUND LANES OF THE
BH1119'HIGHWAY, 0.4 M (1.3 FT) NORTHWEST OF A WITNESS POST, AND 0.3 M (1.0
BH1119'FT) SOUTHWEST OF A FENCE. NOTE--THE DISK IS ENCASED IN A 6-INCH
BH1119'SQUARE PIPE THAT IS FLUSH WITH THE GROUND SURFACE.
BH1119
BH1119 STATION RECOVERY (1994)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)
BH1119'19.1 KM (11.85 MI) EASTERLY ALONG U.S. HIGHWAY 90 (CHEF MENTEUR
BH1119'HIGHWAY) FROM THE JUNCTION OF INTERSTATE HIGHWAY 10 IN NEW ORLEANS,
BH1119'18.0 M (59.1 FT) NORTHWEST OF THE SOUTH CORNER OF A CHAIN-LINK FENCE,
BH1119'17.8 M (58.4 FT) SOUTHEAST OF THE CENTER OF A SHELLED DRIVEWAY, 13.4 M
BH1119'(44.0 FT) NORTHEAST OF AND LEVEL WITH THE CENTERLINE OF THE WESTBOUND
BH1119'LANES OF THE HIGHWAY, 1.5 M (4.9 FT) NORTHEAST OF THE CENTER OF A
BH1119'WATER METER COVER, 0.4 M (1.3 FT) NORTHWEST OF A WITNESS POST, AND 0.3
BH1119'M (1.0 FT) SOUTHWEST OF A FENCE. NOTE--THE DISK IS ENCASED IN A
BH1119'6-INCH METAL PIPE AND IS RECESSED 0.1 M (0.3 FT) BELOW THE GROUND
BH1119'SURFACE.
BH1119
BH1119 STATION RECOVERY (2002)
BH1119
BH1119'RECOVERY NOTE BY US ARMY CORPS OF ENGINEERS 2002 (MWH)
BH1119'SOME OBSTRUCTIONS BUT IS MARGINALLY SUITABLE FOR GPS OBSERVATIONS.
BH1119
BH1119 STATION RECOVERY (2004)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
BH1119'THE STATION IS LOCATED EAST OF NEW ORLEANS ALONG US HIGHWAY 90 ABOUT 7
BH1119'MILES EAST OF MICHOUD.
BH1119'
BH1119'TO REACH THE STATION FROM EXIT 246, INTERSTATE HIGHWAY 10 AND
BH1119'INTERSTATE HIGHWAY 510 NORTHEAST OF NEW ORLEANS, GO SOUTH FOR 2.0 MI
BH1119'ON INTERSTATE HIGHWAYT 510 THE US HIGHWAY 90 EXIT (EXIT 2C), TAKE
BH1119'THE EXIT TO A TRAFFIC LIGHT. TURN LEFT, AND GO EASTERLY ON US 90,
BH1119'CHEF MENTEUR HWY, FOR 6.25 MI TO THEJUNCTION WITH US 11, CONTINUE
BH1119'EASTERLY ON US HIGHWAY 90 FOR 1.45 MI. TO THE MARK ON THE LEFT ALONG
BH1119'A FENCELINE.
BH1119'
BH1119'THE MARK IS LOCATED 1FT ENE OF THE WITNESS POST,0.9 FT NE OF A 5 FOOT
BH1119'FENCE, 5.3 FT NNE OF A 12 INCH DIAMETER WATER METER COVER, 11 S OF AN
BH1119'ELECTRIC SERVICE POLE, 55 FT NE OF THE CENTERLINE OF US 90, AND 115
BH1119'ESE OF MILE MARKER 287. NOTE--THE MARK IS ENCASED IN A 6 INCH PIPE
BH1119'RECESSED 0.3 FEET BELOW THE LEVEL OF THE GROUND IN AN AREA INUNDATED
BH1119'WITH WATER AFTER HEAVEY RAINS.

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BH1119
BH1119                          STATION RECOVERY (2006)
BH1119
BH1119'RECOVERY NOTE BY 3001, INC 2006 (JCP)
BH1119'RECOVERED AS DESCRIBED.
BH1119
BH1119                          STATION RECOVERY (2006)
BH1119
BH1119'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
BH1119'RECOVERED IN GOOD CONDITION.  NEW MEASURMENTS WERE TAKEN AS FOLLOWS.
BH1119'18.0 M (59.1 FT) NORTHWEST OF A UTILITY POLE, 16.7 M (54.8 FT)
BH1119'NORTHEAST OF THE CENTERLINE OF HIGHWAY, 12.6 M (41.3 FT) SOUTHEAST OF
BH1119'A CHAINLINK FENCE CORNER, 4.3 M (14.1 FT) SOUTHWEST OF THE SOUTHWEST
BH1119'SIDE OF A BARGE, 0.9 M (3.0 FT) SOUTHEAST OF A GPS BOX ANCHOR, 0.4 M
BH1119'(1.3 FT) NORTHWEST OF A WITNESS POST, 0.3 M (1.0 FT) SOUTHWEST OF A
BH1119'WITNESS POST, AND 0.3 M (1.0 FT) BELOW LEVEL OF HIGHWAY.
BH1119'
BH1119'THE DISK IS ATTACHED TO A ROD AND ENCASED IN A 6 INCH (15 CM) SQUARE
BH1119'TILE.
BH1119
BH1119                          STATION RECOVERY (2009)
BH1119
BH1119'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
BH1119'RECOVERED AS DESCRIBED

*** retrieval complete.
Elapsed Time = 00:00:01
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The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY 14, 2012
 BJ0710 ***********************************************************************
 BJ0710  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 BJ0710  DESIGNATION -  G 95
 BJ0710  PID         -  BJ0710
 BJ0710  STATE/COUNTY-  LA/ST CHARLES
 BJ0710  USGS QUAD   -  LAPLACE (1992)
 BJ0710
 BJ0710                       *CURRENT SURVEY CONTROL
 BJ0710  ______________________________________________________________________
 BJ0710* NAD 83(2007)-  30 00 02.35266(N)    090 25 44.92711(W)     ADJUSTED
 BJ0710* NAVD 88     -         8.25   (meters)      27.1    (feet)  LEVELING(2006.81)
 BJ0710  **This station is located in a suspected subsidence area (see below).
 BJ0710  **This station is included in the VTDP model (see below).
 BJ0710  ______________________________________________________________________
 BJ0710  EPOCH DATE  -        2002.00
 BJ0710  X           -     -41,405.967 (meters)                    COMP
 BJ0710  Y           -  -5,528,049.829 (meters)                    COMP
 BJ0710  Z           -   3,170,427.512 (meters)                    COMP
 BJ0710  LAPLACE CORR-           0.36  (seconds)                   DEFLEC09
 BJ0710  ELLIP HEIGHT-         -17.923 (meters)          (10/11/11) ADJUSTED
 BJ0710  GEOID HEIGHT-         -26.16  (meters)                    GEOID09
 BJ0710
 BJ0710  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 BJ0710  Type    PID    Designation                      North   East  Ellip
 BJ0710  ----------------------------------------------------------------------
 BJ0710  NETWORK BJ0710 G 95                               1.08   0.88   2.37
 BJ0710  ----------------------------------------------------------------------
 BJ0710  VERT ORDER  -  THIRD
 BJ0710  ELLP ORDER  -  FOURTH    CLASS I
 BJ0710
 BJ0710.The horizontal coordinates were established by GPS observations
 BJ0710.and adjusted by the National Geodetic Survey in February 2007.
 BJ0710
 BJ0710.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 BJ0710.See National Readjustment for more information.
 BJ0710
 BJ0710.The horizontal coordinates are valid at the epoch date displayed above
 BJ0710.which is a decimal equivalence of Year/Month/Day.
 BJ0710
 BJ0710.The orthometric height was determined by differential leveling.
 BJ0710.The vertical network tie was performed by a horz. field party for horz.
 BJ0710.obs reductions. Reset procedures were used to establish the elevation.
 BJ0710
 BJ0710.Photographs are available for this station.
 BJ0710
 BJ0710.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BJ0710
 BJ0710.The Laplace correction was computed from DEFLEC09 derived deflections.
 BJ0710
 BJ0710.The ellipsoidal height was determined by GPS observations
 BJ0710.and is referenced to NAD 83.
 BJ0710
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BJ0710.The geoid height was determined by GEOID09.
BJ0710
BJ0710;                    North         East     Units Scale Factor Converg.
BJ0710;SPC LA S     -   166,683.021 1,087,233.677   MT  0.99992574   +0 27 07.6
BJ0710;SPC LA S     -   546,859.21  3,567,032.49   sFT  0.99992574   +0 27 07.6
BJ0710;UTM  15      - 3,321,640.857   747,993.163   MT  1.00035884   +1 17 10.0
BJ0710
BJ0710!             -  Elev Factor  x  Scale Factor =   Combined Factor
BJ0710!SPC LA S     -   1.00000281  x   0.99992574  =   0.99992855
BJ0710!UTM  15      -   1.00000281  x   1.00035884  =   1.00036166
BJ0710
BJ0710                          SUPERSEDED SURVEY CONTROL
BJ0710
BJ0710  ELLIP H (03/12/08)  -17.914  (m)                      GP(       ) 3 1
BJ0710  ELLIP H (02/10/07)  -17.931  (m)                      GP(       )
BJ0710  NAD 83(1992)-  30 00 02.35269(N)    090 25 44.92714(W) AD(2004.65) B
BJ0710  ELLIP H (06/22/05)  -17.943  (m)                      GP(2004.65) 4 1
BJ0710  NAVD 88 (06/22/05)    8.27   (m)          27.1    (f) LEVELING    3
BJ0710  NAVD 88 (02/14/94)    8.484  (m)          27.83   (f) READJUSTED  3
BJ0710  NGVD 29 (??/??/??)    8.578  (m)          28.14   (f) ADJUSTED    1 1
BJ0710
BJ0710.Superseded values are not recommended for survey control.
BJ0710.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BJ0710.See file dsdata.txt to determine how the superseded data were derived.
BJ0710
BJ0710_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP4799321640(NAD 83)
BJ0710
BJ0710_MARKER: DB = BENCH MARK DISK
BJ0710_SETTING: 38 = SET IN THE ABUTMENT OR PIER OF A LARGE BRIDGE
BJ0710_SP_SET: WEIR ABUTMENT
BJ0710_STAMPING: G 95 1938 PLMS 53 03 5357 75
BJ0710_MARK LOGO: CGS
BJ0710_MAGNETIC: N = NO MAGNETIC MATERIAL
BJ0710_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
BJ0710_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BJ0710+SATELLITE: SATELLITE OBSERVATIONS - July 26, 2010
BJ0710
BJ0710  HISTORY     - Date     Condition        Report By
BJ0710  HISTORY     - 1938     MONUMENTED       CGS
BJ0710  HISTORY     - 1963     GOOD             CGS
BJ0710  HISTORY     - 1977     GOOD             NGS
BJ0710  HISTORY     - 1985     GOOD             LOCSUR
BJ0710  HISTORY     - 1986     GOOD             NGS
BJ0710  HISTORY     - 20010307 GOOD             JCLS
BJ0710  HISTORY     - 20040414 GOOD             JCLS
BJ0710  HISTORY     - 20040414 GOOD             JCLS
BJ0710  HISTORY     - 20040421 GOOD             NGS
BJ0710  HISTORY     - 20051011 GOOD             NGS
BJ0710  HISTORY     - 20051015 GOOD             NGS
BJ0710  HISTORY     - 20060109 GOOD             NGS
BJ0710  HISTORY     - 20060430 GOOD             NGS
BJ0710  HISTORY     - 20090410 GOOD             WOOLPT
BJ0710  HISTORY     - 20100726 GOOD             NGS
BJ0710
BJ0710                          STATION DESCRIPTION
BJ0710
BJ0710'DESCRIBED BY COAST AND GEODETIC SURVEY 1963
BJ0710'1.1 MI W FROM NORCO.
BJ0710'ABOUT 1.1 MILES WEST ALONG STATE HIGHWAY 48 FROM THE JUNCTION OF GOOD
BJ0710'HOPE STREET AT NORCO, SET ON THE TOP OF THE EAST CONCRETE ABUTMENT OF
BJ0710'THE SPILLWAY WEIR FOR THE BONNET CARRE SPILLWAY, BETWEEN TWO TRACKS,
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BJ0710'3.4 FEET NORTH OF THE NORTH RAIL OF THE SOUTH TRACK, 2 1/2 FEET
BJ0710'SOUTHWEST OF BENCH MARK PMB LOWER ABUTMENT DESCRIBED, AND ABOUT
BJ0710'1/2-FOOT BELOW THE LEVEL OF THE TRACK.
BJ0710
BJ0710 STATION RECOVERY (1977)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1977
BJ0710'1.15 MILES WEST ALONG RIVER ROAD FROM ITS JUNCTION WITH GOOD HOPE
BJ0710'STREET IN NORCO, AT THE EAST END OF THE BONNET CARRE SPILLWAY, INSIDE
BJ0710'THE GATE SET IN THE TOP OF THE EAST ABUTMENT BETWEEN THE TWO TRACKS.
BJ0710
BJ0710 STATION RECOVERY (1985)
BJ0710
BJ0710'RECOVERY NOTE BY LOCAL SURVEYOR (INDIVIDUAL OR FIRM) 1985
BJ0710'RECOVERED IN GOOD CONDITION.
BJ0710
BJ0710 STATION RECOVERY (1986)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986
BJ0710'RECOVERED IN GOOD CONDITION.
BJ0710
BJ0710 STATION RECOVERY (2001)
BJ0710
BJ0710'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2001
BJ0710'RECOVERED IN GOOD CONDITION.
BJ0710
BJ0710 STATION RECOVERY (2004)
BJ0710
BJ0710'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2004 (FJO)
BJ0710'RECOVERED IN GOOD CONDITION.
BJ0710
BJ0710 STATION RECOVERY (2004)
BJ0710
BJ0710'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2004
BJ0710'RECOVERED IN GOOD CONDITION.
BJ0710
BJ0710 STATION RECOVERY (2004)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
BJ0710'THE STATION IS LOCATED ABOUT 1.0 MILE WEST OF NORCO AT THE EAST END OF
BJ0710'THE BONNET CARRE SPILLWAY WEIR. OWNERSHIP--THE US ARMY CORPS OF
BJ0710'ENGINEERS. PHONE NUMBER IS (985) 264-7484.
BJ0710'
BJ0710'TO REACH THE STATION FROM THE INTERSECTION OF US HIGHWAY 61 AND STATE
BJ0710'HIGHWAY 48 IN NORCO GO SOUTH FOR 1.3 MI ON THE STATE HIGHWAY TO THE
BJ0710'INTERSECTION OF PARISH HIGHWAY 12, TURN RIGHT AND GO WESTERLY ON THE
BJ0710'PARISH HIGHWAY FOR 1.0 MI TO THE BONNET CARRE SPILLWAY WEIR ON THE
BJ0710'LEFT AND THE STATION ON THE LEFT SET IN TOP OF AN NEAR THE CENTER OF
BJ0710'THE EAST CONCRETE ABUTMENT OF THE WEIR.
BJ0710'
BJ0710'THE STATION IS LOCATED 32.6 M WEST OF THE CENTER OF THE HIGHWAY, 4.0 M
BJ0710'NORTH FROM THE SOUTH END OF THE ABUTMENT, 2.4 M SOUTHWEST OF A
BJ0710'DEPARTMENT OF INTERIOR HISTORICAL MARKER, 0.8 M SOUTH-SOUTHEAST OF
BJ0710'THE CENTER ONE OF THREE GATE POSTS, 0.2 M EAST FROM A LARGE METAL
BJ0710'GATE, AND 0.1 M BELOW THE LEVEL OF THE CONCRETE DRIVE LEADING TO THE
BJ0710'WEIR. NOTE--A KEY TO THE LARGE METAL GATE NEXT TO STATION CAN BE
BJ0710'AQUIRED FROM THE USCE OFFICE LOCATED ACROSS THE STREET FROM THE
BJ0710'STATION, THE GATE SHOULD BE COMPLETLY OPENED DURING DATA COLLECTION TO
BJ0710'MINIMIZE GPS SIGNAL MULTIPATH.
BJ0710
BJ0710 STATION RECOVERY (2005)

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BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)
BJ0710'RECOVERED AS DESCRIBED.
BJ0710
BJ0710                          STATION RECOVERY (2005)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)
BJ0710'RECOVERED AS DESCRIBED.
BJ0710
BJ0710                          STATION RECOVERY (2006)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (DR)
BJ0710'RECOVERED AS DESCRIBED.
BJ0710
BJ0710                          STATION RECOVERY (2006)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
BJ0710'RECOVERED AS DESCRIBED. STAMPING HAS BEEN ADDED TO INDICATE USACE
BJ0710'PONCHARTRAIN LEVEE MARKER SYSTEM, PLMS 53, AND STATIONING.
BJ0710
BJ0710                          STATION RECOVERY (2009)
BJ0710
BJ0710'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
BJ0710'RECOVERED AS DESCRIBED
BJ0710
BJ0710                          STATION RECOVERY (2010)
BJ0710
BJ0710'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2010 (RWA)
BJ0710'RECOVERED AS DESCRIBED.  CONTACT THE SPILLWAY MANAGER AT
BJ0710'985-764-7484/CELL 504-234-4560 TO OBTAIN PERMISSION TO ACCESS THE
BJ0710'STATION.

*** retrieval complete.
Elapsed Time = 00:00:03
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The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY  9, 2012
 AT0332 ***********************************************************************
 AT0332  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 AT0332  DESIGNATION -  L 278
 AT0332  PID         -  AT0332
 AT0332  STATE/COUNTY-  LA/ST BERNARD
 AT0332  USGS QUAD   -  CHALMETTE (1994)
 AT0332
 AT0332                        *CURRENT SURVEY CONTROL
 AT0332  ______________________________________________________________________
 AT0332* NAD 83(2007)-  29 52 34.17140(N)    089 53 45.38533(W)     ADJUSTED
 AT0332* NAVD 88     -         2.07   (meters)       6.8    (feet)  GPS OBS(2006.81)
 AT0332  **This station is located in a suspected subsidence area (see below).
 AT0332  ______________________________________________________________________
 AT0332  EPOCH DATE  -        2002.00
 AT0332  X           -      10,052.727 (meters)                     COMP
 AT0332  Y           -  -5,535,078.091 (meters)                     COMP
 AT0332  Z           -   3,158,465.739 (meters)                     COMP
 AT0332  LAPLACE CORR-           0.32  (seconds)                    DEFLEC09
 AT0332  ELLIP HEIGHT-         -23.706 (meters)          (10/11/11) ADJUSTED
 AT0332  GEOID HEIGHT-         -25.74  (meters)                     GEOID09
 AT0332
 AT0332  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AT0332  Type    PID    Designation                       North   East  Ellip
 AT0332  ----------------------------------------------------------------------
 AT0332  NETWORK AT0332 L 278                              0.98   0.78   2.06
 AT0332  ----------------------------------------------------------------------
 AT0332  ELLP ORDER  -  FOURTH    CLASS I
 AT0332
 AT0332.The horizontal coordinates were established by GPS observations
 AT0332.and adjusted by the National Geodetic Survey in February 2007.
 AT0332
 AT0332.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AT0332.See National Readjustment for more information.
 AT0332
 AT0332.The horizontal coordinates are valid at the epoch date displayed above
 AT0332.which is a decimal equivalence of Year/Month/Day.
 AT0332
 AT0332 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
 AT0332 ** and geoid heights are valid at the date of observation. These heights
 AT0332 ** must always be validated when used as control.
 AT0332
 AT0332 ** The orthometric height was determined by GPS observations using
 AT0332 ** precise GPS observation and processing techniques and a new
 AT0332 ** realization of GEOID03. It supersedes any height that may have been
 AT0332 ** previously determined for this station.
 AT0332
 AT0332 ** The geoid height was determined by a new realization of GEOID03 for the
 AT0332 ** epoch indicated which incorporates improved geoid heights for the
 AT0332 ** Southern Louisiana Subsidence area.
 AT0332 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
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AT0332
AT0332.Photographs are available for this station.
AT0332
AT0332.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AT0332
AT0332.The Laplace correction was computed from DEFLEC09 derived deflections.
AT0332
AT0332.The ellipsoidal height was determined by GPS observations
AT0332.and is referenced to NAD 83.
AT0332
AT0332.The geoid height was determined by GEOID09.
AT0332
AT0332;                    North         East     Units Scale Factor Converg.
AT0332;SPC LA S     -   153,410.297 1,138,846.951   MT  0.99992810   +0 43 07.4
AT0332;SPC LA S     -   503,313.62  3,736,367.04   sFT  0.99992810   +0 43 07.4
AT0332;UTM  16      - 3,308,585.959   220,286.684   MT  1.00056544   -1 26 36.5
AT0332
AT0332!             -  Elev Factor  x  Scale Factor =   Combined Factor
AT0332!SPC LA S     -   1.00000372  x   0.99992810  =   0.99993182
AT0332!UTM  16      -   1.00000372  x   1.00056544  =   1.00056917
AT0332
AT0332                          SUPERSEDED SURVEY CONTROL
AT0332
AT0332  ELLIP H (02/10/07)  -23.676  (m)                        GP(       )
AT0332  NAD 83(1992)-  29 52 34.17152(N)    089 53 45.38515(W) AD(2004.65) B
AT0332  ELLIP H (06/22/05)  -23.690  (m)                        GP(2004.65) 4 1
AT0332  NAVD 88 (06/22/05)    2.11   (m)            6.9    (f) LEVELING    3
AT0332  NAVD 88 (02/14/94)    2.253  (m)            7.39   (f) READJUSTED  3
AT0332  NAVD 88 (06/15/91)    2.310  (m)            7.58   (f) UNKNOWN     1 1
AT0332  NGVD 29 (??/??/??)    2.359  (m)            7.74   (f) ADJUSTED    1 1
AT0332
AT0332.Superseded values are not recommended for survey control.
AT0332.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AT0332.See file dsdata.txt to determine how the superseded data were derived.
AT0332
AT0332_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU2028608585(NAD 83)
AT0332
AT0332_MARKER: DB = BENCH MARK DISK
AT0332_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
AT0332_SP_SET: SET IN TOP OF CONCRETE MONUMENT
AT0332_STAMPING: L 278 1970
AT0332_MARK LOGO: CGS
AT0332_PROJECTION: FLUSH
AT0332_MAGNETIC: N = NO MAGNETIC MATERIAL
AT0332_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AT0332+STABILITY: SURFACE MOTION
AT0332_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AT0332+SATELLITE: SATELLITE OBSERVATIONS - August 03, 2010
AT0332
AT0332  HISTORY     - Date     Condition        Report By
AT0332  HISTORY     - 1970     MONUMENTED       NGS
AT0332  HISTORY     - 1971     GOOD             NGS
AT0332  HISTORY     - 1984     GOOD             NGS
AT0332  HISTORY     - 20040413 GOOD             NGS
AT0332  HISTORY     - 20051006 GOOD             NGS
AT0332  HISTORY     - 20060502 GOOD             NGS
AT0332  HISTORY     - 20090303 GOOD             WOOLPT
AT0332  HISTORY     - 20090310 GOOD             JCLS
AT0332  HISTORY     - 20100803 GOOD             NGS
AT0332
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AT0332                          STATION DESCRIPTION
AT0332
AT0332'DESCRIBED BY NATIONAL GEODETIC SURVEY 1971
AT0332'0.75 MI NW FROM POYDRAS.
AT0332'ABOUT 0.75 MILE NORTHWEST ALONG ST. BERNARD HIGHWAY (STATE HIGHWAYS 39
AT0332'AND 46) FROM THE JUNCTION OF STATE HIGHWAYS 39 AND 46 AT POYDRAS, 112
AT0332'FEET WEST OF THE CENTER LINE OF THE HIGHWAY, 33 FEET SOUTHEAST OF THE
AT0332'CENTER OF A CROSSING OF A PAVED STREET AND THE SOUTHERN RAILWAY, 26
AT0332'FEET SOUTH OF THE CENTER LINE OF THE STREET, 20.7 FEET EAST OF THE
AT0332'EAST RAIL, 6.2 FEET SOUTH OF THE NORTHWEST CORNER OF A FENCE, 1 1/2
AT0332'FEET WEST OF THE FENCE, 1.0 FOOT SOUTHEAST OF A METAL WITNESS POST,
AT0332'ABOUT 1 FOOT BELOW THE LEVEL OF THE TRACK, AND SET IN THE TOP OF A
AT0332'CONCRETE POST WHICH PROJECTS 3 INCHES.  SECTION 13, T 13S, R 13E.
AT0332'NOTE-- THIS MARK IS ALSO 1.6 MILES SOUTHEAST ALONG ST. BERNARD HIGHWAY
AT0332'(STATE HIGHWAYS 39 AND 46) FROM THE POST OFFICE AT VIOLET.
AT0332
AT0332                          STATION RECOVERY (1984)
AT0332
AT0332'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1984
AT0332'RECOVERED IN GOOD CONDITION.  NOTE, ADD 0.3 METER (1.0 FT) WEST OF THE
AT0332'WITNESS POST.
AT0332
AT0332                          STATION RECOVERY (2004)
AT0332
AT0332'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
AT0332'0.75 MI NW OF POYDRAS ALONG ST BERNARD HWY (STATE HWYS 39 AND 46))
AT0332'FROM THE JUNCTION OF  STATE HWYS 39 AND 46 TO THE JUNCTION OF GOODWILL
AT0332'DR. AND THE LADOT AND DEVELOPMENT  MAINTENCE UNIT  IN THE SW CORNER OF
AT0332'THE JUNCTION.  THE MARK IS ALONG THE FENCELINE  NEAR  THE NW CORNER OF
AT0332'THE FENCE AROUND THE MAINTENANCE UNIT.  IT IS 33 FEET SEOF THE
AT0332'RAILROAD CROSSING, 20 FEET E OF THE E RAIL AND 6 FT S OF THE FENCE
AT0332'CORNER.
AT0332
AT0332                          STATION RECOVERY (2005)
AT0332
AT0332'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)
AT0332'RECOVERED AS DESCRIBED
AT0332
AT0332                          STATION RECOVERY (2006)
AT0332
AT0332'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AT0332'RECOVERED AS DESCRIBED.
AT0332
AT0332                          STATION RECOVERY (2009)
AT0332
AT0332'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
AT0332'RECOVERED AS DESCRIBED
AT0332
AT0332                          STATION RECOVERY (2009)
AT0332
AT0332'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2009
AT0332'RECOVERED IN GOOD CONDITION.
AT0332
AT0332                          STATION RECOVERY (2010)
AT0332
AT0332'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2010 (RWA)
AT0332'RECOVERED AS DESCRIBED.

*** retrieval complete.
Elapsed Time = 00:00:02
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The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY  9, 2012
 AU0520 ***********************************************************************
 AU0520  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 AU0520  DESIGNATION -  S 188
 AU0520  PID         -  AU0520
 AU0520  STATE/COUNTY-  LA/JEFFERSON
 AU0520  USGS QUAD   -  NEW ORLEANS WEST (1992)
 AU0520
 AU0520                        *CURRENT SURVEY CONTROL
 AU0520  ______________________________________________________________________
 AU0520* NAD 83(2007)-  29 58 00.31254(N)    090 13 45.30476(W)     ADJUSTED
 AU0520* NAVD 88     -         2.31   (meters)       7.6    (feet)  GPS OBS(2006.81)
 AU0520  **This station is located in a suspected subsidence area (see below).
 AU0520  ______________________________________________________________________
 AU0520  EPOCH DATE  -        2002.00
 AU0520  X           -     -22,126.835 (meters)                      COMP
 AU0520  Y           -  -5,530,033.592 (meters)                      COMP
 AU0520  Z           -   3,167,169.644 (meters)                      COMP
 AU0520  LAPLACE CORR-          -0.02  (seconds)                     DEFLEC09
 AU0520  ELLIP HEIGHT-         -23.754 (meters)          (10/11/11) ADJUSTED
 AU0520  GEOID HEIGHT-         -26.06  (meters)                      GEOID09
 AU0520
 AU0520  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AU0520  Type    PID    Designation                       North   East  Ellip
 AU0520  ----------------------------------------------------------------------
 AU0520  NETWORK AU0520 S 188                               0.82   0.73   2.00
 AU0520  ----------------------------------------------------------------------
 AU0520  OBS GRAVITY -     979,313.4   (mgal)                      GRAV_OBS
 AU0520
 AU0520  ELLP ORDER  -  FOURTH    CLASS I
 AU0520
 AU0520.The horizontal coordinates were established by GPS observations
 AU0520.and adjusted by the National Geodetic Survey in February 2007.
 AU0520
 AU0520.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AU0520.See National Readjustment for more information.
 AU0520
 AU0520.The horizontal coordinates are valid at the epoch date displayed above
 AU0520.which is a decimal equivalence of Year/Month/Day.
 AU0520
 AU0520 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
 AU0520 ** and geoid heights are valid at the date of observation. These heights
 AU0520 ** must always be validated when used as control.
 AU0520
 AU0520 ** The orthometric height was determined by GPS observations using
 AU0520 ** precise GPS observation and processing techniques and a new
 AU0520 ** realization of GEOID03. It supersedes any height that may have been
 AU0520 ** previously determined for this station.
 AU0520
 AU0520 ** The geoid height was determined by a new realization of GEOID03 for the
 AU0520 ** epoch indicated which incorporates improved geoid heights for the
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AU0520 ** Southern Louisiana Subsidence area.
AU0520 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
AU0520
AU0520.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AU0520
AU0520.The Laplace correction was computed from DEFLEC09 derived deflections.
AU0520
AU0520.The ellipsoidal height was determined by GPS observations
AU0520.and is referenced to NAD 83.
AU0520
AU0520.The geoid height was determined by GEOID09.
AU0520
AU0520.The observed gravity was obtained from relative gravimeter ties
AU0520.to the IGSN71 gravity network.
AU0520
AU0520;                    North         East     Units Scale Factor Converg.
AU0520;SPC LA S     -   163,094.579 1,106,554.715   MT  0.99992592   +0 33 07.4
AU0520;SPC LA S     -   535,086.13  3,630,421.59   sFT  0.99992592   +0 33 07.4
AU0520;UTM  15      - 3,318,332.184   767,373.919   MT  1.00048211   +1 23 05.3
AU0520
AU0520!             -  Elev Factor  x  Scale Factor =   Combined Factor
AU0520!SPC LA S     -   1.00000373  x   0.99992592  =   0.99992965
AU0520!UTM  15      -   1.00000373  x   1.00048211  =   1.00048584
AU0520
AU0520                          SUPERSEDED SURVEY CONTROL
AU0520
AU0520  ELLIP H (02/10/07)  -23.744  (m)                       GP(       )
AU0520  NAD 83(1992)-  29 58 00.31253(N)    090 13 45.30473(W) AD(2004.65) B
AU0520  NAVD 88 (06/22/05)    2.35   (m)           7.7    (f) GPS OBS
AU0520  NAVD 88 (12/05/96)    2.470  (m)           8.10   (f) ADJUSTED    1 2
AU0520  NAVD 88 (02/14/94)    2.440  (m)           8.01   (f) UNKNOWN     1 2
AU0520  NAVD 88 (06/15/91)    2.498  (m)           8.20   (f) UNKNOWN     1 2
AU0520  NGVD 29 (??/??/??)    2.550  (m)           8.37   (f) ADJUSTED    1 2
AU0520
AU0520.Superseded values are not recommended for survey control.
AU0520.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AU0520.See file dsdata.txt to determine how the superseded data were derived.
AU0520
AU0520_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP6737318332(NAD 83)
AU0520
AU0520_MARKER: DB = BENCH MARK DISK
AU0520_SETTING: 46 = COPPER-CLAD STEEL ROD W/O SLEEVE (10 FT.+)
AU0520_SP_SET: COPPER-CLAD STEEL ROD
AU0520_STAMPING: S 188 1963
AU0520_MARK LOGO: CGS
AU0520_PROJECTION: FLUSH
AU0520_MAGNETIC: I = MARKER IS A STEEL ROD
AU0520_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AU0520_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AU0520+SATELLITE: SATELLITE OBSERVATIONS - July 28, 2010
AU0520_ROD/PIPE-DEPTH: 36.6 meters
AU0520
AU0520  HISTORY     - Date     Condition        Report By
AU0520  HISTORY     - 1963     MONUMENTED       CGS
AU0520  HISTORY     - 1969     GOOD             CGS
AU0520  HISTORY     - 1984     GOOD             NGS
AU0520  HISTORY     - 1984     GOOD             LA-051
AU0520  HISTORY     - 1985     GOOD             NGS
AU0520  HISTORY     - 19920619 GOOD             NGS
AU0520  HISTORY     - 19941201 GOOD             NGS
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AU0520  HISTORY     - 20040409 GOOD             NGS
AU0520  HISTORY     - 20051008 GOOD             NGS
AU0520  HISTORY     - 20060430 GOOD             NGS
AU0520  HISTORY     - 20090303 GOOD             WOOLPT
AU0520  HISTORY     - 20100728 GOOD             NGS
AU0520
AU0520                          STATION DESCRIPTION
AU0520
AU0520'DESCRIBED BY COAST AND GEODETIC SURVEY 1969
AU0520'1.15 MI E FROM KENNER.
AU0520'1.15 MILES EAST ALONG STATE HIGHWAY 48 (JEFFERSON HWY.) FROM THE
AU0520'JUNCTION OF WILLIAMS BLVD. AT KENNER, AT THE INTERSECTION OF ARNOLD
AU0520'AVE., IN THE MEDIAN BETWEEN THE TWO LANES OF THE HIGHWAY, 38 1/2 FEET
AU0520'WEST OF THE CENTER LINE OF ARNOLD AVENUE, 17 FEET SOUTHWEST OF THE
AU0520'CENTER OF THE ROUNDED CURB AT THE EAST END OF THE MEDIAN, 7 FEET NORTH
AU0520'OF THE NORTH CURB LINE OF THE EAST BOUND TRAFFIC LANE OF HIGHWAY, 1.7
AU0520'FEET ABOVE THE SURFACE OF THE HIGHWAY AND IS A DISK ON TOP OF A COPPER
AU0520'COATED STEEL ROD FLUSH WITH THE GROUND AND PROTECTED BY A 4-INCH METAL
AU0520'PIPE THAT PROJECTS 1-INCH ABOVE THE LEVEL OF THE GROUND. THE ROD WAS
AU0520'DRIVEN TO A DEPTH OF 120 FEET.
AU0520
AU0520                          STATION RECOVERY (1984)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1984
AU0520'RECOVERED IN GOOD CONDITION.
AU0520
AU0520                          STATION RECOVERY (1984)
AU0520
AU0520'RECOVERY NOTE BY JEFFERSON PARISH LOUISIANA 1984
AU0520'RECOVERED IN GOOD CONDITION.
AU0520
AU0520                          STATION RECOVERY (1985)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1985
AU0520'RECOVERED IN GOOD CONDITION.
AU0520
AU0520                          STATION RECOVERY (1992)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1992
AU0520'IN KENNER, AT THE INTERSECTION OF JEFFERSON HIGHWAY (STATE HIGHWAY 48)
AU0520'AND ARNOLD AVENUE, 12.9 M (42.3 FT) SOUTHEAST OF A 6-INCH TREE, 11.7 M
AU0520'(38.4 FT) NORTHWEST OF THE CENTER OF THE AVENUE, 8.3 M (27.2 FT)
AU0520'SOUTHWEST OF THE CENTERLINE OF THE WESTBOUND LANES OF THE HIGHWAY, 5.8
AU0520'M (19.0 FT) NORTHEAST OF THE CENTERLINE OF THE EASTBOUND LANES OF THE
AU0520'HIGHWAY, 5.2 M (17.1 FT) NORTHWEST OF THE SOUTHEAST END OF A MEDIAN,
AU0520'AND 0.3 M (1.0 FT) ABOVE THE LEVEL OF THE HIGHWAY. NOTE--THE DISK IS
AU0520'ENCASED IN A 4-INCH METAL PIPE AND IS RECESSED 0.03 M (0.10 FT) BELOW
AU0520'THE GROUND SURFACE.
AU0520
AU0520                          STATION RECOVERY (1994)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)
AU0520'IN KENNER, AT THE INTERSECTION OF STATE HIGHWAY 48 (JEFFERSON HIGHWAY)
AU0520'AND ARNOLD AVENUE, 12.0 M (39.4 FT) NORTHWEST OF THE AVENUE CENTER,
AU0520'8.3 M (27.2 FT) SOUTHWEST OF THE CENTER OF THE WESTBOUND LANES OF THE
AU0520'HIGHWAY, 6.1 M (20.0 FT) NORTHEAST OF THE CENTER OF THE EASTBOUND
AU0520'LANES OF THE HIGHWAY, AND 0.2 M (0.7 FT) ABOVE THE LEVEL OF THE
AU0520'HIGHWAY.  NOTE--THE DISK IS ENCASED IN A 4-INCH METAL PIPE AND IS
AU0520'RECESSED 0.1 M (0.3 FT) BELOW THE GROUND SURFACE.
AU0520
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AU0520                          STATION RECOVERY (2004)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
AU0520'THE STATION IS LOCATED ON THE EAST SIDE OF KENNER IN THE MEDIAN OF
AU0520'JEFFERSON HIGHWAY (STATE  HIGHWAY 48) JUST WEST OF THE INTERSECTION
AU0520'WITH ARNOLD AVENUE.  OWNERSHIP--LADTD, LSU, CENTER  FOR
AU0520'GEOINFORMATICS, LSRC, DR ROY DOKKA, DIRECTOR.
AU0520'
AU0520'TO REACH THE STATION FROM THE INTERSECTION OF JEFFERSON HIGHWAY (LA
AU0520'48) AND WILLIAMS BOULEVARD  IN KENNER, GO EASTERLY FOR 1.15 MI ON
AU0520'JEFFERSON HIGHWAY TO THE INTERSECTION WITH ARNOLD AVENUE  AND THE
AU0520'STATION ON THE LEFT IN A GRASSY MEDIAN JUST BEFORE REACHING THE
AU0520'INTERSECTION.
AU0520'
AU0520'THE STATION IS A BENCH MARK DISK CRIMPED ONTO A COPPER CLAD ROD DRIVEN
AU0520'TO A DEPTH OF 120 FEET.   LOCATED 12.9 M SOUTHEAST OF A 12 INCH LIVE
AU0520'OAK IN THE MEDIAN, 12.0 M NORTHWEST OF THE AVENUE  CENTER OF THE
AU0520'INTERSECTION, 8.3 M SOUTHWEST OF THE CENTER OF THE WEST BOUND LANES OF
AU0520'JEFFERSON HIGHWAY, 6.1 M NORTHEAST OF THE THE CENTERLINE OF THE EAST
AU0520'BOUND LANES OF JEFFERSON  HIGHWAY, 5.2 M NORTHWEST OF THE SOUTHEAST
AU0520'END OF THE MEDIAN, ABOUT 1 FT ABOVE THE LEVEL OF THE  HIGHWAY, AND
AU0520'PROJECTING SLIGHTLY ABOVE THE LEVEL OF THE GROUND.  NOTE--THE DISK
AU0520'SHOWS SIGNS OF  DAMAGE BUT IT APPEARS THAT THE CENTER OF THE DISKHAS
AU0520'NOT BEEN SIGNIFICANTLY AFFECTED.
AU0520
AU0520                          STATION RECOVERY (2005)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)
AU0520'RECOVERED AS DESCRIBED WITH THE FOLLOWING ADDITION.  0.65 M SE FROM A
AU0520'METAL POST WITH WITNESS SIGN ATTACHED.
AU0520
AU0520                          STATION RECOVERY (2006)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AU0520'RECOVERED AS DESCRIBED.
AU0520
AU0520                          STATION RECOVERY (2009)
AU0520
AU0520'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
AU0520'RECOVERED AS DESCRIBED
AU0520
AU0520                          STATION RECOVERY (2010)
AU0520
AU0520'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2010 (RWA)
AU0520'RECOVERED AS DESCRIBED.

*** retrieval complete.
Elapsed Time = 00:00:01
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The NGS Data Sheet

See file dsdata.txt for more information about the datasheet.

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DATABASE = NGSIDB , PROGRAM = datasheet95, VERSION = 7.87.5
1        National Geodetic Survey,   Retrieval Date = FEBRUARY  9, 2012
 AT0760 ***********************************************************************
 AT0760  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 AT0760  DESIGNATION -  V 375
 AT0760  PID         -  AT0760
 AT0760  STATE/COUNTY-  LA/ORLEANS
 AT0760  USGS QUAD   -  CHALMETTE (1994)
 AT0760
 AT0760                        *CURRENT SURVEY CONTROL
 AT0760  ______________________________________________________________________
 AT0760* NAD 83(2007)-  29 55 01.55072(N)    089 58 18.04269(W)     ADJUSTED
 AT0760* NAVD 88     -         0.68   (meters)       2.2    (feet)  GPS OBS(2006.81)
 AT0760  **This station is located in a suspected subsidence area (see below).
 AT0760  ______________________________________________________________________
 AT0760  EPOCH DATE  -        2002.00
 AT0760  X           -       2,734.891 (meters)                     COMP
 AT0760  Y           -  -5,532,823.279 (meters)                     COMP
 AT0760  Z           -   3,162,399.145 (meters)                     COMP
 AT0760  LAPLACE CORR-           0.40  (seconds)                    DEFLEC09
 AT0760  ELLIP HEIGHT-         -25.235 (meters)          (10/11/11) ADJUSTED
 AT0760  GEOID HEIGHT-         -25.90  (meters)                     GEOID09
 AT0760
 AT0760  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AT0760  Type    PID    Designation                      North   East  Ellip
 AT0760  ----------------------------------------------------------------------
 AT0760  NETWORK AT0760 V 375                              0.76   0.67   1.47
 AT0760  ----------------------------------------------------------------------
 AT0760  ELLP ORDER  -  FOURTH    CLASS I
 AT0760
 AT0760.The horizontal coordinates were established by GPS observations
 AT0760.and adjusted by the National Geodetic Survey in February 2007.
 AT0760
 AT0760.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AT0760.See National Readjustment for more information.
 AT0760
 AT0760.The horizontal coordinates are valid at the epoch date displayed above
 AT0760.which is a decimal equivalence of Year/Month/Day.
 AT0760
 AT0760 ** Due to the variability of land subsidence, the orthometric, ellipsoid,
 AT0760 ** and geoid heights are valid at the date of observation. These heights
 AT0760 ** must always be validated when used as control.
 AT0760
 AT0760 ** The orthometric height was determined by GPS observations using
 AT0760 ** precise GPS observation and processing techniques and a new
 AT0760 ** realization of GEOID03. It supersedes any height that may have been
 AT0760 ** previously determined for this station.
 AT0760
 AT0760 ** The geoid height was determined by a new realization of GEOID03 for the
 AT0760 ** epoch indicated which incorporates improved geoid heights for the
 AT0760 ** Southern Louisiana Subsidence area.
 AT0760 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
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AT0760
AT0760.Photographs are available for this station.
AT0760
AT0760.The X, Y, and Z were computed from the position and the ellipsoidal ht.
AT0760
AT0760.The Laplace correction was computed from DEFLEC09 derived deflections.
AT0760
AT0760.The ellipsoidal height was determined by GPS observations
AT0760.and is referenced to NAD 83.
AT0760
AT0760.The geoid height was determined by GEOID09.
AT0760
AT0760;                    North         East     Units Scale Factor Converg.
AT0760;SPC LA S     -   157,858.377 1,131,477.353   MT  0.99992681   +0 40 51.0
AT0760;SPC LA S     -   517,907.03  3,712,188.62   sFT  0.99992681   +0 40 51.0
AT0760;UTM  16      - 3,313,312.158   213,085.452   MT  1.00061579   -1 28 59.3
AT0760;UTM  15      - 3,313,455.172   792,385.958   MT  1.00065491   +1 30 41.2
AT0760
AT0760!             -  Elev Factor  x  Scale Factor =   Combined Factor
AT0760!SPC LA S     -   1.00000396  x   0.99992681  =   0.99993077
AT0760!UTM  16      -   1.00000396  x   1.00061579  =   1.00061976
AT0760!UTM  15      -   1.00000396  x   1.00065491  =   1.00065888
AT0760
AT0760                          SUPERSEDED SURVEY CONTROL
AT0760
AT0760  ELLIP H (02/10/07)  -25.218  (m)                        GP(       )
AT0760  NAD 83(1992)-  29 55 01.55070(N)    089 58 18.04218(W) AD(2004.65) B
AT0760  ELLIP H (06/22/05)  -25.241  (m)                        GP(2004.65) 4 1
AT0760  NAD 83(1992)-  29 55 01.55098(N)    089 58 18.04288(W) AD(       ) B
AT0760  ELLIP H (05/09/05)  -25.201  (m)                        GP(       ) 4 2
AT0760  ELLIP H (01/21/03)  -25.195  (m)                        GP(       ) 4 2
AT0760  NAD 83(1992)-  29 55 01.55047(N)    089 58 18.04138(W) AD(       ) 1
AT0760  ELLIP H (01/21/93)  -25.181  (m)                        GP(       ) 4 2
AT0760  NAD 83(1986)-  29 55 01.56676(N)    089 58 18.04032(W) AD(       ) 1
AT0760  NAVD 88 (06/22/05)    0.71   (m)            2.3    (f) GPS OBS
AT0760  NAVD 88 (05/09/05)    0.87   (m)            2.9    (f) GPS OBS
AT0760  NAVD 88 (12/05/96)    0.890  (m)            2.92   (f) ADJUSTED    1 2
AT0760  NAVD 88 (02/14/94)    0.873  (m)            2.86   (f) UNKNOWN     1 2
AT0760  NGVD 29 (05/21/91)    0.933  (m)            3.06   (f) ADJUSTED    1 2
AT0760
AT0760.Superseded values are not recommended for survey control.
AT0760.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AT0760.See file dsdata.txt to determine how the superseded data were derived.
AT0760
AT0760_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU1308513312(NAD 83)
AT0760
AT0760_MARKER: F = FLANGE-ENCASED ROD
AT0760_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
AT0760_SP_SET: STAINLESS STEEL ROD IN SLEEVE
AT0760_STAMPING: V 375 1985
AT0760_MARK LOGO: NGS
AT0760_PROJECTION: FLUSH
AT0760_MAGNETIC: I = MARKER IS A STEEL ROD
AT0760_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
AT0760_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AT0760+SATELLITE: SATELLITE OBSERVATIONS - September 19, 2010
AT0760_ROD/PIPE-DEPTH: 25.6 meters
AT0760_SLEEVE-DEPTH  : 18.2 meters
AT0760
AT0760  HISTORY     - Date     Condition        Report By
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AT0760  HISTORY     - 1985     MONUMENTED       NGS
AT0760  HISTORY     - 19880920 GOOD             LADTD
AT0760  HISTORY     - 19890124 GOOD
AT0760  HISTORY     - 19901025 GOOD             NGS
AT0760  HISTORY     - 19941202 GOOD             NGS
AT0760  HISTORY     - 19960205 GOOD             NGS
AT0760  HISTORY     - 20021119 GOOD             3001
AT0760  HISTORY     - 20040414 GOOD             JCLS
AT0760  HISTORY     - 20040414 GOOD             JCLS
AT0760  HISTORY     - 20040418 GOOD             NGS
AT0760  HISTORY     - 20050910 GOOD             JCLS
AT0760  HISTORY     - 20051008 GOOD             NGS
AT0760  HISTORY     - 20060108 GOOD             3001
AT0760  HISTORY     - 20060401 GOOD             NGS
AT0760  HISTORY     - 20060430 GOOD             NGS
AT0760  HISTORY     - 20090328 GOOD             WOOLPT
AT0760  HISTORY     - 20090909 GOOD             GCT
AT0760  HISTORY     - 20100919 GOOD             USACE
AT0760
AT0760                          STATION DESCRIPTION
AT0760
AT0760'DESCRIBED BY NATIONAL GEODETIC SURVEY 1985
AT0760'IN NEW ORLEANS.
AT0760'THE MARK IS ABOVE LEVEL WITH ROAD.
AT0760'IN NEW ORLEANS, ON THE WEST BANK, AT THE SOUTHEAST SIDE OF THE
AT0760'ENTRANCE GATE OF THE ALGIERS LOCKS, LOCATED AT THE SOUTH END OF BLYTHE
AT0760'STREET, 6.85 METERS (22.5 FT) SOUTHEAST OF THE CENTER OF THE ENTRANCE
AT0760'ROAD LEADING TO THE LOCKS, 5.85 METERS (19.2 FT) SOUTH OF THE
AT0760'SOUTHEAST ENTRANCE GATE POST, 3.53 METERS (11.6 FT) WEST OF A CONCRETE
AT0760'LAMP POST.  NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A 5-INCH LOGO
AT0760'CAP.
AT0760'THE MARK IS 3.23 METERS  W FROM  A WITNESS POST
AT0760
AT0760                          STATION RECOVERY (1988)
AT0760
AT0760'RECOVERY NOTE BY LA TRANSP AND DEV 1988
AT0760'IN NEW ORLEANS, ON THE WEST BANK , AT THE SOUTHEAST SIDE OF THE
AT0760'ENTRANCE GATE OF THE ALGIERS LOCKS, LOCATED AT THE SOUTH END OF BLYTHE
AT0760'STREET, 6.85 M (22.5 FT) SOUTHEAST OF THE CENTER OF THE ENTRANCE ROAD
AT0760'LEADING TO THE LOCKS, 5.85 M (19.2 FT) SOUTH OF THE SOUTHEAST ENTRANCE
AT0760'GATE POST, 3.53 M (11.6 FT) WEST OF A CONCRETE LAMP POST ABOUT LEVEL
AT0760'WITH THE ROAD AND 3.23 M (10.6 FT) WEST FROM A WITNESS POST.
AT0760'NOTE--ACCESS TO DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.
AT0760
AT0760                          STATION RECOVERY (1989)
AT0760
AT0760'RECOVERED 1989
AT0760'RECOVERED IN GOOD CONDITION.
AT0760
AT0760                          STATION RECOVERY (1990)
AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
AT0760'0.5 KM (0.3 MI) SOUTHWESTERLY ALONG BLYTHE STREET FROM ITS JUNCTION
AT0760'WITH PATTERSON ROAD IN ALGIERS, ON THE U.S. ARMY CORPS OF ENGINEERS
AT0760'ALGIERS LOCK PROPERTY, 6.6 M (21.7 FT) NORTHEAST OF AND LEVEL WITH
AT0760'THE CENTER OF THE ALGIERS LOCK ENTRANCE ROAD AND GATE, AND 3.6 M
AT0760'(11.8 FT) SOUTHEAST OF A UTILITY LIGHT POST.  NOTE--ACCESS TO DATUM
AT0760'POINT IS HAD THROUGH A 5-INCH LOGO CAP.
AT0760
AT0760                          STATION RECOVERY (1994)
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AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)
AT0760'IN ALGIERS, AT 3500 BLYTHE STREET, 109.5 M (359.3 FT) NORTHWEST OF THE
AT0760'NORTHWEST CORNER OF THE U.S. ARMY CORP OF ENGINEERS GENERATOR BUILDING
AT0760'AT 3500 BLYTHE STREET, 6.9 M (22.6 FT) EAST OF AND LEVEL WITH THE
AT0760'STREET CENTER, 5.6 M (18.4 FT) SOUTHEAST OF THE EAST POST OF A GATE,
AT0760'3.3 M (10.8 FT) SOUTH OF A UTILITY POLE, AND 3.1 M (10.2 FT) SOUTH OF
AT0760'A WITNESS POST.  NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH
AT0760'LOGO CAP.  THE MARK IS ON THE PROPERTY OF THE U.S. ARMY CORP OF
AT0760'ENGINEERS ALGIERS LOCK, 3500 BLYTHE STREET, ALGIERS, LA 70131.
AT0760
AT0760                          STATION RECOVERY (1996)
AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1996 (ALG)
AT0760'RECOVERED AS DESCRIBED.
AT0760
AT0760                          STATION RECOVERY (2002)
AT0760
AT0760'RECOVERY NOTE BY 3001, INC 2002 (KC)
AT0760'THE STATION IS LOCATED IN NEW ORLEANS, ON WEST BANK, 4.5 MILES NORTH
AT0760'OF BELLE CHASE  FERRY, 5.5 MILES SOUTHEAST OF GREATER NEW ORLEANS
AT0760'BRIDGE, OVER MISSISSIPPI RIVER, 0.5  MILES SOUTH OF CHALMETTE FERRY.
AT0760'
AT0760'OWNERSHIP- CORPS OF ENGINEERS
AT0760'
AT0760'TO REACH THE STATION FROM THE INTERSECTION OF GENERAL DE GAULLE AVENUE
AT0760'AND SULLEN  ROAD, NEAR THE BRIDGE OVER INTERCOASTAL WATERWAY, GO NORTH
AT0760'ON SULLEN ROAD TO  PATTERSON DRIVE (LEVEE ROAD), TURN RIGHT ON
AT0760'PATTERSON DRIVE AND PROCEED EAST ON  PATTERSON FOR 0.9 MILES TO BLYTHE
AT0760'ROAD , TURN RIGHT ON BLYTHE AND GO TO GATE ENTRANCE  TO LOCKS, PASSING
AT0760'THROUGH GATE AND MARK ON LEFT NEAR GATE.
AT0760'
AT0760'THE STATION IS 22.6 FEET EAST OF CENTERLINE OF ENTRANCE ROAD TO LOCKS,
AT0760'18.3 FEET  SOUTHEAST OF THE EAST GATE POST FOR GATE, 107 FEET SOUTH OF
AT0760'A LIGHT POLE, 10 FEET SOUTH  OF A WITNESS SIGN.  STATION IS A
AT0760'STAINLESS ROD DRIVEN 25.6 METERS AND STAMPED V 375.
AT0760
AT0760                          STATION RECOVERY (2004)
AT0760
AT0760'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2004 (FJO)
AT0760'RECOVERED IN GOOD CONDITION.
AT0760
AT0760                          STATION RECOVERY (2004)
AT0760
AT0760'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2004
AT0760'RECOVERED IN GOOD CONDITION.
AT0760
AT0760                          STATION RECOVERY (2004)
AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2004 (KLF)
AT0760'RECOVERED AS DESCRIBED
AT0760
AT0760                          STATION RECOVERY (2005)
AT0760
AT0760'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2005 (MRY)
AT0760'RECOVERED IN GOOD CONDITION.
AT0760
AT0760                          STATION RECOVERY (2005)
AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KLF)
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AT0760'RECOVERED AS DESCRIBED.
AT0760
AT0760                          STATION RECOVERY (2006)
AT0760
AT0760'RECOVERY NOTE BY 3001, INC 2006
AT0760'RECOVERED AS DESCRIBED.
AT0760
AT0760                          STATION RECOVERY (2006)
AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (DB)
AT0760'RECOVERED IN GOOD CONDITION.  NOTE--RAISED LOGO CAP AND CONCRETE 5
AT0760'INCHES.  DATUM POINT STICKS 2 INCHES ABOVE CAP.
AT0760
AT0760                          STATION RECOVERY (2006)
AT0760
AT0760'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
AT0760'RECOVERED IN GOOD CONDITION. RAISED LOGO CAP AND PUT CONCRETE AROUND
AT0760'IT BECAUSE ROD WAS 2 INCHES (5 CM) ABOVE CAP.
AT0760
AT0760                          STATION RECOVERY (2009)
AT0760
AT0760'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2009 (JPD)
AT0760'RECOVERED AS DESCRIBED
AT0760
AT0760                          STATION RECOVERY (2009)
AT0760
AT0760'RECOVERY NOTE BY GUSTIN, COTHERN, AND TUCKER, I 2009 (HWW)
AT0760'RECOVERED AS DESCRIBED
AT0760
AT0760                          STATION RECOVERY (2010)
AT0760
AT0760'RECOVERY NOTE BY US ARMY CORPS OF ENGINEERS 2010 (JTH)
AT0760'MARK RECOVERED AS DESCRIBED AND IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:02
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Appendix E: MINIMALLY CONSTRAINED ADJUSTMENT

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             ************************************************
             * NETWORK - WEIGHTED GPS NETWORK ADJUSTMENT      *
             *                                                *
             * (c) Copyright NovAtel Inc., (2011)             *
             *                                                *
             * Version: 8.30.2105                             *
             *                                                *
             * FILE:
C:\projects\12-101_New_Orleans_HSDRRS_LiDAR\Survey\Field_Data\Static_Network\Data_Processing_2006
.81\12-101_NewOrleans.net
             ************************************************

DATE(m/d/y): Fri.   4/27/12   TIME: 11:19:30




*************************************************************

  DATUM:            'WGS84'
  SCALE_FACTOR:     1.0000
  CONFIDENCE LEVEL: 39.40 %   (Scale factor is 1.0009)


*************************************************************
    INPUT CONTROL/CHECK POINTS
*************************************************************

STA_ID     TYPE    -- LATITUDE --  -- LONGITUDE --  ELLHGT -   HZ-SD   V-SD
A_148      GCP-3D  29 59 20.98723  -90 05 14.21505    -24.362 0.00010 0.00010



*************************************************************
    INPUT VECTORS
*************************************************************

SESSION NAME           VECTOR(m)   ------ Covariance (m) [unscaled] ------
                        DX/DY/DZ          standard deviations in brackets
5720 to G_95 (2)      -10053.2096  1.1381e-007 (0.0003)
                       3420.8461  8.6248e-008 4.0538e-007 (0.0006)
                       5816.7194  -1.9924e-008 -8.7095e-008 6.0399e-007 (0.0008)

5720 to L_FVA04 (2)    7948.0567  6.0902e-008 (0.0002)
                       5540.5859  7.5185e-008 4.2525e-007 (0.0007)
                       9661.2198  -2.4856e-008 -1.4408e-007 2.0026e-007 (0.0004)

5720 to L_FVA05 (2)    4372.2455  1.9098e-008 (0.0001)
                       3212.4409  2.3451e-009 9.0724e-008 (0.0003)
                       5596.1786  -2.0542e-009 -3.4647e-008 4.8564e-008 (0.0002)

5720 to L_FVA06 (1)   -4152.1477  3.3429e-007 (0.0006)
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                      2839.7573  -3.0516e-007 1.4197e-006 (0.0012)
                      4874.4161  6.8040e-008 -2.9791e-007 1.6246e-007 (0.0004)

5720 to L_FVA08 (1)    5229.1363  1.8718e-007 (0.0004)
                      -1684.1448  -1.3638e-007 7.8881e-007 (0.0009)
                      -2887.2342  1.2892e-007 -4.5111e-007 5.0089e-007 (0.0007)

5720 to L_FVA09 (1)   15158.7194  1.8000e-007 (0.0004)
                      -3585.5805  3.9037e-010 6.4758e-007 (0.0008)
                      -6128.7541  4.5266e-008 -3.4255e-007 4.2591e-007 (0.0007)

A_148 to BS2 (2)      -4536.1294  1.7108e-008 (0.0001)
                      -3559.0735  1.9184e-009 6.9330e-008 (0.0003)
                      -6179.9767  7.1645e-011 -2.7351e-008 2.9781e-008 (0.0002)

A_148 to BVHS (1)     66073.2149  1.3632e-005 (0.0037)
                      -35503.2480  3.6814e-007 1.4295e-005 (0.0038)
                      -62830.0865  -2.0426e-007 -3.9029e-006 3.4879e-006 (0.0019)

A_148 to ENG5 (1)     14052.2368  2.4579e-006 (0.0016)
                      -6105.9539  1.4387e-006 1.9038e-005 (0.0044)
                      -10583.0527  -5.0600e-007 -7.6540e-006 9.1288e-006 (0.0030)

A_148 to LAKEFRONT (1)  6102.1132  1.6484e-008 (0.0001)
                       2546.4610  -8.4333e-009 7.4254e-008 (0.0003)
                       4416.6984  2.5505e-009 -3.1359e-008 3.0108e-008 (0.0002)

A_148 to LMCN (1)     -55852.8390  1.3892e-005 (0.0037)
                      -39868.6840  2.2972e-007 1.4941e-005 (0.0039)
                      -70740.3012  -2.2929e-007 -4.1121e-006 3.5809e-006 (0.0019)

A_148 to L_278 (1)    18475.1752  8.5981e-008 (0.0003)
                      -6248.5257  1.4182e-008 2.0815e-007 (0.0005)
                      -10855.3219  -1.1626e-008 -1.5400e-007 3.2125e-007 (0.0006)

A_148 to L_FVA10 (1)  -5684.0431  3.4086e-007 (0.0006)
                      -2192.4935  -4.1755e-007 1.0540e-006 (0.0010)
                      -3809.7234  1.1749e-007 -1.8720e-007 1.3349e-007 (0.0004)

A_148 to L_FVA16 (1)   4648.7746  5.2543e-008 (0.0002)
                       2330.9045  1.9042e-008 2.0211e-007 (0.0004)
                       4052.2336  -2.8289e-008 -1.0068e-007 1.4001e-007 (0.0004)

A_148 to L_FVA17 (1)  -6946.5111  3.5293e-007 (0.0006)
                       1731.6468  -4.3161e-007 1.0872e-006 (0.0010)
                       2979.0486  1.2123e-007 -1.9267e-007 1.3788e-007 (0.0004)

A_148 to MSSC (1)     45538.0584  1.1335e-005 (0.0034)
                      21623.6625  5.4265e-007 1.1424e-005 (0.0034)
                      37000.9196  -2.3015e-007 -3.2199e-006 2.8624e-006 (0.0017)

A_148 to NOLA (1)     -3180.9216  4.7619e-007 (0.0007)
                      -3048.6841  1.1194e-007 2.2927e-006 (0.0015)
                      -5250.0212  -4.8784e-008 -8.9484e-007 1.1049e-006 (0.0011)
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A_148 to NOLA (3)      -3180.9489  3.3511e-006 (0.0018)
                       -3048.6847  -2.3682e-006 1.3500e-005 (0.0037)
                       -5250.0389  9.4725e-007 -4.0031e-006 3.7970e-006 (0.0019)

A_148 to S_188 (1)     -13704.4667  1.7737e-007 (0.0004)
                       -1203.9348  -2.4469e-008 6.6676e-007 (0.0008)
                       -2151.4843  7.6595e-008 -2.3205e-007 2.9872e-007 (0.0005)

A_148 to V_375 (1)     11157.2508  6.1951e-008 (0.0002)
                       -3993.6236  5.4016e-008 4.2758e-007 (0.0007)
                       -6921.9890  7.7844e-009 -7.5971e-008 3.0720e-007 (0.0006)

A_148 to V_375 (2)     11157.2498  9.3940e-008 (0.0003)
                       -3993.6100  3.3745e-008 5.8481e-007 (0.0008)
                       -6921.9734  1.6058e-008 -2.4240e-007 2.2956e-007 (0.0005)

A_148 to V_375 (3)     11157.2484  4.7074e-008 (0.0002)
                       -3993.6136  -7.2476e-009 1.6985e-007 (0.0004)
                       -6921.9748  1.4398e-009 -8.4324e-008 8.0099e-008 (0.0003)

A_148 to V_375 (4)     11157.2361  5.2678e-008 (0.0002)
                       -3993.6164  3.5961e-008 4.4968e-007 (0.0007)
                       -6921.9778  -1.3032e-008 -2.0522e-007 3.2401e-007 (0.0006)

A_148 to V_375 (5)     11157.2468  6.1951e-008 (0.0002)
                       -3993.6237  5.4016e-008 4.2758e-007 (0.0007)
                       -6921.9837  7.7844e-009 -7.5970e-008 3.0720e-007 (0.0006)

A_148 to V_375 (6)     11157.2641  2.3588e-007 (0.0005)
                       -3993.6110  -1.2123e-007 1.2467e-006 (0.0011)
                       -6922.0058  1.2239e-007 -5.0845e-007 4.7187e-007 (0.0007)

BS2 to BVHS (1)        70609.3766  6.7821e-006 (0.0026)
                       -31944.2076  7.5943e-008 5.9941e-006 (0.0024)
                       -56650.1206  4.3449e-007 -1.9323e-006 1.8620e-006 (0.0014)

BS2 to MSSC (1)        50074.2056  5.8290e-006 (0.0024)
                       25182.7478  1.1935e-007 5.0612e-006 (0.0022)
                       43180.9148  3.5758e-007 -1.6817e-006 1.6248e-006 (0.0013)

BVHS to ENG5 (1)       -52020.9943  2.0141e-006 (0.0014)
                       29397.3502  4.2654e-008 1.4196e-006 (0.0012)
                       52247.0164  3.3606e-008 -5.3165e-007 5.0387e-007 (0.0007)

ENG5 to COVG (1)       -14803.2959  1.8312e-006 (0.0014)
                       33258.7809  2.4603e-008 1.3445e-006 (0.0012)
                       57212.6052  2.5590e-008 -4.9542e-007 4.7334e-007 (0.0007)

COVG to LWES (1)       -24572.0443  1.8677e-006 (0.0014)
                       -31977.6151  3.1999e-008 1.3579e-006 (0.0012)
                       -55155.0360  2.1436e-008 -4.9952e-007 4.7626e-007 (0.0007)

COVG to S_188 (1)      -12953.3746  4.6584e-004 (0.0216)
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                     -28356.7687  -2.6101e-005 3.1887e-005 (0.0056)
                     -48781.0260  3.8783e-005 -1.1036e-005 2.3928e-005 (0.0049)

COVG to S_188 (2)    -12953.3916  1.0406e-005 (0.0032)
                     -28356.7773  -9.5247e-007 1.0987e-005 (0.0033)
                     -48781.0184  7.9805e-007 -3.2334e-006 2.5645e-006 (0.0016)

COVG to V_375 (1)    11908.3145  7.0763e-006 (0.0027)
                     -31146.4638  4.2025e-007 4.9930e-006 (0.0022)
                     -53551.5152  1.4792e-007 -1.5801e-006 1.5172e-006 (0.0012)

C_189 to L_FVA14 (1)  -2609.5998  7.9799e-008 (0.0003)
                       2784.1451  9.1382e-009 3.4853e-007 (0.0006)
                       4824.0660  -3.3397e-009 -1.1284e-007 1.3580e-007 (0.0004)

C_189 to L_FVA12 (2)   5903.5381  2.4774e-005 (0.0050)
                     -11464.0725  -4.8756e-006 4.4813e-005 (0.0067)
                     -19908.4437  3.2896e-006 -6.0669e-006 5.4163e-006 (0.0023)

C_189 to L_FVA13 (1)  -9619.3839  3.3979e-008 (0.0002)
                     -3731.8219  4.1763e-009 2.2491e-007 (0.0005)
                     -6413.1244  -6.1479e-009 -8.8632e-008 1.0493e-007 (0.0003)

C_189 to L_FVA13 (2)  -9619.3803  4.8553e-008 (0.0002)
                     -3731.8302  -1.0963e-008 2.1970e-007 (0.0005)
                     -6413.1332  -4.1133e-009 -8.0187e-008 1.0585e-007 (0.0003)

C_189 to L_FVA15 (1)  -1542.8721  1.1973e-008 (0.0001)
                       204.4434  -7.2060e-009 5.7793e-008 (0.0002)
                       370.3069  7.3394e-010 -2.1343e-008 2.6901e-008 (0.0002)

C_189 to L_FVA18 (1)  -9949.3023  1.0562e-007 (0.0003)
                       114.0036  -2.5488e-009 3.4380e-007 (0.0006)
                       239.4032  5.3596e-009 -1.2397e-007 1.3573e-007 (0.0004)

ENG5 to HOUM (1)     -75729.7526  2.0391e-006 (0.0014)
                     -15328.1966  4.4650e-008 1.4528e-006 (0.0012)
                     -27592.9631  1.9594e-008 -5.4661e-007 5.1522e-007 (0.0007)

ENG5 to GRIS (1)     -1479.4404  1.8426e-006 (0.0014)
                     -33559.8097  2.1263e-008 1.3487e-006 (0.0012)
                     -59137.5614  2.5435e-008 -4.9469e-007 4.6974e-007 (0.0007)

ENG5 to HOUM (2)     -75729.7559  2.0318e-006 (0.0014)
                     -15328.2127  2.2827e-008 1.5136e-006 (0.0012)
                     -27592.9563  2.2025e-008 -5.5385e-007 5.2201e-007 (0.0007)

ENG5 to LMCN (1)     -69905.1085  2.3159e-006 (0.0015)
                     -33762.7405  4.3339e-008 1.6480e-006 (0.0013)
                     -60157.2546  2.5808e-008 -6.1794e-007 5.8312e-007 (0.0008)

ENG5 to LMCN (2)     -69905.1111  2.3250e-006 (0.0015)
                     -33762.7469  3.5191e-008 1.6689e-006 (0.0013)
                     -60157.2533  2.2011e-008 -6.3016e-007 5.9354e-007 (0.0008)
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ENG5 to LWES (1)      -39375.3379  2.7895e-007 (0.0005)
                       1281.1587  6.7023e-008 1.3644e-006 (0.0012)
                       2057.5735  -2.7439e-008 -5.2911e-007 6.1692e-007 (0.0008)

ENG5 to MSSC (1)      31485.8312  1.8531e-006 (0.0014)
                      27729.6184  5.1746e-008 1.3180e-006 (0.0011)
                      47583.9939  2.8428e-008 -5.0624e-007 4.7583e-007 (0.0007)

ENG5 to NOLA (1)      -17233.1666  2.5735e-006 (0.0016)
                       3057.2706  1.8259e-006 1.2588e-005 (0.0035)
                       5333.0373  -2.1187e-007 -3.2493e-006 4.1211e-006 (0.0020)

ENG5 to NOLA (2)      -17233.1656  2.5737e-006 (0.0016)
                       3057.2744  1.8378e-006 1.2628e-005 (0.0036)
                       5333.0368  -2.1551e-007 -3.2574e-006 4.1267e-006 (0.0020)

ENG5 to S_188 (1)     -27756.6916  9.6337e-006 (0.0031)
                       4902.0106  1.1954e-006 4.8293e-005 (0.0069)
                       8431.5992  -1.1391e-006 -8.8926e-006 6.6315e-006 (0.0026)

ENG5 to S_188 (2)     -27756.6838  1.0553e-006 (0.0010)
                       4902.0068  -3.9854e-007 4.9225e-006 (0.0022)
                       8431.6028  1.1296e-007 -1.8892e-006 2.3981e-006 (0.0015)

GRIS to LWES (1)      -37895.9004  2.0401e-006 (0.0014)
                      34840.9713  3.2134e-008 1.4806e-006 (0.0012)
                      61195.1323  1.8842e-008 -5.3798e-007 5.1027e-007 (0.0007)

GRIS to S_188 (1)     -26277.2567  5.3652e-004 (0.0232)
                      38461.8226  -2.9013e-005 3.7876e-005 (0.0062)
                      67569.1678  4.0906e-005 -1.2434e-005 2.6744e-005 (0.0052)

GRIS to S_188 (2)     -26277.2619  1.2633e-005 (0.0036)
                      38461.8356  -1.1645e-006 1.3102e-005 (0.0036)
                      67569.1586  8.9397e-007 -3.8230e-006 3.0358e-006 (0.0017)

GRIS to V_375 (1)     -1415.5460  1.7787e-005 (0.0042)
                      35672.1523  -3.5490e-007 8.2613e-006 (0.0029)
                      62798.6612  -9.8732e-007 -2.3113e-006 3.2016e-006 (0.0018)

G_95 to L_FVA06 (1)    5901.0785  2.5765e-007 (0.0005)
                       -581.0599  -1.2359e-007 5.4875e-007 (0.0007)
                       -942.3523  -1.0223e-007 -2.3996e-007 4.7420e-007 (0.0007)

G_95 to L_FVA04 (1)   18001.2590  1.1943e-007 (0.0003)
                       2119.7515  2.5007e-008 2.8022e-007 (0.0005)
                       3844.4450  1.3209e-008 -1.7319e-007 6.2218e-007 (0.0008)

G_95 to L_FVA05 (1)   14425.4576  1.0436e-007 (0.0003)
                       -208.4015  4.5212e-008 4.1013e-007 (0.0006)
                       -220.5883  2.3953e-008 -9.0508e-008 4.4353e-007 (0.0007)

HOUM to LWES (1)      36354.4142  1.6344e-006 (0.0013)
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                     16609.3739  2.2612e-008 1.2051e-006 (0.0011)
                     29650.5275  1.4558e-008 -4.3761e-007 4.1344e-007 (0.0006)

HOUM to S_188 (1)    47973.0880  4.6927e-004 (0.0217)
                     20230.2287  -2.5066e-005 3.2980e-005 (0.0057)
                     36024.5496  3.5563e-005 -1.0893e-005 2.3389e-005 (0.0048)

HOUM to S_188 (2)    47973.0691  1.0901e-005 (0.0033)
                     20230.2376  -9.8662e-007 1.1454e-005 (0.0034)
                     36024.5450  8.3014e-007 -3.3453e-006 2.6485e-006 (0.0016)

LAKEFRONT to V_375 (1)  5055.1549  9.8179e-008 (0.0003)
                     -6540.0892  -1.3298e-008 4.3518e-007 (0.0007)
                     -11338.6952  3.5006e-008 -2.8996e-007 3.3169e-007 (0.0006)

LAKEFRONT to V_375 (4)  5055.1481  1.1099e-007 (0.0003)
                     -6540.0702  -4.1362e-009 5.1313e-007 (0.0007)
                     -11338.6998  3.9165e-008 -2.5068e-007 2.5839e-007 (0.0005)

LMCN to LWES (1)     30529.7690  1.9905e-006 (0.0014)
                     35043.9085  2.6033e-008 1.4674e-006 (0.0012)
                     62214.8246  1.7217e-008 -5.3061e-007 4.9979e-007 (0.0007)

LMCN to S_188 (1)    42148.4243  5.6722e-004 (0.0238)
                     38664.7652  -3.0270e-005 4.0103e-005 (0.0063)
                     68588.8547  4.2879e-005 -1.3178e-005 2.8312e-005 (0.0053)

LMCN to S_188 (2)    42148.4123  1.3595e-005 (0.0037)
                     38664.7811  -1.2420e-006 1.3879e-005 (0.0037)
                     68588.8447  9.0406e-007 -4.0543e-006 3.2305e-006 (0.0018)

LMCN to V_375 (1)    67010.1285  9.3474e-006 (0.0031)
                     35875.0931  4.9149e-007 6.6144e-006 (0.0026)
                     63818.3509  2.1718e-007 -2.0984e-006 2.0011e-006 (0.0014)

LMCN to V_375 (2)    67010.2170  1.5875e-003 (0.0398)
                     35875.1076  6.5850e-005 1.0190e-004 (0.0101)
                     63818.3485  -9.8138e-005 -3.1819e-005 7.1132e-005 (0.0084)

LMCN to V_375 (3)    67010.0764  6.7193e-004 (0.0259)
                     35875.1263  -3.2586e-004 2.7449e-004 (0.0166)
                     63818.3421  8.7172e-005 -7.5914e-005 4.7712e-005 (0.0069)

LMCN to V_375 (4)    67010.1197  1.4095e-005 (0.0038)
                     35875.0763  4.8444e-006 1.1068e-005 (0.0033)
                     63818.3605  -7.9310e-007 -3.5471e-006 3.2626e-006 (0.0018)

LWES to NOLA (1)     22142.1747  4.0670e-006 (0.0020)
                      1776.1006  3.0793e-006 1.6873e-005 (0.0041)
                      3275.4751  -9.8824e-007 -5.6708e-006 5.2322e-006 (0.0023)

LWES to S_188 (1)    11618.6579  2.5329e-006 (0.0016)
                      3620.8491  -3.4334e-007 1.4380e-005 (0.0038)
                      6374.0334  9.5846e-008 -5.1738e-006 4.1299e-006 (0.0020)
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LWES to S_188 (2)     11618.6451  5.0300e-006 (0.0022)
                       3620.8894  -5.5027e-006 3.0464e-005 (0.0055)
                       6374.0035  9.5114e-007 -1.0302e-005 7.4692e-006 (0.0027)

LWES to V_375 (1)     36480.3622  6.2322e-007 (0.0008)
                        831.1694  7.6916e-008 3.4400e-006 (0.0019)
                       1603.5200  -4.2457e-008 -1.3362e-006 1.6036e-006 (0.0013)

L_278 to C_189 (1)     5322.7308  1.3598e-007 (0.0004)
                      10941.9061  -6.3384e-008 3.4076e-007 (0.0006)
                      18945.8933  6.5584e-008 -2.2082e-007 3.8467e-007 (0.0006)

L_278 to C_189 (2)     5322.7476  1.8934e-007 (0.0004)
                      10941.9106  1.2319e-007 1.1571e-006 (0.0011)
                      18945.9332  -1.3551e-007 -4.5206e-007 6.2014e-007 (0.0008)

L_278 to L_FVA03 (1)  -1336.0140  1.8782e-008 (0.0001)
                       -709.6379  4.5372e-009 7.1038e-008 (0.0003)
                      -1223.7842  7.9780e-009 -3.6173e-008 7.2372e-008 (0.0003)

L_278 to L_FVA12 (1)  11226.2862  4.9784e-008 (0.0002)
                       -522.1507  1.1712e-008 2.0827e-007 (0.0005)
                       -962.5090  -5.6600e-009 -8.1142e-008 8.3182e-008 (0.0003)

L_278 to L_FVA13 (1)  -4296.6559  8.3184e-008 (0.0003)
                       7210.0992  -1.7851e-008 3.0425e-007 (0.0006)
                      12532.7490  5.0813e-008 -9.3419e-008 2.0494e-007 (0.0005)

L_278 to V_375 (1)    -7317.8648  5.8513e-008 (0.0002)
                       2254.8251  1.0634e-008 1.3832e-007 (0.0004)
                       3933.3754  1.1774e-009 -8.8800e-008 2.4095e-007 (0.0005)

L_278 to V_375 (2)    -7317.8505  2.4727e-007 (0.0005)
                       2254.8140  2.2222e-007 7.7733e-007 (0.0009)
                       3933.4037  -1.2171e-007 -8.7131e-007 1.7832e-006 (0.0013)

L_FVA01 to L_FVA09 (1) -5022.2075  1.5201e-007 (0.0004)
                       3820.5090  -1.7254e-007 4.2910e-007 (0.0007)
                       6636.8310  4.6911e-008 -9.5929e-008 1.1608e-007 (0.0003)

L_FVA01 to B_369 (1)   1455.5206  1.7822e-008 (0.0001)
                      -2154.0891  -2.4129e-009 6.7798e-008 (0.0003)
                      -3763.1785  5.8083e-009 -2.5181e-008 3.7156e-008 (0.0002)

L_FVA01 to L_FVA02 (1)  8827.6720  1.0859e-007 (0.0003)
                      -1430.1343  -5.7867e-009 3.6290e-007 (0.0006)
                      -2473.9170  9.5989e-009 -1.1048e-007 1.0006e-007 (0.0003)

L_FVA01 to L_FVA03 (1) 19888.5288  1.3118e-007 (0.0004)
                       3089.0661  5.5060e-008 3.8081e-007 (0.0006)
                       5396.7447  -3.5057e-009 -1.2604e-007 1.3686e-007 (0.0004)

L_FVA01 to L_FVA09 (2) -5022.1964  8.0915e-008 (0.0003)
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                       3820.5925  4.0888e-008 3.6770e-007 (0.0006)
                       6636.7690  2.2044e-009 -1.4593e-007 1.3767e-007 (0.0004)

L_FVA01 to L_FVA20 (1)  -816.8901  1.9981e-007 (0.0004)
                      -3818.9048  -2.3144e-007 1.3307e-006 (0.0012)
                      -6682.6186  6.2356e-008 -1.2547e-007 1.2445e-007 (0.0004)

L_FVA02 to L_FVA20 (1) -9644.5700  1.2218e-007 (0.0003)
                      -2388.7377  1.3796e-007 5.3873e-007 (0.0007)
                      -4208.7140  -1.2165e-008 -1.0718e-007 1.1469e-007 (0.0003)

L_FVA02 to L_FVA03 (1) 11060.8585  1.3525e-007 (0.0004)
                       4519.2214  1.8045e-008 4.9646e-007 (0.0007)
                       7870.6590  -1.2769e-008 -9.4830e-008 8.6851e-008 (0.0003)

L_FVA03 to L_FVA12 (1) 12562.3091  1.4229e-007 (0.0004)
                        187.4965  -7.6795e-008 4.9764e-007 (0.0007)
                        261.2783  5.9864e-008 -2.6357e-007 5.4754e-007 (0.0007)

L_FVA04 to L_FVA05 (1) -3575.8081  1.3722e-008 (0.0001)
                      -2328.1494  2.8300e-009 6.8442e-008 (0.0003)
                      -4065.0482  -9.0000e-010 -2.3304e-008 3.3405e-008 (0.0002)

L_FVA04 to L_FVA06 (1) -12100.1848  4.3889e-007 (0.0007)
                      -2700.8518  -4.0064e-007 1.8639e-006 (0.0014)
                      -4786.7971  8.9329e-008 -3.9112e-007 2.1330e-007 (0.0005)

L_FVA05 to L_FVA06 (1) -8524.3998  1.1175e-007 (0.0003)
                        -372.6917  -3.4143e-008 4.6238e-007 (0.0007)
                        -721.7529  -6.8809e-009 -1.3411e-007 1.6943e-007 (0.0004)

L_FVA08 to L_FVA09 (1)  9929.5861  1.1450e-007 (0.0003)
                      -1901.4498  3.7616e-008 4.6406e-007 (0.0007)
                      -3241.5093  3.5477e-009 -1.8444e-007 2.5591e-007 (0.0005)

L_FVA09 to L_FVA20 (1)  4205.3087  1.4011e-007 (0.0004)
                      -7639.3984  -1.3383e-007 7.2143e-007 (0.0008)
                      -13319.4509  4.6874e-008 -1.7305e-007 1.6123e-007 (0.0004)

L_FVA10 to L_FVA04 (1) -9298.2548  1.5464e-007 (0.0004)
                       5092.0672  9.5172e-008 3.9443e-007 (0.0006)
                       8760.5787  -4.6469e-009 -2.7249e-008 1.7081e-007 (0.0004)

L_FVA10 to L_FVA01 (1)  2934.6238  7.3500e-007 (0.0009)
                      -7854.7203  -5.1726e-007 3.1091e-006 (0.0018)
                      -13666.1707  4.3566e-007 -1.1171e-006 9.6784e-007 (0.0010)

L_FVA10 to L_FVA09 (1) -2087.5585  7.0822e-007 (0.0008)
                      -4034.1925  1.9920e-007 3.5958e-006 (0.0019)
                      -7029.3453  1.1477e-007 -6.3393e-007 1.0424e-006 (0.0010)

L_FVA10 to L_FVA17 (1) -1262.4516  2.1806e-008 (0.0001)
                       3924.1003  7.8182e-009 1.1404e-007 (0.0003)
                       6788.7794  -5.8873e-009 -3.9447e-008 5.7462e-008 (0.0002)
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L_FVA12 to L_FVA13 (1) -15522.9926  9.9981e-008 (0.0003)
                        7732.3316  1.8430e-008 2.4178e-007 (0.0005)
                       13495.2083  -8.7934e-009 -1.7911e-007 4.3558e-007 (0.0007)

L_FVA13 to L_FVA15 (1)  8076.5040  3.9133e-008 (0.0002)
                        3936.2778  -7.4924e-009 2.2313e-007 (0.0005)
                        6783.4455  -5.8000e-009 -8.1337e-008 1.0032e-007 (0.0003)

L_FVA14 to L_FVA18 (1) -7339.7022  1.0752e-007 (0.0003)
                       -2670.1375  -4.4790e-009 4.5031e-007 (0.0007)
                       -4584.6634  2.7160e-008 -1.4062e-007 1.7318e-007 (0.0004)

L_FVA16 to L_FVA02 (1)  1429.4572  1.0480e-007 (0.0003)
                       -13808.1276  -1.5117e-008 4.3474e-007 (0.0007)
                       -24002.0962  2.2102e-008 -1.6637e-007 1.7706e-007 (0.0004)

L_FVA16 to L_FVA12 (1) 25052.6349  2.5002e-006 (0.0016)
                       -9101.4819  -3.6106e-006 1.3935e-005 (0.0037)
                       -15870.1259  9.1418e-007 -2.3975e-006 1.8825e-006 (0.0014)

L_FVA16 to L_FVA13 (1)  9529.6951  8.9061e-008 (0.0003)
                       -1369.2315  -4.1164e-008 5.0122e-007 (0.0007)
                       -2374.8387  2.1809e-008 -1.5327e-007 1.5162e-007 (0.0004)

L_FVA16 to L_FVA14 (1) 16539.4715  1.6497e-007 (0.0004)
                        5146.7531  -8.6145e-009 4.3214e-007 (0.0007)
                        8862.3533  2.5563e-008 -9.0118e-008 1.9150e-007 (0.0004)

L_FVA16 to L_FVA15 (1) 17606.2024  2.3212e-007 (0.0005)
                        2567.0361  -2.1298e-007 7.4321e-007 (0.0009)
                        4408.6137  7.7132e-008 -1.7919e-007 2.4025e-007 (0.0005)

L_FVA16 to L_FVA18 (1)  9199.7687  1.2250e-007 (0.0003)
                        2476.6206  -1.8679e-009 5.1860e-007 (0.0007)
                        4277.6905  3.0557e-008 -1.6496e-007 2.0114e-007 (0.0004)

L_FVA16 to V_375 (1)   6508.4746  9.1341e-008 (0.0003)
                       -6324.5232  5.4996e-008 4.2638e-007 (0.0007)
                       -10974.2156  -6.3014e-008 -2.4938e-007 4.2450e-007 (0.0007)

L_FVA17 to L_FVA04 (1) -8035.7891  7.0747e-008 (0.0003)
                        1167.9871  6.4167e-008 5.2829e-007 (0.0007)
                        1971.7926  5.9273e-009 -9.2134e-008 1.0525e-007 (0.0003)

L_FVA20 to L_FVA19 (1)  1335.4287  6.7338e-008 (0.0003)
                       -3816.1299  6.7693e-008 3.4681e-007 (0.0006)
                       -6685.3819  -3.0968e-008 -1.1126e-007 1.7658e-007 (0.0004)

NOLA to S_188 (1)     -10523.5244  4.4682e-006 (0.0021)
                        1844.7408  6.0023e-007 2.9790e-005 (0.0055)
                        3098.5598  4.2004e-008 -6.9900e-006 4.2784e-006 (0.0021)

NOLA to S_188 (2)     -10523.5232  4.5162e-006 (0.0021)
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                      1844.7548  -4.9407e-006 2.7352e-005 (0.0052)
                      3098.5509  8.5399e-007 -9.2493e-006 6.7063e-006 (0.0026)

NOLA to V_375 (2)     14338.1951  3.1866e-006 (0.0018)
                       -944.9359  -3.7326e-007 1.6125e-005 (0.0040)
                      -1671.9465  3.0528e-007 -6.7630e-006 6.0107e-006 (0.0025)

NOLA to V_375 (3)     14338.1784  2.7744e-006 (0.0017)
                       -944.9435  5.5784e-007 1.0905e-005 (0.0033)
                      -1671.9453  4.9912e-007 -3.9060e-006 5.4453e-006 (0.0023)

NOLA to V_375 (4)     14338.1796  3.1412e-006 (0.0018)
                       -944.9476  1.5082e-006 1.4562e-005 (0.0038)
                      -1671.9419  -2.4026e-007 -5.9941e-006 5.1853e-006 (0.0023)

S_188 to 5720 (1)     -9225.8971  4.1751e-008 (0.0002)
                      -1437.0304  -1.1638e-008 1.9869e-007 (0.0004)
                      -2558.9061  8.2513e-009 -6.8221e-008 7.4082e-008 (0.0003)

S_188 to L_FVA04 (2)  -1277.8418  6.6892e-008 (0.0003)
                       4103.5412  -2.5574e-008 4.4197e-007 (0.0007)
                       7102.3204  2.4805e-008 -1.1060e-007 1.1786e-007 (0.0003)

S_188 to L_FVA08 (1)  -3996.7668  2.2796e-007 (0.0005)
                      -3121.1793  -7.5848e-008 6.8823e-007 (0.0008)
                      -5446.1395  1.1636e-007 -4.6913e-007 6.3158e-007 (0.0008)

S_188 to L_FVA09 (1)   5932.8156  2.7669e-007 (0.0005)
                      -5022.6079  -9.1586e-008 8.3763e-007 (0.0009)
                      -8687.6702  1.4107e-007 -5.7241e-007 7.6823e-007 (0.0009)

S_188 to V_375 (1)    24861.7007  2.8263e-007 (0.0005)
                      -2789.6852  -1.6089e-007 9.8167e-007 (0.0010)
                      -4770.4941  2.4027e-009 -5.5471e-007 5.9203e-007 (0.0008)

S_188 to V_375 (2)    24861.7030  1.9321e-007 (0.0004)
                      -2789.6905  7.7834e-008 1.9716e-006 (0.0014)
                      -4770.4986  -3.2940e-008 -9.0841e-007 7.1667e-007 (0.0008)

S_188 to V_375 (3)    24861.7018  1.8983e-007 (0.0004)
                      -2789.6352  -7.6555e-008 8.9892e-007 (0.0009)
                      -4770.5271  9.6654e-009 -5.5741e-007 5.8620e-007 (0.0008)

S_188 to V_375 (4)    24861.7096  2.5989e-007 (0.0005)
                      -2789.7064  -1.1736e-007 1.2842e-006 (0.0011)
                      -4770.4899  1.5594e-007 -3.5848e-007 3.7110e-007 (0.0006)

V_375 to L_FVA09 (1)  -18928.8720  1.3435e-007 (0.0004)
                      -2232.9198  4.0658e-008 4.2390e-007 (0.0007)
                      -3917.1653  2.3091e-008 -2.1423e-007 3.5966e-007 (0.0006)

V_375 to L_FVA01 (1)  -13906.6911  2.5381e-007 (0.0005)
                      -6053.4961  -3.6778e-008 4.6858e-007 (0.0007)
                      -10553.9498  7.9881e-008 -1.3745e-007 2.3102e-007 (0.0005)
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V_375 to L_FVA03 (2)   5981.8442  1.0965e-007 (0.0003)
                      -2964.4357  3.9674e-008 4.8144e-007 (0.0007)
                      -5157.1806  -1.7391e-008 -2.2818e-007 1.6748e-007 (0.0004)

V_375 to L_FVA12 (2)  18544.1446  2.3460e-007 (0.0005)
                      -2776.9628  -1.2776e-007 6.4927e-007 (0.0008)
                      -4895.8877  1.2029e-007 -3.0512e-007 3.2939e-007 (0.0006)
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OUTPUT VECTOR RESIDUALS (East, North, Height - Local Level)

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SESSION NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)		- PPM -	DIST (km)	- STD - (m)
5720 to G_95 (2)	-0.0029	0.0260	0.0248	$	2.979	12.1	0.0011
5720 to L_FVA04 (2)	-0.0024	0.0032	-0.0026	$	0.347	13.7	0.0008
5720 to L_FVA05 (2)	0.0011	-0.0030	-0.0026	$	0.534	7.8	0.0004
5720 to L_FVA06 (1)	0.0025	0.0032	-0.0035	$	0.764	7.0	0.0014
5720 to L_FVA08 (1)	-0.0013	0.0012	0.0036	$	0.649	6.2	0.0012
5720 to L_FVA09 (1)	0.0020	0.0050	0.0254	$	1.549	16.7	0.0011
A_148 to BS2 (2)	-0.0001	-0.0002	0.0003		0.043	8.5	0.0003
A_148 to BVHS (1)	0.0162	-0.0263	0.0453	$	0.560	97.8	0.0056
A_148 to ENG5 (1)	-0.0028	-0.0157	-0.0028		0.868	18.6	0.0055
A_148 to LAKEFRONT (1)	-0.0036	0.0036	0.0010	$	0.654	8.0	0.0003
A_148 to LMCN (1)	-0.0334	-0.0289	0.0093	$	0.458	98.6	0.0057
A_148 to L_278 (1)	-0.0475	0.0041	-0.0769	$	4.055	22.3	0.0008
A_148 to L_FVA10 (1)	-0.0080	0.0070	-0.0243	$	3.693	7.2	0.0012
A_148 to L_FVA16 (1)	0.0024	-0.0010	0.0181	$	2.773	6.6	0.0006
A_148 to L_FVA17 (1)	0.0075	-0.0063	0.0162	$	2.436	7.8	0.0013
A_148 to MSSC (1)	0.0075	0.0068	0.0046		0.178	62.5	0.0051
A_148 to NOLA (1)	-0.0066	-0.0077	0.0002	$	1.481	6.9	0.0020
A_148 to NOLA (3)	0.0207	0.0080	0.0084	$	3.463	6.9	0.0045
A_148 to S_188 (1)	0.0133	0.0021	0.0215	$	1.825	13.9	0.0011
A_148 to V_375 (1)	0.0030	0.0072	0.0104	$	0.949	13.7	0.0009
A_148 to V_375 (2)	0.0040	-0.0131	0.0144	$	1.449	13.7	0.0010
A_148 to V_375 (3)	0.0054	-0.0100	0.0121	$	1.210	13.7	0.0005
A_148 to V_375 (4)	0.0177	-0.0060	0.0111	$	1.584	13.7	0.0009
A_148 to V_375 (5)	0.0070	0.0027	0.0077	$	0.784	13.7	0.0009
A_148 to V_375 (6)	-0.0103	0.0155	0.0298	$	2.559	13.7	0.0014
BS2 to BVHS (1)	-0.0159	-0.0003	0.0216	$	0.279	96.0	0.0038
BS2 to MSSC (1)	-0.0101	-0.0150	0.0051	$	0.266	70.8	0.0035
BVHS to ENG5 (1)	-0.0031	-0.0020	0.0094	$	0.127	79.4	0.0020
ENG5 to COVG (1)	0.0001	0.0011	0.0011		0.023	67.8	0.0019
COVG to LWES (1)	0.0006	-0.0018	0.0029		0.051	68.3	0.0019
COVG to S_188 (1)	-0.0170	0.0107	0.0119		0.404	57.9	0.0228
COVG to S_188 (2)	-0.0000	0.0085	0.0006		0.148	57.9	0.0049
COVG to V_375 (1)	0.0011	0.0057	-0.0124	$	0.217	63.1	0.0037
C_189 to L_FVA14 (1)	-0.0008	0.0011	-0.0068	$	1.120	6.2	0.0008
C_189 to L_FVA12 (2)	0.0364	0.0295	0.0546	$	3.034	23.7	0.0087
C_189 to L_FVA13 (1)	-0.0001	-0.0089	-0.0102	$	1.118	12.1	0.0006

C_189 to L_FVA13 (2)	-0.0037	0.0029	-0.0130 $	1.140	12.1	0.0006
C_189 to L_FVA15 (1)	-0.0020	0.0027	-0.0024 $	2.600	1.6	0.0003
C_189 to L_FVA18 (1)	-0.0010	0.0026	-0.0097 $	1.014	10.0	0.0008
ENG5 to HOUM (1)	-0.0018	-0.0015	0.0129 $	0.160	82.0	0.0020
ENG5 to GRIS (1)	0.0015	-0.0014	0.0007	0.032	68.0	0.0019
ENG5 to HOUM (2)	0.0015	0.0006	-0.0045	0.058	82.0	0.0020
ENG5 to LMCN (1)	0.0020	-0.0026	0.0058 $	0.068	98.2	0.0021
ENG5 to LMCN (2)	0.0046	-0.0006	-0.0005	0.048	98.2	0.0021
ENG5 to LWES (1)	-0.0016	-0.0009	-0.0042 $	0.117	39.4	0.0015
ENG5 to MSSC (1)	0.0007	0.0027	-0.0018	0.052	63.4	0.0019
ENG5 to NOLA (1)	0.0044	0.0026	0.0007	0.283	18.3	0.0044
ENG5 to NOLA (2)	0.0034	0.0011	0.0042	0.302	18.3	0.0044
ENG5 to S_188 (1)	0.0042	-0.0046	0.0016	0.218	29.4	0.0080
ENG5 to S_188 (2)	-0.0036	-0.0058	-0.0035	0.261	29.4	0.0029
GRIS to LWES (1)	-0.0002	0.0013	-0.0011	0.021	80.0	0.0020
GRIS to S_188 (1)	0.0082	-0.0106	-0.0006	0.164	82.1	0.0245
GRIS to S_188 (2)	0.0134	-0.0091	0.0152 $	0.271	82.1	0.0054
GRIS to V_375 (1)	0.0047	-0.0131	0.0054	0.206	72.2	0.0054
G_95 to L_FVA06 (1)	-0.0110	0.0052	0.0212 $	4.075	6.0	0.0011
G_95 to L_FVA04 (1)	0.0078	0.0193	0.0104 $	1.255	18.5	0.0010
G_95 to L_FVA05 (1)	0.0015	0.0102	-0.0006 $	0.718	14.4	0.0010
HOUM to LWES (1)	0.0008	-0.0007	0.0036	0.075	49.8	0.0018
HOUM to S_188 (1)	-0.0208	-0.0029	0.0138	0.398	63.3	0.0229
HOUM to S_188 (2)	-0.0019	-0.0033	0.0237 $	0.379	63.3	0.0050
LAKEFRONT to V_375 (1)	-0.0107	0.0127	0.0094 $	1.355	14.0	0.0009
LAKEFRONT to V_375 (4)	-0.0038	0.0072	0.0281 $	2.087	14.0	0.0009
LMCN to LWES (1)	-0.0020	0.0002	-0.0001	0.026	77.7	0.0020
LMCN to S_188 (1)	-0.0052	-0.0098	0.0076	0.150	89.3	0.0252
LMCN to S_188 (2)	0.0070	-0.0089	0.0263 $	0.321	89.3	0.0055
LMCN to V_375 (1)	-0.0021	-0.0137	0.0106 $	0.176	99.2	0.0042
LMCN to V_375 (2)	-0.0906	-0.0190	0.0248	0.966	99.2	0.0420
LMCN to V_375 (3)	0.0502	-0.0223	0.0436	0.706	99.2	0.0315
LMCN to V_375 (4)	0.0065	-0.0137	-0.0088 $	0.177	99.2	0.0053
LWES to NOLA (1)	0.0026	-0.0008	-0.0105	0.483	22.5	0.0051
LWES to S_188 (1)	-0.0058	-0.0091	-0.0004	0.783	13.7	0.0046
LWES to S_188 (2)	0.0072	-0.0033	0.0494 $	3.639	13.7	0.0066
LWES to V_375 (1)	-0.0029	-0.0010	0.0007	0.085	36.5	0.0024
L_278 to C_189 (1)	-0.0077	0.0148	-0.0291 $	1.488	22.5	0.0009
L_278 to C_189 (2)	-0.0245	-0.0220	-0.0452 $	2.483	22.5	0.0014
L_278 to L_FVA03 (1)	-0.0042	-0.0068	-0.0166 $	9.452	1.9	0.0004
L_278 to L_FVA12 (1)	0.0113	0.0006	0.0184 $	1.912	11.3	0.0006
L_278 to L_FVA13 (1)	-0.0052	0.0156	-0.0163 $	1.535	15.1	0.0008
L_278 to V_375 (1)	-0.0090	0.0049	-0.0006 $	1.191	8.6	0.0007
L_278 to V_375 (2)	-0.0233	-0.0142	-0.0244 $	4.248	8.6	0.0017
L_FVA01 to L_FVA09 (1)	0.0000	-0.0070	-0.0411 $	4.549	9.2	0.0008
L_FVA01 to B_369 (1)	-0.0000	0.0000	-0.0000	0.000	4.6	0.0004
L_FVA01 to L_FVA02 (1)	-0.0025	-0.0008	0.0086 $	0.964	9.3	0.0008
L_FVA01 to L_FVA03 (1)	0.0029	0.0038	0.0263 $	1.284	20.8	0.0008
L_FVA01 to L_FVA09 (2)	-0.0109	0.0052	0.0622 $	6.915	9.2	0.0008
L_FVA01 to L_FVA20 (1)	-0.0075	0.0041	-0.0301 $	4.049	7.7	0.0013
L_FVA02 to L_FVA20 (1)	0.0030	-0.0005	-0.0040 $	0.469	10.8	0.0009
L_FVA02 to L_FVA03 (1)	0.0036	-0.0034	0.0373 $	2.630	14.3	0.0008
L_FVA03 to L_FVA12 (1)	0.0066	0.0001	0.0414 $	3.338	12.6	0.0011
L_FVA04 to L_FVA05 (1)	0.0004	0.0020	-0.0004 $	0.360	5.9	0.0003

L_FVA04 to L_FVA06 (1)	-0.0147	0.0059	-0.0243	$	2.185	13.3	0.0016
L_FVA05 to L_FVA06 (1)	0.0080	0.0020	-0.0128	$	1.782	8.6	0.0009
L_FVA08 to L_FVA09 (1)	0.0003	0.0017	0.0043	$	0.436	10.6	0.0009
L_FVA09 to L_FVA20 (1)	0.0013	0.0046	0.0250	$	1.597	15.9	0.0010
L_FVA10 to L_FVA04 (1)	0.0091	-0.0006	-0.0043	$	0.733	13.8	0.0008
L_FVA10 to L_FVA01 (1)	0.0049	0.0159	-0.0600	$	3.885	16.0	0.0022
L_FVA10 to L_FVA09 (1)	-0.0203	0.0045	-0.0820	$	10.110	8.4	0.0023
L_FVA10 to L_FVA17 (1)	-0.0010	0.0003	0.0022	$	0.304	7.9	0.0004
L_FVA12 to L_FVA13 (1)	0.0338	0.0172	0.0610	$	3.269	22.0	0.0009
L_FVA13 to L_FVA15 (1)	0.0059	-0.0069	0.0115	$	1.306	11.3	0.0006
L_FVA14 to L_FVA18 (1)	-0.0005	0.0001	0.0008		0.104	9.1	0.0009
L_FVA16 to L_FVA02 (1)	0.0131	0.0054	0.0401	$	1.533	27.7	0.0008
L_FVA16 to L_FVA12 (1)	0.0132	0.0093	0.0398	$	1.385	31.0	0.0043
L_FVA16 to L_FVA13 (1)	-0.0056	-0.0012	-0.0090	$	1.080	9.9	0.0009
L_FVA16 to L_FVA14 (1)	0.0015	-0.0015	0.0089	$	0.468	19.5	0.0009
L_FVA16 to L_FVA15 (1)	-0.0029	-0.0090	-0.0098	$	0.742	18.3	0.0011
L_FVA16 to L_FVA18 (1)	0.0015	-0.0044	0.0137	$	1.382	10.4	0.0009
L_FVA16 to V_375 (1)	0.0022	-0.0004	-0.0069	$	0.507	14.2	0.0010
L_FVA17 to L_FVA04 (1)	-0.0039	-0.0053	0.0144	$	1.893	8.4	0.0008
L_FVA20 to L_FVA19 (1)	-0.0000	0.0000	-0.0000		0.000	7.8	0.0008
NOLA to S_188 (1)	-0.0008	-0.0058	0.0026		0.576	11.1	0.0062
NOLA to S_188 (2)	-0.0020	-0.0051	0.0192	$	1.795	11.1	0.0062
NOLA to V_375 (2)	-0.0132	-0.0054	0.0029		1.001	14.5	0.0050
NOLA to V_375 (3)	0.0036	-0.0025	-0.0044		0.429	14.5	0.0044
NOLA to V_375 (4)	0.0024	-0.0035	-0.0096		0.728	14.5	0.0048
S_188 to 5720 (1)	-0.0004	0.0001	0.0061	$	0.630	9.7	0.0006
S_188 to L_FVA04 (2)	-0.0016	0.0046	-0.0122	$	1.584	8.3	0.0008
S_188 to L_FVA08 (1)	0.0042	0.0026	0.0058	$	1.021	7.4	0.0012
S_188 to L_FVA09 (1)	0.0084	0.0122	0.0390	$	3.579	11.7	0.0014
S_188 to V_375 (1)	0.0065	-0.0059	-0.0133	$	0.625	25.5	0.0014
S_188 to V_375 (2)	0.0042	0.0007	-0.0156	$	0.634	25.5	0.0017
S_188 to V_375 (3)	0.0055	-0.0022	0.0465	$	1.841	25.5	0.0013
S_188 to V_375 (4)	-0.0024	0.0011	-0.0338	$	1.329	25.5	0.0014
V_375 to L_FVA09 (1)	-0.0114	0.0074	0.0494	$	2.633	19.5	0.0010
V_375 to L_FVA01 (1)	0.0151	0.0075	0.0090	$	1.034	18.5	0.0010
V_375 to L_FVA03 (2)	0.0114	-0.0071	0.0182	$	2.680	8.4	0.0009
V_375 to L_FVA12 (2)	0.0267	-0.0079	0.0319	$	2.184	19.4	0.0011
RMS	0.0140	0.0090	0.0234				

$ - This session is flagged as a 3-sigma outlier

****

CONTROL POINT RESIDUALS (ADJUSTMENT MADE)

****

STA. NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)
A_148	0.0000	0.0000	0.0000
RMS	0.0000	0.0000	0.0000

****
OUTPUT STATION COORDINATES (LAT/LONG/HT)
****

STA_ID	-- LATITUDE --	-- LONGITUDE --	- ELLHGT -
5720	29 56 24.28546	-90 19 29.11006	-17.6328
A_148	29 59 20.98723	-90 05 14.21505	-24.3620
B_369	29 46 05.46910	-90 06 01.68850	-23.6533
BS2	29 55 29.24119	-90 08 03.13341	-19.1562
BVHS	29 20 12.49098	-89 24 23.01179	-14.2355
C_189	30 04 24.49947	-89 50 25.89974	-25.6855
COVG	30 28 33.26998	-90 05 43.92400	-4.5638
ENG5	29 52 44.24665	-89 56 30.19845	-16.9966
G_95	30 00 02.35328	-90 25 44.92664	-17.9192
GRIS	29 15 55.88409	-89 57 26.26329	-15.6356
HOUM	29 35 32.11036	-90 43 24.98893	-11.3270
L_278	29 52 34.17231	-89 53 45.38496	-23.6454
L_FVA01	29 48 26.24670	-90 06 56.03178	-21.2389
L_FVA02	29 46 53.61767	-90 01 27.27212	-18.7505
L_FVA03	29 51 48.26647	-89 54 35.21321	-19.7397
L_FVA04	30 02 26.61103	-90 14 33.61484	-21.2084
L_FVA05	29 59 54.21449	-90 16 46.66109	-25.0045
L_FVA06	29 59 27.08155	-90 22 04.61510	-21.3412
L_FVA08	29 54 36.17569	-90 16 13.82793	-21.9239
L_FVA09	29 52 34.74800	-90 10 03.47119	-21.8904
L_FVA10	29 56 58.04988	-90 08 46.06121	-18.1125
L_FVA12	29 51 58.10675	-89 46 47.11503	-22.6751
L_FVA13	30 00 23.83460	-89 56 25.22002	-21.5203
L_FVA14	30 07 25.48907	-89 52 03.09820	-20.9579
L_FVA15	30 04 38.29994	-89 51 23.48935	-20.5603
L_FVA16	30 01 52.88734	-90 02 20.84209	-20.4520
L_FVA17	30 01 12.64752	-90 09 33.54762	-21.2420
L_FVA18	30 04 33.38776	-89 56 37.38953	-20.5895
L_FVA19	29 40 06.28916	-90 06 36.17592	-23.5988
L_FVA20	29 44 16.25025	-90 07 26.14487	-23.2832
LAKEFRONT	30 02 06.65120	-90 01 26.60294	-25.3619
LMCN	29 15 17.90528	-90 39 40.65256	-14.7434
LWES	29 54 01.29591	-90 20 57.83459	-15.6707
MSSC	30 22 30.79491	-89 36 49.90462	-11.6943
NOLA	29 56 03.73331	-90 07 12.64741	-0.0984
S_188	29 58 00.31299	-90 13 45.30509	-23.7082
V_375	29 55 01.55115	-89 58 18.04375	-25.2020

****
OUTPUT VARIANCE/COVARIANCE
****

		2
STA_ID	SE/SN/SUP	--------- CX matrix (m)----------
	(39.40 %)	(not scaled by confidence level)
	(m)	(ECEF, XYZ cartesian)

```
5720            0.0002  5.1522e-008
                0.0002  -9.9840e-009 1.7477e-007
                0.0004  9.1302e-009 -5.6152e-008 7.6390e-008

A_148           0.0001  1.0000e-008
                0.0001  -1.6299e-024 1.0000e-008
                0.0001  1.5990e-024 -6.4755e-024 1.0000e-008

B_369           0.0003  6.7800e-008
                0.0003  -3.9133e-009 2.0535e-007
                0.0005  1.2835e-008 -7.0657e-008 1.0586e-007

BS2             0.0002  2.7037e-008
                0.0002  1.8816e-009 7.8081e-008
                0.0003  8.8291e-011 -2.6758e-008 3.9069e-008

BVHS            0.0012  1.5072e-006
                0.0005  3.2198e-008 1.3695e-006
                0.0012  3.4726e-008 -4.6630e-007 4.5831e-007

C_189           0.0002  4.4198e-008
                0.0002  -9.8907e-010 1.3311e-007
                0.0004  5.6082e-010 -5.2572e-008 9.1413e-008

COVG            0.0009  8.9017e-007
                0.0004  1.2472e-008 8.9661e-007
                0.0010  1.9055e-008 -3.0208e-007 3.0641e-007

ENG5            0.0005  2.3168e-007
                0.0004  9.5788e-009 5.4276e-007
                0.0008  2.0415e-009 -1.7791e-007 1.9239e-007

G_95            0.0003  8.0356e-008
                0.0004  -2.0365e-009 2.6198e-007
                0.0006  5.0607e-009 -8.6383e-008 1.9260e-007

GRIS            0.0010  1.0054e-006
                0.0005  4.7462e-009 9.8262e-007
                0.0011  1.2687e-008 -3.3115e-007 3.4145e-007

HOUM            0.0009  7.6726e-007
                0.0004  7.7186e-009 8.7823e-007
                0.0010  1.2956e-008 -2.9885e-007 3.0368e-007

L_278           0.0002  2.9862e-008
                0.0002  3.2441e-009 7.0941e-008
                0.0003  3.2257e-010 -3.1287e-008 6.2873e-008

L_FVA01         0.0002  4.9977e-008
                0.0002  -1.5004e-009 1.3755e-007
                0.0004  7.0267e-009 -4.5476e-008 6.8702e-008

L_FVA02         0.0002  5.8312e-008
                0.0002  1.7134e-009 1.8923e-007
```

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              0.0005  2.5120e-009 -5.8053e-008 7.6554e-008

L_FVA03       0.0002  3.5780e-008
              0.0002  4.5778e-009 9.9501e-008
              0.0004  6.1417e-010 -4.0004e-008 6.1952e-008

L_FVA04       0.0002  5.2853e-008
              0.0002  -1.2119e-008 1.8294e-007
              0.0004  1.0598e-008 -4.7960e-008 6.8388e-008

L_FVA05       0.0002  5.6159e-008
              0.0002  -1.1153e-008 1.9646e-007
              0.0005  9.5512e-009 -5.8171e-008 8.1534e-008

L_FVA06       0.0003  1.0549e-007
              0.0003  -4.2493e-008 3.6628e-007
              0.0006  1.3889e-008 -9.6767e-008 1.1454e-007

L_FVA08       0.0003  8.6040e-008
              0.0003  -1.1664e-008 2.8970e-007
              0.0006  2.1931e-008 -1.3049e-007 1.7922e-007

L_FVA09       0.0002  4.8227e-008
              0.0002  -1.0104e-009 1.3901e-007
              0.0004  7.5411e-009 -5.0207e-008 7.7401e-008

L_FVA10       0.0003  6.4153e-008
              0.0003  -2.9965e-008 1.9955e-007
              0.0004  1.5569e-008 -3.5662e-008 5.8657e-008

L_FVA12       0.0002  4.7679e-008
              0.0002  -6.3662e-010 1.3693e-007
              0.0004  3.3758e-009 -5.6684e-008 9.0454e-008

L_FVA13       0.0002  4.2645e-008
              0.0002  -8.1555e-010 1.2986e-007
              0.0004  1.8218e-009 -5.0722e-008 8.9179e-008

L_FVA14       0.0003  7.3563e-008
              0.0003  2.7998e-009 2.3949e-007
              0.0005  1.8053e-009 -7.9589e-008 1.2829e-007

L_FVA15       0.0002  4.9065e-008
              0.0003  -5.5075e-009 1.5710e-007
              0.0004  1.3983e-009 -5.9686e-008 1.0011e-007

L_FVA16       0.0002  3.2088e-008
              0.0002  4.1223e-009 9.9749e-008
              0.0004  -5.2010e-009 -3.9615e-008 6.6421e-008

L_FVA17       0.0003  6.3151e-008
              0.0003  -3.0051e-008 2.1390e-007
              0.0005  1.6125e-008 -4.0008e-008 6.0237e-008
```

```
L_FVA18         0.0003  7.3796e-008
                0.0003  1.4317e-009 2.4905e-007
                0.0005  4.0802e-009 -8.9812e-008 1.3016e-007

L_FVA19         0.0004  1.4560e-007
                0.0005  6.3302e-008 6.5500e-007
                0.0008  -1.9438e-008 -1.8130e-007 2.7544e-007

L_FVA20         0.0003  7.8261e-008
                0.0003  -4.3912e-009 3.0819e-007
                0.0006  1.1530e-008 -7.0035e-008 9.8857e-008

LAKEFRONT       0.0002  2.2583e-008
                0.0001  -4.9107e-009 6.6938e-008
                0.0003  2.1519e-009 -2.5651e-008 3.5408e-008

LMCN            0.0008  7.1555e-007
                0.0004  2.6338e-008 7.5999e-007
                0.0009  7.1269e-009 -2.5327e-007 2.5885e-007

LWES            0.0005  2.3535e-007
                0.0004  9.4328e-009 6.2727e-007
                0.0008  -6.5649e-010 -2.1277e-007 2.2672e-007

MSSC            0.0012  1.3591e-006
                0.0005  4.0638e-008 1.2493e-006
                0.0012  2.8447e-008 -4.3128e-007 4.2306e-007

NOLA            0.0005  2.1607e-007
                0.0005  3.1946e-008 9.6429e-007
                0.0011  -3.3790e-009 -3.3440e-007 3.7182e-007

S_188           0.0002  3.9214e-008
                0.0002  -8.7276e-009 1.2718e-007
                0.0004  7.3674e-009 -4.5214e-008 6.0392e-008

V_375           0.0001  1.7301e-008
                0.0001  1.2000e-009 4.4776e-008
                0.0002  2.2703e-010 -1.5380e-008 2.9151e-008
```

****

VARIANCE FACTOR = 590.0149

Note: Values < 1.0 indicate statistics are pessimistic, while values > 1.0 indicate optimistic statistics. Entering this value as the network adjustment scale factor will bring variance factor to one.

****

Appendix F: FULLY CONSTRAINED ADJUSTMENT

```
             ************************************************
             * NETWORK - WEIGHTED GPS NETWORK ADJUSTMENT    *
             *                                              *
             * (c) Copyright NovAtel Inc., (2011)           *
             *                                              *
             * Version: 8.30.2105                           *
             *                                              *
             * FILE:
C:\projects\12-101_New_Orleans_HSDRRS_LiDAR\Survey\Field_Data\Static_Network\Data_Processing\12-1
01_NewOrleans.net
             ************************************************

DATE(m/d/y): Wed.   4/04/12   TIME: 16:38:50




************************************************************

  DATUM:            'WGS84'
  SCALE_FACTOR:     1.0000
  CONFIDENCE LEVEL: 39.40 %   (Scale factor is 1.0009)


************************************************************
    INPUT CONTROL/CHECK POINTS
************************************************************

STA_ID     TYPE    -- LATITUDE --   -- LONGITUDE --  ELLHGT -   HZ-SD   V-SD
5720       GCP-HZ  29 56 24.28492  -90 19 29.10957            0.00010
A_148      GCP-3D  29 59 20.98723  -90 05 14.21505    -24.378 0.00010 0.00010
B_369      GCP-3D  29 46 05.46850  -90 06 01.68883    -23.668 0.00010 0.00010
BVHS       GCP-HZ  29 20 12.48967  -89 24 23.01085            0.00010
C_189      GCP-VT                                    -25.720         0.00010
COVG       GCP-HZ  30 28 33.26965  -90 05 43.92326            0.00010
ENG5       GCP-HZ  29 52 44.24644  -89 56 30.19792            0.00010
G_95       GCP-VT                                    -17.943         0.00010
GRIS       GCP-HZ  29 15 55.88303  -89 57 26.26266            0.00010
HOUM       GCP-HZ  29 35 32.10988  -90 43 24.98886            0.00010
L_278      GCP-HZ  29 52 34.17140  -89 53 45.38533            0.00010
LMCN       GCP-HZ  29 15 17.90440  -90 39 40.65331            0.00010
LWES       GCP-HZ  29 54 01.29547  -90 20 57.83389            0.00010
MSSC       GCP-HZ  30 22 30.79466  -89 36 49.90328            0.00010
NOLA       GCP-HZ  29 56 03.73286  -90 07 12.64688            0.00010
S_188      GCP-HZ  29 58 00.31254  -90 13 45.30476            0.00010
V_375      GCP-HZ  29 55 01.55072  -89 58 18.04269            0.00010



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    INPUT VECTORS
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SESSION NAME	VECTOR(m) DX/DY/DZ	------ Covariance (m) [unscaled] ------ standard deviations in brackets
5720 to G_95 (2)	-10053.2096	1.1381e-007 (0.0003)
	3420.8461	8.6248e-008 4.0538e-007 (0.0006)
	5816.7194	-1.9924e-008 -8.7095e-008 6.0399e-007 (0.0008)
5720 to L_FVA04 (2)	7948.0567	6.0902e-008 (0.0002)
	5540.5859	7.5185e-008 4.2525e-007 (0.0007)
	9661.2198	-2.4856e-008 -1.4408e-007 2.0026e-007 (0.0004)
5720 to L_FVA05 (2)	4372.2455	1.9098e-008 (0.0001)
	3212.4409	2.3451e-009 9.0724e-008 (0.0003)
	5596.1786	-2.0542e-009 -3.4647e-008 4.8564e-008 (0.0002)
5720 to L_FVA06 (1)	-4152.1477	3.3429e-007 (0.0006)
	2839.7573	-3.0516e-007 1.4197e-006 (0.0012)
	4874.4161	6.8040e-008 -2.9791e-007 1.6246e-007 (0.0004)
5720 to L_FVA08 (1)	5229.1363	1.8718e-007 (0.0004)
	-1684.1448	-1.3638e-007 7.8881e-007 (0.0009)
	-2887.2342	1.2892e-007 -4.5111e-007 5.0089e-007 (0.0007)
5720 to L_FVA09 (1)	15158.7194	1.8000e-007 (0.0004)
	-3585.5805	3.9037e-010 6.4758e-007 (0.0008)
	-6128.7541	4.5266e-008 -3.4255e-007 4.2591e-007 (0.0007)
A_148 to BS2 (2)	-4536.1294	1.7108e-008 (0.0001)
	-3559.0735	1.9184e-009 6.9330e-008 (0.0003)
	-6179.9767	7.1645e-011 -2.7351e-008 2.9781e-008 (0.0002)
A_148 to LAKEFRONT (1)	6102.1132	1.6484e-008 (0.0001)
	2546.4610	-8.4333e-009 7.4254e-008 (0.0003)
	4416.6984	2.5505e-009 -3.1359e-008 3.0108e-008 (0.0002)
A_148 to L_FVA10 (1)	-5684.0431	3.4086e-007 (0.0006)
	-2192.4935	-4.1755e-007 1.0540e-006 (0.0010)
	-3809.7234	1.1749e-007 -1.8720e-007 1.3349e-007 (0.0004)
A_148 to L_FVA16 (1)	4648.7746	5.2543e-008 (0.0002)
	2330.9045	1.9042e-008 2.0211e-007 (0.0004)
	4052.2336	-2.8289e-008 -1.0068e-007 1.4001e-007 (0.0004)
A_148 to L_FVA17 (1)	-6946.5111	3.5293e-007 (0.0006)
	1731.6468	-4.3161e-007 1.0872e-006 (0.0010)
	2979.0486	1.2123e-007 -1.9267e-007 1.3788e-007 (0.0004)
BVHS to BS2 (1)	-70609.3646	6.7922e-006 (0.0026)
	31944.2021	7.3798e-008 6.0003e-006 (0.0024)
	56650.1125	4.3120e-007 -1.9254e-006 1.8556e-006 (0.0014)
BVHS to A_148 (1)	-66073.2499	1.3638e-005 (0.0037)
	35503.2714	3.5484e-007 1.4298e-005 (0.0038)
	62830.1033	-2.0909e-007 -3.8832e-006 3.4751e-006 (0.0019)

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B_369 to L_FVA01 (1)  -1455.5205  1.7821e-008 (0.0001)
                       2154.0854  -2.4121e-009 6.7797e-008 (0.0003)
                       3763.1803  5.8076e-009 -2.5175e-008 3.7149e-008 (0.0002)

C_189 to L_FVA12 (2)   5903.5381  2.4774e-005 (0.0050)
                      -11464.0725  -4.8756e-006 4.4813e-005 (0.0067)
                      -19908.4437  3.2896e-006 -6.0669e-006 5.4163e-006 (0.0023)

C_189 to L_FVA13 (1)  -9619.3839  3.3979e-008 (0.0002)
                      -3731.8219  4.1763e-009 2.2491e-007 (0.0005)
                      -6413.1244  -6.1479e-009 -8.8632e-008 1.0493e-007 (0.0003)

C_189 to L_FVA13 (2)  -9619.3803  4.8553e-008 (0.0002)
                      -3731.8302  -1.0963e-008 2.1970e-007 (0.0005)
                      -6413.1332  -4.1133e-009 -8.0187e-008 1.0585e-007 (0.0003)

C_189 to L_FVA14 (1)  -2609.5998  7.9799e-008 (0.0003)
                       2784.1451  9.1382e-009 3.4853e-007 (0.0006)
                       4824.0660  -3.3397e-009 -1.1284e-007 1.3580e-007 (0.0004)

C_189 to L_FVA15 (1)  -1542.8721  1.1973e-008 (0.0001)
                        204.4434  -7.2060e-009 5.7793e-008 (0.0002)
                        370.3069  7.3394e-010 -2.1343e-008 2.6901e-008 (0.0002)

C_189 to L_FVA18 (1)  -9949.3023  1.0562e-007 (0.0003)
                        114.0036  -2.5488e-009 3.4380e-007 (0.0006)
                        239.4032  5.3596e-009 -1.2397e-007 1.3573e-007 (0.0004)

ENG5 to A_148 (1)     -14052.2425  2.4559e-006 (0.0016)
                       6105.9516  1.4319e-006 1.9040e-005 (0.0044)
                      10583.0619  -5.0025e-007 -7.6444e-006 9.1143e-006 (0.0030)

ENG5 to BVHS (1)      52021.0004  2.0108e-006 (0.0014)
                      -29397.3597  4.2985e-008 1.4183e-006 (0.0012)
                      -52247.0207  3.3651e-008 -5.3321e-007 5.0548e-007 (0.0007)

ENG5 to COVG (1)      -14803.2959  1.8312e-006 (0.0014)
                      33258.7809  2.4603e-008 1.3445e-006 (0.0012)
                      57212.6052  2.5590e-008 -4.9542e-007 4.7334e-007 (0.0007)

GRIS to ENG5 (1)       1479.4414  1.8468e-006 (0.0014)
                      33559.8140  2.1006e-008 1.3497e-006 (0.0012)
                      59137.5585  2.5441e-008 -4.9303e-007 4.6817e-007 (0.0007)

G_95 to L_FVA04 (1)   18001.2590  1.1943e-007 (0.0003)
                       2119.7515  2.5007e-008 2.8022e-007 (0.0005)
                       3844.4450  1.3209e-008 -1.7319e-007 6.2218e-007 (0.0008)

G_95 to L_FVA05 (1)   14425.4576  1.0436e-007 (0.0003)
                       -208.4015  4.5212e-008 4.1013e-007 (0.0006)
                       -220.5883  2.3953e-008 -9.0508e-008 4.4353e-007 (0.0007)

G_95 to L_FVA06 (1)    5901.0785  2.5765e-007 (0.0005)
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                      -581.0599  -1.2359e-007 5.4875e-007 (0.0007)
                      -942.3523  -1.0223e-007 -2.3996e-007 4.7420e-007 (0.0007)

HOUM to ENG5 (1)      75729.7636  2.0418e-006 (0.0014)
                      15328.1986  4.4218e-008 1.4527e-006 (0.0012)
                      27592.9673  2.0200e-008 -5.4564e-007 5.1434e-007 (0.0007)

HOUM to ENG5 (2)      75729.7683  2.0339e-006 (0.0014)
                      15328.2147  2.1770e-008 1.5117e-006 (0.0012)
                      27592.9611  2.3228e-008 -5.5141e-007 5.2002e-007 (0.0007)

LMCN to A_148 (1)     55852.8624  1.3883e-005 (0.0037)
                      39868.7070  2.5446e-007 1.4948e-005 (0.0039)
                      70740.3234  -2.2890e-007 -4.0853e-006 3.5618e-006 (0.0019)

LMCN to ENG5 (1)      69905.1190  2.3218e-006 (0.0015)
                      33762.7479  4.2658e-008 1.6488e-006 (0.0013)
                      60157.2620  2.6491e-008 -6.1582e-007 5.8109e-007 (0.0008)

LMCN to ENG5 (2)      69905.1229  2.3308e-006 (0.0015)
                      33762.7545  3.4477e-008 1.6697e-006 (0.0013)
                      60157.2620  2.2727e-008 -6.2798e-007 5.9144e-007 (0.0008)

LWES to COVG (1)      24572.0449  1.8780e-006 (0.0014)
                      31977.6186  1.5775e-008 1.3439e-006 (0.0012)
                      55155.0335  3.2226e-008 -4.9881e-007 4.8208e-007 (0.0007)

LWES to ENG5 (1)      39375.3383  2.7909e-007 (0.0005)
                      -1281.1602  6.7761e-008 1.3643e-006 (0.0012)
                      -2057.5728  -2.7972e-008 -5.2916e-007 6.1694e-007 (0.0008)

LWES to GRIS (1)      37895.8985  2.0355e-006 (0.0014)
                      -34840.9760  3.2231e-008 1.4792e-006 (0.0012)
                      -61195.1294  1.9177e-008 -5.3976e-007 5.1197e-007 (0.0007)

LWES to HOUM (1)      -36354.4137  1.6324e-006 (0.0013)
                      -16609.3751  2.2801e-008 1.2049e-006 (0.0011)
                      -29650.5267  1.4326e-008 -4.3842e-007 4.1417e-007 (0.0006)

LWES to LMCN (1)      -30529.7694  1.9857e-006 (0.0014)
                      -35043.9120  2.6378e-008 1.4665e-006 (0.0012)
                      -62214.8223  1.6998e-008 -5.3258e-007 5.0159e-007 (0.0007)

L_278 to C_189 (2)     5322.7476  1.8934e-007 (0.0004)
                      10941.9106  1.2319e-007 1.1571e-006 (0.0011)
                      18945.9332  -1.3551e-007 -4.5206e-007 6.2014e-007 (0.0008)

L_278 to A_148 (1)    -18475.1750  8.5942e-008 (0.0003)
                       6248.5227  1.4154e-008 2.0820e-007 (0.0005)
                      10855.3236  -1.1529e-008 -1.5391e-007 3.2102e-007 (0.0006)

L_278 to C_189 (1)     5322.7308  1.3598e-007 (0.0004)
                      10941.9061  -6.3384e-008 3.4076e-007 (0.0006)
                      18945.8933  6.5584e-008 -2.2082e-007 3.8467e-007 (0.0006)
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L_278 to L_FVA03 (1)  -1336.0140  1.8782e-008 (0.0001)
                       -709.6379  4.5372e-009 7.1038e-008 (0.0003)
                      -1223.7842  7.9780e-009 -3.6173e-008 7.2372e-008 (0.0003)

L_278 to L_FVA12 (1)  11226.2862  4.9784e-008 (0.0002)
                       -522.1507  1.1712e-008 2.0827e-007 (0.0005)
                       -962.5090  -5.6600e-009 -8.1142e-008 8.3182e-008 (0.0003)

L_278 to L_FVA13 (1)  -4296.6559  8.3184e-008 (0.0003)
                       7210.0992  -1.7851e-008 3.0425e-007 (0.0006)
                      12532.7490  5.0813e-008 -9.3419e-008 2.0494e-007 (0.0005)

L_FVA01 to L_FVA10 (1) -2934.6239  7.3490e-007 (0.0009)
                       7854.7168  -5.1748e-007 3.1100e-006 (0.0018)
                      13666.1726  4.3548e-007 -1.1162e-006 9.6707e-007 (0.0010)

L_FVA01 to L_FVA02 (1)  8827.6720  1.0859e-007 (0.0003)
                      -1430.1343  -5.7867e-009 3.6290e-007 (0.0006)
                      -2473.9170  9.5989e-009 -1.1048e-007 1.0006e-007 (0.0003)

L_FVA01 to L_FVA03 (1) 19888.5288  1.3118e-007 (0.0004)
                       3089.0661  5.5060e-008 3.8081e-007 (0.0006)
                       5396.7447  -3.5057e-009 -1.2604e-007 1.3686e-007 (0.0004)

L_FVA01 to L_FVA09 (1) -5022.2075  1.5201e-007 (0.0004)
                       3820.5090  -1.7254e-007 4.2910e-007 (0.0007)
                       6636.8310  4.6911e-008 -9.5929e-008 1.1608e-007 (0.0003)

L_FVA01 to L_FVA09 (2) -5022.1964  8.0915e-008 (0.0003)
                       3820.5925  4.0888e-008 3.6770e-007 (0.0006)
                       6636.7690  2.2044e-009 -1.4593e-007 1.3767e-007 (0.0004)

L_FVA01 to L_FVA20 (1)  -816.8901  1.9981e-007 (0.0004)
                      -3818.9048  -2.3144e-007 1.3307e-006 (0.0012)
                      -6682.6186  6.2356e-008 -1.2547e-007 1.2445e-007 (0.0004)

L_FVA02 to L_FVA20 (1) -9644.5700  1.2218e-007 (0.0003)
                      -2388.7377  1.3796e-007 5.3873e-007 (0.0007)
                      -4208.7140  -1.2165e-008 -1.0718e-007 1.1469e-007 (0.0003)

L_FVA03 to L_FVA12 (1) 12562.3091  1.4229e-007 (0.0004)
                        187.4965  -7.6795e-008 4.9764e-007 (0.0007)
                        261.2783  5.9864e-008 -2.6357e-007 5.4754e-007 (0.0007)

L_FVA03 to L_FVA02 (1) -11060.8585  1.3520e-007 (0.0004)
                       -4519.2234  1.7904e-008 4.9643e-007 (0.0007)
                       -7870.6577  -1.2753e-008 -9.4947e-008 8.6901e-008 (0.0003)

L_FVA04 to L_FVA06 (1) -12100.1848  4.3889e-007 (0.0007)
                       -2700.8518  -4.0064e-007 1.8639e-006 (0.0014)
                       -4786.7971  8.9329e-008 -3.9112e-007 2.1330e-007 (0.0005)

L_FVA04 to L_FVA05 (1) -3575.8081  1.3722e-008 (0.0001)
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                      -2328.1494  2.8300e-009 6.8442e-008 (0.0003)
                      -4065.0482  -9.0000e-010 -2.3304e-008 3.3405e-008 (0.0002)

L_FVA04 to L_FVA10 (1)  9298.2551  1.5468e-007 (0.0004)
                      -5092.0700  9.5166e-008 3.9447e-007 (0.0006)
                      -8760.5771  -4.6957e-009 -2.7347e-008 1.7083e-007 (0.0004)

L_FVA04 to L_FVA17 (1)  8035.7892  7.0761e-008 (0.0003)
                      -1167.9908  6.4234e-008 5.2835e-007 (0.0007)
                      -1971.7906  5.9059e-009 -9.2183e-008 1.0527e-007 (0.0003)

L_FVA05 to L_FVA06 (1) -8524.3998  1.1175e-007 (0.0003)
                       -372.6917  -3.4143e-008 4.6238e-007 (0.0007)
                       -721.7529  -6.8809e-009 -1.3411e-007 1.6943e-007 (0.0004)

L_FVA08 to L_FVA09 (1)  9929.5861  1.1450e-007 (0.0003)
                      -1901.4498  3.7616e-008 4.6406e-007 (0.0007)
                      -3241.5093  3.5477e-009 -1.8444e-007 2.5591e-007 (0.0005)

L_FVA09 to L_FVA20 (1)  4205.3087  1.4011e-007 (0.0004)
                      -7639.3984  -1.3383e-007 7.2143e-007 (0.0008)
                      -13319.4509  4.6874e-008 -1.7305e-007 1.6123e-007 (0.0004)

L_FVA09 to L_FVA10 (1)  2087.5623  6.4494e-007 (0.0008)
                       4034.2011  1.2834e-007 3.1430e-006 (0.0018)
                       7029.3423  6.6607e-008 -8.2130e-007 1.0456e-006 (0.0010)

L_FVA10 to L_FVA17 (1) -1262.4516  2.1806e-008 (0.0001)
                       3924.1003  7.8182e-009 1.1404e-007 (0.0003)
                       6788.7794  -5.8873e-009 -3.9447e-008 5.7462e-008 (0.0002)

L_FVA12 to L_FVA13 (1) -15522.9926  9.9981e-008 (0.0003)
                       7732.3316  1.8430e-008 2.4178e-007 (0.0005)
                      13495.2083  -8.7934e-009 -1.7911e-007 4.3558e-007 (0.0007)

L_FVA12 to L_FVA16 (1) -25052.6351  2.5089e-006 (0.0016)
                       9101.4795  -3.6246e-006 1.3950e-005 (0.0037)
                      15870.1272  9.1464e-007 -2.3935e-006 1.8805e-006 (0.0014)

L_FVA13 to L_FVA16 (1) -9529.6949  8.9094e-008 (0.0003)
                       1369.2289  -4.1251e-008 5.0121e-007 (0.0007)
                       2374.8400  2.1844e-008 -1.5323e-007 1.5160e-007 (0.0004)

L_FVA13 to L_FVA15 (1)  8076.5040  3.9133e-008 (0.0002)
                       3936.2778  -7.4924e-009 2.2313e-007 (0.0005)
                       6783.4455  -5.8000e-009 -8.1337e-008 1.0032e-007 (0.0003)

L_FVA14 to L_FVA18 (1) -7339.7022  1.0752e-007 (0.0003)
                      -2670.1375  -4.4790e-009 4.5031e-007 (0.0007)
                      -4584.6634  2.7160e-008 -1.4062e-007 1.7318e-007 (0.0004)

L_FVA16 to L_FVA02 (1)  1429.4572  1.0480e-007 (0.0003)
                      -13808.1276  -1.5117e-008 4.3474e-007 (0.0007)
                      -24002.0962  2.2102e-008 -1.6637e-007 1.7706e-007 (0.0004)
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L_FVA16 to L_FVA14 (1) 16539.4715  1.6497e-007 (0.0004)
                        5146.7531  -8.6145e-009 4.3214e-007 (0.0007)
                        8862.3533  2.5563e-008 -9.0118e-008 1.9150e-007 (0.0004)

L_FVA16 to L_FVA15 (1) 17606.2024  2.3212e-007 (0.0005)
                        2567.0361  -2.1298e-007 7.4321e-007 (0.0009)
                        4408.6137  7.7132e-008 -1.7919e-007 2.4025e-007 (0.0005)

L_FVA16 to L_FVA18 (1)  9199.7687  1.2250e-007 (0.0003)
                        2476.6206  -1.8679e-009 5.1860e-007 (0.0007)
                        4277.6905  3.0557e-008 -1.6496e-007 2.0114e-007 (0.0004)

L_FVA20 to L_FVA19 (1)  1335.4287  6.7338e-008 (0.0003)
                       -3816.1299  6.7693e-008 3.4681e-007 (0.0006)
                       -6685.3819  -3.0968e-008 -1.1126e-007 1.7658e-007 (0.0004)

MSSC to A_148 (1)      -45538.0708  1.1341e-005 (0.0034)
                       -21623.6706  5.2896e-007 1.1421e-005 (0.0034)
                       -37000.9266  -2.3125e-007 -3.2315e-006 2.8711e-006 (0.0017)

MSSC to BS2 (1)        -50074.1961  5.8247e-006 (0.0024)
                       -25182.7448  1.1730e-007 5.0598e-006 (0.0022)
                       -43180.9084  3.5716e-007 -1.6866e-006 1.6291e-006 (0.0013)

MSSC to ENG5 (1)       -31485.8317  1.8494e-006 (0.0014)
                       -27729.6214  5.2069e-008 1.3173e-006 (0.0011)
                       -47583.9928  2.8141e-008 -5.0759e-007 4.7717e-007 (0.0007)

NOLA to A_148 (1)       3180.9228  4.9867e-007 (0.0007)
                        3048.6823  8.1994e-008 2.3409e-006 (0.0015)
                        5250.0242  -2.9833e-008 -9.2455e-007 1.1247e-006 (0.0011)

NOLA to A_148 (3)       3180.9495  3.3385e-006 (0.0018)
                        3048.6838  -2.3635e-006 1.3464e-005 (0.0037)
                        5250.0412  9.4087e-007 -3.9871e-006 3.7769e-006 (0.0019)

NOLA to ENG5 (1)       17233.1693  2.5755e-006 (0.0016)
                       -3057.2710  1.8304e-006 1.2591e-005 (0.0035)
                       -5333.0381  -2.1350e-007 -3.2520e-006 4.1233e-006 (0.0020)

NOLA to ENG5 (2)       17233.1686  2.5757e-006 (0.0016)
                       -3057.2746  1.8424e-006 1.2630e-005 (0.0036)
                       -5333.0378  -2.1715e-007 -3.2602e-006 4.1289e-006 (0.0020)

NOLA to LWES (1)       -22142.1748  4.0633e-006 (0.0020)
                       -1776.1000  3.0714e-006 1.6874e-005 (0.0041)
                       -3275.4753  -9.8547e-007 -5.6729e-006 5.2331e-006 (0.0023)

S_188 to COVG (1)      12953.3747  4.6615e-004 (0.0216)
                       28356.7687  -2.6369e-005 3.1927e-005 (0.0057)
                       48781.0260  3.8788e-005 -1.1065e-005 2.3939e-005 (0.0049)

S_188 to 5720 (1)      -9225.8971  4.1751e-008 (0.0002)
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                     -1437.0304  -1.1638e-008 1.9869e-007 (0.0004)
                     -2558.9061  8.2513e-009 -6.8221e-008 7.4082e-008 (0.0003)

S_188 to A_148 (1)    13704.4666  1.7730e-007 (0.0004)
                       1203.9325  -2.4256e-008 6.6666e-007 (0.0008)
                       2151.4857  7.6479e-008 -2.3197e-007 2.9864e-007 (0.0005)

S_188 to BS2 (1)       9168.3259  1.5149e-007 (0.0004)
                     -2355.1368  -2.1309e-008 5.7118e-007 (0.0008)
                     -4028.5134  6.5080e-008 -1.9883e-007 2.5510e-007 (0.0005)

S_188 to BS2 (2)       9168.3236  8.9601e-008 (0.0003)
                     -2355.1528  -1.0692e-008 5.8783e-007 (0.0008)
                     -4028.5013  2.0064e-008 -2.6723e-007 2.3820e-007 (0.0005)

S_188 to BS2 (3)       9168.3180  3.5678e-008 (0.0002)
                     -2355.1394  -2.1888e-008 1.6145e-007 (0.0004)
                     -4028.5123  9.4661e-009 -7.3065e-008 6.9368e-008 (0.0003)

S_188 to BS2 (5)       9168.3162  3.0947e-008 (0.0002)
                     -2355.1476  -1.6574e-008 9.7864e-008 (0.0003)
                     -4028.5143  1.3408e-008 -3.4126e-008 4.5249e-008 (0.0002)

S_188 to COVG (2)     12953.3916  1.0401e-005 (0.0032)
                     28356.7774  -9.4587e-007 1.0996e-005 (0.0033)
                     48781.0184  7.9337e-007 -3.2202e-006 2.5544e-006 (0.0016)

S_188 to ENG5 (1)     27756.6916  9.6343e-006 (0.0031)
                     -4902.0115  1.2280e-006 4.8273e-005 (0.0069)
                     -8431.5986  -1.1424e-006 -8.8992e-006 6.6327e-006 (0.0026)

S_188 to ENG5 (2)     27756.6839  1.0551e-006 (0.0010)
                     -4902.0086  -3.9646e-007 4.9228e-006 (0.0022)
                     -8431.6018  1.1167e-007 -1.8906e-006 2.3990e-006 (0.0015)

S_188 to GRIS (1)     26277.2567  5.3561e-004 (0.0231)
                     -38461.8229  -2.9148e-005 3.7870e-005 (0.0062)
                     -67569.1677  4.0892e-005 -1.2428e-005 2.6718e-005 (0.0052)

S_188 to GRIS (2)     26277.2620  1.2626e-005 (0.0036)
                     -38461.8359  -1.1635e-006 1.3085e-005 (0.0036)
                     -67569.1586  9.0196e-007 -3.8430e-006 3.0514e-006 (0.0017)

S_188 to HOUM (1)     -47973.0880  4.6925e-004 (0.0217)
                     -20230.2288  -2.4458e-005 3.2920e-005 (0.0057)
                     -36024.5496  3.5564e-005 -1.0850e-005 2.3389e-005 (0.0048)

S_188 to HOUM (2)     -47973.0691  1.0920e-005 (0.0033)
                     -20230.2376  -1.0008e-006 1.1451e-005 (0.0034)
                     -36024.5450  8.3363e-007 -3.3571e-006 2.6571e-006 (0.0016)

S_188 to LMCN (1)     -42148.4243  5.6678e-004 (0.0238)
                     -38664.7655  -2.9517e-005 4.0019e-005 (0.0063)
                     -68588.8546  4.2874e-005 -1.3119e-005 2.8299e-005 (0.0053)
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S_188 to LMCN (2)     -42148.4122  1.3621e-005 (0.0037)
                      -38664.7814  -1.2604e-006 1.3867e-005 (0.0037)
                      -68588.8447  9.1180e-007 -4.0791e-006 3.2492e-006 (0.0018)

S_188 to LWES (1)     -11618.6558  2.7177e-006 (0.0016)
                      -3620.8444  1.7750e-007 1.6129e-005 (0.0040)
                      -6374.0347  -5.9730e-008 -5.7266e-006 4.3177e-006 (0.0021)

S_188 to LWES (2)     -11618.6451  5.0358e-006 (0.0022)
                      -3620.8908  -5.5162e-006 3.0475e-005 (0.0055)
                      -6374.0029  9.5718e-007 -1.0312e-005 7.4756e-006 (0.0027)

S_188 to L_FVA04 (2)  -1277.8418  6.6892e-008 (0.0003)
                       4103.5412  -2.5574e-008 4.4197e-007 (0.0007)
                       7102.3204  2.4805e-008 -1.1060e-007 1.1786e-007 (0.0003)

S_188 to L_FVA08 (1)  -3996.7668  2.2796e-007 (0.0005)
                      -3121.1793  -7.5848e-008 6.8823e-007 (0.0008)
                      -5446.1395  1.1636e-007 -4.6913e-007 6.3158e-007 (0.0008)

S_188 to L_FVA09 (1)   5932.8156  2.7669e-007 (0.0005)
                      -5022.6079  -9.1586e-008 8.3763e-007 (0.0009)
                      -8687.6702  1.4107e-007 -5.7241e-007 7.6823e-007 (0.0009)

S_188 to NOLA (1)     10523.5244  4.4683e-006 (0.0021)
                      -1844.7418  6.0919e-007 2.9782e-005 (0.0055)
                      -3098.5591  4.0222e-008 -6.9910e-006 4.2790e-006 (0.0021)

S_188 to NOLA (2)     10523.5232  4.5116e-006 (0.0021)
                      -1844.7561  -4.9295e-006 2.7342e-005 (0.0052)
                      -3098.5503  8.5061e-007 -9.2498e-006 6.7075e-006 (0.0026)

V_375 to A_148 (1)    -11157.2572  2.3405e-007 (0.0005)
                       3993.6059  1.9729e-008 1.1029e-006 (0.0011)
                       6921.9861  4.0190e-008 -1.6620e-007 3.9199e-007 (0.0006)

V_375 to A_148 (2)    -11157.2550  9.3918e-008 (0.0003)
                       3993.6095  3.3563e-008 5.8492e-007 (0.0008)
                       6921.9776  1.6175e-008 -2.4229e-007 2.2941e-007 (0.0005)

V_375 to A_148 (3)    -11157.2499  4.7074e-008 (0.0002)
                       3993.6117  -7.2837e-009 1.6988e-007 (0.0004)
                       6921.9772  1.4665e-009 -8.4303e-008 8.0070e-008 (0.0003)

V_375 to A_148 (4)    -11157.2399  5.2643e-008 (0.0002)
                       3993.6122  3.5841e-008 4.4967e-007 (0.0007)
                       6921.9852  -1.2896e-008 -2.0504e-007 3.2367e-007 (0.0006)

V_375 to A_148 (5)    -11157.2507  6.1922e-008 (0.0002)
                       3993.6208  5.3948e-008 4.2761e-007 (0.0007)
                       6921.9906  7.8578e-009 -7.5823e-008 3.0700e-007 (0.0006)

V_375 to A_148 (6)    -11157.2676  2.3598e-007 (0.0005)
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                      3993.6080  -1.2146e-007 1.2464e-006 (0.0011)
                      6922.0108  1.2250e-007 -5.0797e-007 4.7141e-007 (0.0007)

V_375 to COVG (1)    -11908.3145  7.0816e-006 (0.0027)
                     31146.4640  4.1942e-007 4.9964e-006 (0.0022)
                     53551.5157  1.4792e-007 -1.5732e-006 1.5119e-006 (0.0012)

V_375 to GRIS (1)     1415.5459  1.7764e-005 (0.0042)
                     -35672.1526  -3.6192e-007 8.2664e-006 (0.0029)
                     -62798.6618  -9.8904e-007 -2.3240e-006 3.2156e-006 (0.0018)

V_375 to LAKEFRONT (1) -5055.1550  9.8152e-008 (0.0003)
                      6540.0864  -1.3366e-008 4.3529e-007 (0.0007)
                     11338.6968  3.5064e-008 -2.8985e-007 3.3145e-007 (0.0006)

V_375 to LAKEFRONT (4) -5055.1480  1.1098e-007 (0.0003)
                      6540.0673  -4.1512e-009 5.1324e-007 (0.0007)
                     11338.7014  3.9186e-008 -2.5054e-007 2.5821e-007 (0.0005)

V_375 to LMCN (1)    -67010.1284  9.3428e-006 (0.0031)
                     -35875.0930  4.9945e-007 6.6174e-006 (0.0026)
                     -63818.3508  2.1180e-007 -2.1109e-006 2.0099e-006 (0.0014)

V_375 to LMCN (2)    -67010.2178  1.5895e-003 (0.0399)
                     -35875.1076  6.8263e-005 1.0206e-004 (0.0101)
                     -63818.3485  -9.8560e-005 -3.1976e-005 7.1135e-005 (0.0084)

V_375 to LMCN (3)    -67010.0764  6.7346e-004 (0.0260)
                     -35875.1261  -3.2461e-004 2.7253e-004 (0.0165)
                     -63818.3421  8.7407e-005 -7.5937e-005 4.7876e-005 (0.0069)

V_375 to LMCN (4)    -67010.1198  1.4042e-005 (0.0037)
                     -35875.0763  4.8426e-006 1.1087e-005 (0.0033)
                     -63818.3606  -8.0728e-007 -3.5720e-006 3.2793e-006 (0.0018)

V_375 to LWES (1)    -36480.3620  6.2306e-007 (0.0008)
                      -831.1712  7.5036e-008 3.4400e-006 (0.0019)
                     -1603.5190  -4.1154e-008 -1.3362e-006 1.6038e-006 (0.0013)

V_375 to L_278 (1)    7317.8651  5.8520e-008 (0.0002)
                     -2254.8273  1.0639e-008 1.3831e-007 (0.0004)
                     -3933.3740  1.1517e-009 -8.8820e-008 2.4100e-007 (0.0005)

V_375 to L_278 (2)    7317.8509  2.4734e-007 (0.0005)
                     -2254.8170  2.2232e-007 7.7710e-007 (0.0009)
                     -3933.4021  -1.2199e-007 -8.7129e-007 1.7838e-006 (0.0013)

V_375 to L_FVA01 (1) -13906.6911  2.5381e-007 (0.0005)
                     -6053.4961  -3.6778e-008 4.6858e-007 (0.0007)
                     -10553.9498  7.9881e-008 -1.3745e-007 2.3102e-007 (0.0005)

V_375 to L_FVA03 (2)   5981.8442  1.0965e-007 (0.0003)
                     -2964.4357  3.9674e-008 4.8144e-007 (0.0007)
                     -5157.1806  -1.7391e-008 -2.2818e-007 1.6748e-007 (0.0004)
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V_375 to L_FVA09 (1)  -18928.8720  1.3435e-007 (0.0004)
                      -2232.9198  4.0658e-008 4.2390e-007 (0.0007)
                      -3917.1653  2.3091e-008 -2.1423e-007 3.5966e-007 (0.0006)

V_375 to L_FVA12 (2)  18544.1446  2.3460e-007 (0.0005)
                      -2776.9628  -1.2776e-007 6.4927e-007 (0.0008)
                      -4895.8877  1.2029e-007 -3.0512e-007 3.2939e-007 (0.0006)

V_375 to L_FVA16 (1)  -6508.4745  9.1280e-008 (0.0003)
                       6324.5211  5.4929e-008 4.2651e-007 (0.0007)
                      10974.2169  -6.2881e-008 -2.4929e-007 4.2415e-007 (0.0007)

V_375 to NOLA (2)     -14338.1952  3.1958e-006 (0.0018)
                        944.9342  -3.8305e-007 1.6161e-005 (0.0040)
                       1671.9473  3.1278e-007 -6.7842e-006 6.0349e-006 (0.0025)

V_375 to NOLA (3)     -14338.1783  2.7841e-006 (0.0017)
                        944.9419  5.5888e-007 1.0932e-005 (0.0033)
                       1671.9465  5.0442e-007 -3.9111e-006 5.4645e-006 (0.0023)

V_375 to NOLA (4)     -14338.1796  3.1399e-006 (0.0018)
                        944.9467  1.5036e-006 1.4565e-005 (0.0038)
                       1671.9424  -2.3731e-007 -5.9937e-006 5.1842e-006 (0.0023)

V_375 to S_188 (1)    -24861.7008  2.8264e-007 (0.0005)
                       2789.6834  -1.6146e-007 9.8210e-007 (0.0010)
                       4770.4951  2.9393e-009 -5.5489e-007 5.9206e-007 (0.0008)

V_375 to S_188 (2)    -24861.7030  1.9307e-007 (0.0004)
                       2789.6885  7.6242e-008 1.9729e-006 (0.0014)
                       4770.4998  -3.2011e-008 -9.0849e-007 7.1640e-007 (0.0008)

V_375 to S_188 (3)    -24861.7018  1.8994e-007 (0.0004)
                       2789.6330  -7.7321e-008 8.9962e-007 (0.0009)
                       4770.5286  1.0335e-008 -5.5777e-007 5.8634e-007 (0.0008)

V_375 to S_188 (4)    -24861.7096  2.6024e-007 (0.0005)
                       2789.7042  -1.1819e-007 1.2851e-006 (0.0011)
                       4770.4914  1.5629e-007 -3.5852e-007 3.7122e-007 (0.0006)
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OUTPUT VECTOR RESIDUALS (East, North, Height - Local Level)

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SESSION NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)		- PPM -	DIST (km)	- STD - (m)
5720 to G_95 (2)	-0.0032	0.0264	0.0226	$	2.878	12.1	0.0011
5720 to L_FVA04 (2)	-0.0034	0.0049	-0.0019	$	0.457	13.7	0.0008
5720 to L_FVA05 (2)	0.0005	-0.0020	-0.0025	$	0.416	7.8	0.0004
5720 to L_FVA06 (1)	0.0020	0.0041	-0.0039	$	0.862	7.0	0.0014

5720 to L_FVA08 (1)	-0.0048	0.0022	0.0022 $	0.927	6.2	0.0012
5720 to L_FVA09 (1)	-0.0051	0.0043	0.0291 $	1.786	16.7	0.0011
A_148 to BS2 (2)	-0.0005	-0.0104	0.0054 $	1.386	8.5	0.0003
A_148 to LAKEFRONT (1)	-0.0012	0.0024	0.0014 $	0.382	8.0	0.0003
A_148 to L_FVA10 (1)	-0.0050	0.0047	-0.0216 $	3.156	7.2	0.0012
A_148 to L_FVA16 (1)	0.0029	-0.0067	0.0111 $	2.017	6.6	0.0006
A_148 to L_FVA17 (1)	0.0109	-0.0088	0.0189 $	3.035	7.8	0.0013
BVHS to BS2 (1)	-0.0167	0.0288	-0.0301 $	0.467	96.0	0.0038
BVHS to A_148 (1)	-0.0013	0.0289	-0.0459 $	0.555	97.8	0.0056
B_369 to L_FVA01 (1)	0.0048	0.0013	-0.0050 $	1.536	4.6	0.0004
C_189 to L_FVA12 (2)	0.0360	0.0277	0.0591 $	3.142	23.7	0.0087
C_189 to L_FVA13 (1)	-0.0000	-0.0089	-0.0070 $	0.933	12.1	0.0006
C_189 to L_FVA13 (2)	-0.0036	0.0029	-0.0098 $	0.891	12.1	0.0006
C_189 to L_FVA14 (1)	0.0007	0.0020	-0.0023 $	0.515	6.2	0.0008
C_189 to L_FVA15 (1)	-0.0019	0.0030	-0.0011 $	2.303	1.6	0.0003
C_189 to L_FVA18 (1)	0.0008	0.0036	-0.0055 $	0.665	10.0	0.0008
ENG5 to A_148 (1)	-0.0005	0.0075	0.0017	0.416	18.6	0.0055
ENG5 to BVHS (1)	0.0080	-0.0197	0.0029 $	0.270	79.4	0.0020
ENG5 to COVG (1)	0.0054	-0.0004	-0.0018 $	0.085	67.8	0.0019
GRIS to ENG5 (1)	-0.0052	0.0237	-0.0090 $	0.380	68.0	0.0019
G_95 to L_FVA04 (1)	0.0071	0.0207	0.0134 $	1.382	18.5	0.0010
G_95 to L_FVA05 (1)	0.0012	0.0109	0.0019 $	0.770	14.4	0.0010
G_95 to L_FVA06 (1)	-0.0112	0.0058	0.0230 $	4.376	6.0	0.0011
HOUM to ENG5 (1)	0.0029	0.0024	-0.0134 $	0.170	82.0	0.0020
HOUM to ENG5 (2)	-0.0018	-0.0002	0.0037	0.050	82.0	0.0020
LMCN to A_148 (1)	0.0351	0.0137	-0.0012 $	0.382	98.6	0.0057
LMCN to ENG5 (1)	0.0215	0.0094	-0.0096 $	0.258	98.2	0.0021
LMCN to ENG5 (2)	0.0176	0.0061	-0.0038 $	0.194	98.2	0.0021
LWES to COVG (1)	0.0001	0.0060	-0.0008 $	0.089	68.3	0.0019
LWES to ENG5 (1)	-0.0029	0.0064	0.0033 $	0.196	39.4	0.0015
LWES to GRIS (1)	0.0009	-0.0181	0.0097 $	0.257	80.0	0.0020
LWES to HOUM (1)	-0.0173	0.0003	-0.0040 $	0.357	49.8	0.0018
LWES to LMCN (1)	-0.0356	-0.0121	0.0034 $	0.486	77.7	0.0020
L_278 to C_189 (2)	-0.0212	-0.0172	-0.0522 $	2.615	22.5	0.0014
L_278 to A_148 (1)	0.0551	0.0097	0.0835 $	4.501	22.3	0.0008
L_278 to C_189 (1)	-0.0044	0.0195	-0.0361 $	1.833	22.5	0.0009
L_278 to L_FVA03 (1)	-0.0009	-0.0007	-0.0123 $	6.343	1.9	0.0004
L_278 to L_FVA12 (1)	0.0142	0.0035	0.0158 $	1.914	11.3	0.0006
L_278 to L_FVA13 (1)	-0.0017	0.0204	-0.0201 $	1.901	15.1	0.0008
L_FVA01 to L_FVA10 (1)	0.0047	-0.0112	0.0587 $	3.739	16.0	0.0022
L_FVA01 to L_FVA02 (1)	0.0006	-0.0004	0.0054 $	0.591	9.3	0.0008
L_FVA01 to L_FVA03 (1)	0.0049	0.0032	0.0206 $	1.026	20.8	0.0008
L_FVA01 to L_FVA09 (1)	0.0055	-0.0054	-0.0422 $	4.687	9.2	0.0008
L_FVA01 to L_FVA09 (2)	-0.0054	0.0068	0.0610 $	6.730	9.2	0.0008
L_FVA01 to L_FVA20 (1)	-0.0046	0.0051	-0.0318 $	4.200	7.7	0.0013
L_FVA02 to L_FVA20 (1)	0.0029	0.0000	-0.0026 $	0.356	10.8	0.0009
L_FVA03 to L_FVA12 (1)	0.0062	-0.0031	0.0346 $	2.808	12.6	0.0011
L_FVA03 to L_FVA02 (1)	-0.0025	0.0043	-0.0370 $	2.613	14.3	0.0008
L_FVA04 to L_FVA06 (1)	-0.0143	0.0051	-0.0255 $	2.230	13.3	0.0016
L_FVA04 to L_FVA05 (1)	0.0009	0.0013	-0.0009 $	0.307	5.9	0.0003
L_FVA04 to L_FVA10 (1)	-0.0116	0.0012	0.0079 $	1.026	13.8	0.0008
L_FVA04 to L_FVA17 (1)	0.0019	0.0058	-0.0117 $	1.575	8.4	0.0008
L_FVA05 to L_FVA06 (1)	0.0080	0.0020	-0.0135 $	1.844	8.6	0.0009
L_FVA08 to L_FVA09 (1)	-0.0034	-0.0001	0.0095 $	0.946	10.6	0.0009

L_FVA09 to L_FVA20 (1)	-0.0013	0.0040	0.0245	$	1.560	15.9	0.0010
L_FVA09 to L_FVA10 (1)	0.0204	-0.0032	0.0947	$	11.585	8.4	0.0022
L_FVA10 to L_FVA17 (1)	-0.0006	0.0001	0.0023	$	0.296	7.9	0.0004
L_FVA12 to L_FVA13 (1)	0.0343	0.0191	0.0598	$	3.254	22.0	0.0009
L_FVA12 to L_FVA16 (1)	-0.0077	-0.0041	-0.0369	$	1.222	31.0	0.0043
L_FVA13 to L_FVA16 (1)	0.0102	0.0046	0.0130	$	1.726	9.9	0.0009
L_FVA13 to L_FVA15 (1)	0.0060	-0.0067	0.0096	$	1.167	11.3	0.0006
L_FVA14 to L_FVA18 (1)	-0.0002	0.0001	0.0006		0.067	9.1	0.0009
L_FVA16 to L_FVA02 (1)	0.0093	0.0045	0.0439	$	1.628	27.7	0.0008
L_FVA16 to L_FVA14 (1)	-0.0019	-0.0037	0.0032	$	0.272	19.5	0.0009
L_FVA16 to L_FVA15 (1)	-0.0076	-0.0120	-0.0185	$	1.274	18.3	0.0011
L_FVA16 to L_FVA18 (1)	-0.0015	-0.0066	0.0078	$	0.991	10.4	0.0009
L_FVA20 to L_FVA19 (1)	-0.0000	0.0000	-0.0000		0.000	7.8	0.0008
MSSC to A_148 (1)	-0.0255	0.0009	-0.0008	$	0.408	62.5	0.0051
MSSC to BS2 (1)	-0.0301	-0.0046	0.0066	$	0.440	70.8	0.0035
MSSC to ENG5 (1)	-0.0215	-0.0032	0.0004	$	0.342	63.4	0.0019
NOLA to A_148 (1)	-0.0033	0.0094	0.0001	$	1.459	6.9	0.0020
NOLA to A_148 (3)	-0.0301	-0.0061	-0.0071	$	4.593	6.9	0.0045
NOLA to ENG5 (1)	-0.0069	0.0030	-0.0030		0.441	18.3	0.0044
NOLA to ENG5 (2)	-0.0061	0.0047	-0.0062		0.541	18.3	0.0044
NOLA to LWES (1)	0.0018	0.0001	0.0081		0.369	22.5	0.0051
S_188 to COVG (1)	0.0268	-0.0108	-0.0122		0.542	57.9	0.0228
S_188 to 5720 (1)	0.0013	-0.0046	0.0094	$	1.085	9.7	0.0006
S_188 to A_148 (1)	-0.0177	-0.0022	-0.0161	$	1.727	13.9	0.0011
S_188 to BS2 (1)	-0.0070	0.0047	0.0041	$	0.911	10.3	0.0010
S_188 to BS2 (2)	-0.0047	0.0023	-0.0157	$	1.612	10.3	0.0010
S_188 to BS2 (3)	0.0010	0.0051	0.0013	$	0.521	10.3	0.0005
S_188 to BS2 (5)	0.0027	0.0109	-0.0048	$	1.191	10.3	0.0004
S_188 to COVG (2)	0.0099	-0.0087	-0.0009		0.228	57.9	0.0049
S_188 to ENG5 (1)	0.0003	0.0059	-0.0001		0.201	29.4	0.0080
S_188 to ENG5 (2)	0.0081	0.0072	0.0040	$	0.391	29.4	0.0029
S_188 to GRIS (1)	-0.0008	-0.0099	0.0164		0.233	82.1	0.0245
S_188 to GRIS (2)	-0.0062	-0.0114	0.0005		0.158	82.1	0.0054
S_188 to HOUM (1)	0.0133	-0.0013	-0.0111		0.275	63.3	0.0229
S_188 to HOUM (2)	-0.0056	-0.0010	-0.0209	$	0.342	63.3	0.0050
S_188 to LMCN (1)	-0.0243	-0.0057	0.0013		0.280	89.3	0.0252
S_188 to LMCN (2)	-0.0365	-0.0065	-0.0173	$	0.458	89.3	0.0055
S_188 to LWES (1)	0.0123	0.0038	0.0070	$	1.064	13.7	0.0048
S_188 to LWES (2)	0.0013	-0.0006	-0.0490	$	3.569	13.7	0.0066
S_188 to L_FVA04 (2)	-0.0009	0.0016	-0.0083	$	1.018	8.3	0.0008
S_188 to L_FVA08 (1)	0.0024	-0.0010	0.0076	$	1.087	7.4	0.0012
S_188 to L_FVA09 (1)	0.0029	0.0068	0.0461	$	4.002	11.7	0.0014
S_188 to NOLA (1)	0.0051	0.0023	0.0011		0.510	11.1	0.0062
S_188 to NOLA (2)	0.0062	0.0017	-0.0158		1.532	11.1	0.0062
V_375 to A_148 (1)	-0.0056	0.0070	-0.0179	$	1.462	13.7	0.0013
V_375 to A_148 (2)	-0.0078	0.0127	-0.0106	$	1.330	13.7	0.0010
V_375 to A_148 (3)	-0.0128	0.0119	-0.0085	$	1.416	13.7	0.0005
V_375 to A_148 (4)	-0.0229	0.0047	-0.0120	$	1.913	13.7	0.0009
V_375 to A_148 (5)	-0.0121	-0.0043	-0.0073	$	1.076	13.7	0.0009
V_375 to A_148 (6)	0.0048	-0.0154	-0.0285	$	2.384	13.7	0.0014
V_375 to COVG (1)	0.0043	-0.0034	0.0103	$	0.186	63.1	0.0037
V_375 to GRIS (1)	-0.0017	-0.0039	0.0090		0.137	72.2	0.0054
V_375 to LAKEFRONT (1)	0.0042	-0.0109	-0.0057	$	0.928	14.0	0.0009
V_375 to LAKEFRONT (4)	-0.0028	-0.0054	-0.0245	$	1.801	14.0	0.0009

V_375 to LMCN (1)	-0.0318	0.0010	-0.0031 $	0.323	99.2	0.0042
V_375 to LMCN (2)	0.0574	0.0064	-0.0174	0.608	99.2	0.0420
V_375 to LMCN (3)	-0.0841	0.0096	-0.0360	0.927	99.2	0.0315
V_375 to LMCN (4)	-0.0403	0.0012	0.0163 $	0.439	99.2	0.0053
V_375 to LWES (1)	0.0068	-0.0001	-0.0026 $	0.199	36.5	0.0024
V_375 to L_278 (1)	-0.0080	-0.0157	-0.0056 $	2.149	8.6	0.0007
V_375 to L_278 (2)	0.0062	0.0034	0.0173 $	2.177	8.6	0.0017
V_375 to L_FVA01 (1)	-0.0003	0.0035	0.0154 $	0.856	18.5	0.0010
V_375 to L_FVA03 (2)	-0.0020	-0.0117	0.0189 $	2.645	8.4	0.0009
V_375 to L_FVA09 (1)	-0.0213	0.0049	0.0547 $	3.028	19.5	0.0010
V_375 to L_FVA12 (2)	0.0129	-0.0157	0.0258 $	1.695	19.4	0.0011
V_375 to L_FVA16 (1)	-0.0107	-0.0025	0.0039 $	0.820	14.2	0.0010
V_375 to NOLA (2)	0.0131	0.0050	-0.0016	0.973	14.5	0.0050
V_375 to NOLA (3)	-0.0039	0.0018	0.0055	0.486	14.5	0.0044
V_375 to NOLA (4)	-0.0025	0.0030	0.0117	0.853	14.5	0.0048
V_375 to S_188 (1)	-0.0108	0.0088	0.0095 $	0.663	25.5	0.0014
V_375 to S_188 (2)	-0.0086	0.0023	0.0115 $	0.572	25.5	0.0017
V_375 to S_188 (3)	-0.0099	0.0050	-0.0509 $	2.046	25.5	0.0013
V_375 to S_188 (4)	-0.0021	0.0017	0.0293 $	1.155	25.5	0.0014
RMS	0.0161	0.0092	0.0236			

$ - This session is flagged as a 3-sigma outlier

****
CONTROL POINT RESIDUALS (ADJUSTMENT MADE)
****

STA. NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)
5720	-0.0017	0.0017	
A_148	0.0053	-0.0102	-0.0004
B_369	0.0029	0.0001	-0.0008
BVHS	-0.0001	0.0011	
C_189			0.0010
COVG	-0.0000	-0.0001	
ENG5	0.0002	-0.0024	
G_95			0.0002
GRIS	-0.0001	0.0016	
HOUM	0.0001	0.0001	
L_278	0.0074	0.0040	
LMCN	0.0004	0.0009	
LWES	-0.0006	-0.0006	
MSSC	-0.0002	-0.0001	
NOLA	-0.0003	0.0001	
S_188	0.0008	0.0038	
V_375	-0.0142	0.0001	
RMS	0.0045	0.0031	0.0007

****

OUTPUT STATION COORDINATES (LAT/LONG/HT)

****

STA_ID	-- LATITUDE --	-- LONGITUDE --	- ELLHGT -
5720	29 56 24.28498	-90 19 29.10963	-17.6542
A_148	29 59 20.98690	-90 05 14.21485	-24.3785
B_369	29 46 05.46850	-90 06 01.68872	-23.6688
BS2	29 55 29.24053	-90 08 03.13323	-19.1675
BVHS	29 20 12.48970	-89 24 23.01085	-14.2386
C_189	30 04 24.49885	-89 50 25.89971	-25.7190
COVG	30 28 33.26965	-90 05 43.92326	-4.5888
ENG5	29 52 44.24636	-89 56 30.19791	-17.0186
G_95	30 00 02.35281	-90 25 44.92623	-17.9428
GRIS	29 15 55.88308	-89 57 26.26266	-15.6439
HOUM	29 35 32.10988	-90 43 24.98886	-11.3488
L_278	29 52 34.17153	-89 53 45.38505	-23.6718
L_FVA01	29 48 26.24613	-90 06 56.03182	-21.2552
L_FVA02	29 46 53.61712	-90 01 27.27204	-18.7700
L_FVA03	29 51 48.26589	-89 54 35.21317	-19.7618
L_FVA04	30 02 26.61061	-90 14 33.61445	-21.2291
L_FVA05	29 59 54.21404	-90 16 46.66069	-25.0256
L_FVA06	29 59 27.08110	-90 22 04.61470	-21.3630
L_FVA08	29 54 36.17524	-90 16 13.82763	-21.9467
L_FVA09	29 52 34.74749	-90 10 03.47103	-21.9079
L_FVA10	29 56 58.04947	-90 08 46.06090	-18.1263
L_FVA12	29 51 58.10606	-89 46 47.11501	-22.7040
L_FVA13	30 00 23.83397	-89 56 25.21998	-21.5505
L_FVA14	30 07 25.48848	-89 52 03.09811	-20.9869
L_FVA15	30 04 38.29933	-89 51 23.48930	-20.5925
L_FVA16	30 01 52.88682	-90 02 20.84187	-20.4754
L_FVA17	30 01 12.64711	-90 09 33.54729	-21.2557
L_FVA18	30 04 33.38717	-89 56 37.38943	-20.6188
L_FVA19	29 40 06.28862	-90 06 36.17586	-23.6167
L_FVA20	29 44 16.24972	-90 07 26.14480	-23.3011
LAKEFRONT	30 02 06.65083	-90 01 26.60265	-25.3779
LMCN	29 15 17.90443	-90 39 40.65329	-14.7585
LWES	29 54 01.29545	-90 20 57.83391	-15.6935
MSSC	30 22 30.79466	-89 36 49.90329	-11.7180
NOLA	29 56 03.73286	-90 07 12.64689	-0.1181
S_188	29 58 00.31266	-90 13 45.30473	-23.7329
V_375	29 55 01.55072	-89 58 18.04322	-25.2248

****

OUTPUT VARIANCE/COVARIANCE

****

		2
STA_ID	SE/SN/SUP	--------- CX matrix (m)----------
	(39.40 %)	(not scaled by confidence level)
	(m)	(ECEF, XYZ cartesian)
5720	0.0001	7.1448e-009
	0.0001	-4.8035e-010 7.0869e-008

```
              0.0003  4.5592e-010 -3.5245e-008 2.6872e-008

A_148         0.0001  4.7414e-009
              0.0001  4.3026e-011 7.9888e-009
              0.0001  1.2865e-010 -1.7514e-009 5.9094e-009

B_369         0.0001  8.3489e-009
              0.0001  5.0900e-011 9.3170e-009
              0.0001  2.4382e-010 -4.8063e-010 8.6200e-009

BS2           0.0001  1.0354e-008
              0.0001  -9.4645e-010 4.9072e-008
              0.0002  1.0599e-009 -2.1090e-008 2.1142e-008

BVHS          0.0001  1.0049e-008
              0.0001  -1.1530e-008 1.1179e-006
              0.0012  6.4451e-009 -6.1801e-007 3.5412e-007

C_189         0.0002  2.7299e-008
              0.0002  -5.3887e-011 1.6227e-008
              0.0001  1.5185e-010 1.2050e-008 3.0653e-008

COVG          0.0001  9.8712e-009
              0.0001  9.8509e-010 6.9438e-007
              0.0010  -5.4877e-010 -3.9742e-007 2.3964e-007

ENG5          0.0001  9.1073e-009
              0.0001  1.2866e-010 4.2688e-007
              0.0007  -1.5374e-011 -2.3738e-007 1.4192e-007

G_95          0.0002  4.0378e-008
              0.0003  1.0240e-009 3.0389e-008
              0.0001  1.6749e-009 3.6815e-008 7.4944e-008

GRIS          0.0001  9.8849e-009
              0.0001  -6.6114e-010 8.0043e-007
              0.0010  3.7912e-010 -4.3912e-007 2.5293e-007

HOUM          0.0001  9.9417e-009
              0.0001  8.6417e-009 7.0702e-007
              0.0010  -4.8322e-009 -3.9197e-007 2.2903e-007

L_278         0.0001  6.5665e-009
              0.0001  6.2370e-010 4.4088e-008
              0.0002  -1.1548e-010 -2.3649e-008 2.2161e-008

L_FVA01       0.0001  1.5390e-008
              0.0001  -1.1053e-009 4.6548e-008
              0.0002  3.1125e-009 -1.6235e-008 2.4181e-008

L_FVA02       0.0002  3.9211e-008
              0.0002  7.0192e-010 1.4666e-007
              0.0004  2.3531e-009 -4.2803e-008 4.6160e-008
```

```
L_FVA03         0.0001  1.6094e-008
                0.0001  3.2286e-009 6.9886e-008
                0.0003  1.1617e-009 -3.0690e-008 3.5369e-008

L_FVA04         0.0001  1.7048e-008
                0.0002  -4.8490e-010 8.0008e-008
                0.0003  2.2256e-009 -2.4311e-008 3.2449e-008

L_FVA05         0.0001  1.6921e-008
                0.0002  -6.8504e-010 8.3126e-008
                0.0003  1.0125e-009 -3.0170e-008 3.7333e-008

L_FVA06         0.0003  6.5712e-008
                0.0002  -3.0553e-008 2.2853e-007
                0.0005  4.7808e-009 -5.8722e-008 6.5152e-008

L_FVA08         0.0002  5.8720e-008
                0.0003  -1.0751e-008 2.2819e-007
                0.0006  1.9815e-008 -1.1832e-007 1.4766e-007

L_FVA09         0.0002  2.4287e-008
                0.0002  -2.6250e-009 8.4466e-008
                0.0003  6.1513e-009 -3.4550e-008 4.5396e-008

L_FVA10         0.0002  4.0497e-008
                0.0002  -1.0232e-008 1.4985e-007
                0.0004  8.7581e-009 -2.6915e-008 4.4691e-008

L_FVA12         0.0002  2.8807e-008
                0.0002  -9.4646e-010 1.0214e-007
                0.0004  2.0877e-009 -4.4564e-008 5.7513e-008

L_FVA13         0.0002  2.5673e-008
                0.0002  -6.3228e-010 6.0104e-008
                0.0003  2.0803e-009 -1.3601e-008 4.4294e-008

L_FVA14         0.0002  5.8950e-008
                0.0003  2.2131e-009 1.6996e-007
                0.0004  2.5311e-009 -4.1535e-008 8.5361e-008

L_FVA15         0.0002  3.2436e-008
                0.0002  -4.8613e-009 5.8496e-008
                0.0002  1.2406e-009 -6.1491e-009 4.6604e-008

L_FVA16         0.0001  2.0582e-008
                0.0002  9.7583e-010 6.9910e-008
                0.0003  -2.0138e-009 -2.3942e-008 4.0612e-008

L_FVA17         0.0002  3.8779e-008
                0.0002  -9.8257e-009 1.6559e-007
                0.0004  9.3162e-009 -3.1580e-008 4.5743e-008

L_FVA18         0.0002  5.9590e-008
                0.0003  3.0150e-010 1.7669e-007
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               0.0004  5.1606e-009 -5.0197e-008 8.6512e-008

L_FVA19        0.0003  1.2227e-007
               0.0004  5.8532e-008 6.0046e-007
               0.0008  -1.9790e-008 -1.6241e-007 2.4073e-007

L_FVA20        0.0002  5.4934e-008
               0.0003  -9.1605e-009 2.5365e-007
               0.0005  1.1178e-008 -5.1149e-008 6.4147e-008

LAKEFRONT      0.0001  1.5864e-008
               0.0001  -4.4635e-009 6.2909e-008
               0.0003  2.5125e-009 -2.7771e-008 3.0288e-008

LMCN           0.0001  9.9147e-009
               0.0001  7.0526e-009 6.1314e-007
               0.0009  -3.8753e-009 -3.3409e-007 1.9365e-007

LWES           0.0001  9.2710e-009
               0.0001  3.4087e-009 5.0302e-007
               0.0008  -1.9095e-009 -2.8071e-007 1.6763e-007

MSSC           0.0001  9.9650e-009
               0.0001  -6.6272e-009 9.9110e-007
               0.0012  3.8651e-009 -5.6970e-007 3.4009e-007

NOLA           0.0001  9.5312e-009
               0.0001  2.5655e-009 8.0975e-007
               0.0010  -1.4345e-009 -4.5698e-007 2.7051e-007

S_188          0.0001  5.4906e-009
               0.0001  -1.1905e-009 5.0507e-008
               0.0003  8.1319e-010 -2.5100e-008 1.9390e-008

V_375          0.0001  4.6822e-009
               0.0001  1.9525e-010 3.2153e-008
               0.0002  8.5106e-011 -1.6197e-008 1.4500e-008




************************************************************
    VARIANCE FACTOR = 782.0463

    Note: Values < 1.0 indicate statistics are pessimistic, while
          values > 1.0 indicate optimistic statistics. Entering this
          value as the network adjustment scale factor will bring
          variance factor to one.
************************************************************
```

```
            ************************************************
            * NETWORK - WEIGHTED GPS NETWORK ADJUSTMENT    *
            *                                              *
            * (c) Copyright NovAtel Inc., (2011)           *
            *                                              *
            * Version: 8.30.2105                           *
            *                                              *
            * FILE:
C:\projects\12-101_New_Orleans_HSDRRS_LiDAR\Survey\Field_Data\Static_Network\Data_Processing\12-1
01_NewOrleans.net
            ************************************************

DATE(m/d/y): Wed.   4/04/12   TIME: 14:57:53




************************************************************

  DATUM:            'WGS84'
  SCALE_FACTOR:     1.0000
  CONFIDENCE LEVEL: 39.40 %   (Scale factor is 1.0009)


************************************************************
    INPUT CONTROL/CHECK POINTS
************************************************************

STA_ID     TYPE    -- LATITUDE --   -- LONGITUDE --  ELLHGT -   HZ-SD   V-SD
5720       GCP-HZ  29 56 24.28492  -90 19 29.10957            0.00010
A_148      GCP-3D  29 59 20.98723  -90 05 14.21505    -24.362 0.00010 0.00010
B_369      GCP-3D  29 46 05.46850  -90 06 01.68883    -23.679 0.00010 0.00010
BVHS       GCP-HZ  29 20 12.48967  -89 24 23.01085            0.00010
C_189      GCP-VT                                    -25.680         0.00010
COVG       GCP-HZ  30 28 33.26965  -90 05 43.92326            0.00010
ENG5       GCP-HZ  29 52 44.24644  -89 56 30.19792            0.00010
G_95       GCP-VT                                    -17.923         0.00010
GRIS       GCP-HZ  29 15 55.88303  -89 57 26.26266            0.00010
HOUM       GCP-HZ  29 35 32.10988  -90 43 24.98886            0.00010
L_278      GCP-HZ  29 52 34.17140  -89 53 45.38533            0.00010
LMCN       GCP-HZ  29 15 17.90440  -90 39 40.65331            0.00010
LWES       GCP-HZ  29 54 01.29547  -90 20 57.83389            0.00010
MSSC       GCP-HZ  30 22 30.79466  -89 36 49.90328            0.00010
NOLA       GCP-HZ  29 56 03.73286  -90 07 12.64688            0.00010
S_188      GCP-HZ  29 58 00.31254  -90 13 45.30476            0.00010
V_375      GCP-HZ  29 55 01.55072  -89 58 18.04269            0.00010



************************************************************
    INPUT VECTORS
************************************************************
```

SESSION NAME	VECTOR(m) DX/DY/DZ	------ Covariance (m) [unscaled] ------ standard deviations in brackets
5720 to G_95 (2)	-10053.2096	1.1381e-007 (0.0003)
	3420.8461	8.6248e-008 4.0538e-007 (0.0006)
	5816.7194	-1.9924e-008 -8.7095e-008 6.0399e-007 (0.0008)
5720 to L_FVA04 (2)	7948.0567	6.0902e-008 (0.0002)
	5540.5859	7.5185e-008 4.2525e-007 (0.0007)
	9661.2198	-2.4856e-008 -1.4408e-007 2.0026e-007 (0.0004)
5720 to L_FVA05 (2)	4372.2455	1.9098e-008 (0.0001)
	3212.4409	2.3451e-009 9.0724e-008 (0.0003)
	5596.1786	-2.0542e-009 -3.4647e-008 4.8564e-008 (0.0002)
5720 to L_FVA06 (1)	-4152.1477	3.3429e-007 (0.0006)
	2839.7573	-3.0516e-007 1.4197e-006 (0.0012)
	4874.4161	6.8040e-008 -2.9791e-007 1.6246e-007 (0.0004)
5720 to L_FVA08 (1)	5229.1363	1.8718e-007 (0.0004)
	-1684.1448	-1.3638e-007 7.8881e-007 (0.0009)
	-2887.2342	1.2892e-007 -4.5111e-007 5.0089e-007 (0.0007)
5720 to L_FVA09 (1)	15158.7194	1.8000e-007 (0.0004)
	-3585.5805	3.9037e-010 6.4758e-007 (0.0008)
	-6128.7541	4.5266e-008 -3.4255e-007 4.2591e-007 (0.0007)
A_148 to BS2 (2)	-4536.1294	1.7108e-008 (0.0001)
	-3559.0735	1.9184e-009 6.9330e-008 (0.0003)
	-6179.9767	7.1645e-011 -2.7351e-008 2.9781e-008 (0.0002)
A_148 to LAKEFRONT (1)	6102.1132	1.6484e-008 (0.0001)
	2546.4610	-8.4333e-009 7.4254e-008 (0.0003)
	4416.6984	2.5505e-009 -3.1359e-008 3.0108e-008 (0.0002)
A_148 to L_FVA10 (1)	-5684.0431	3.4086e-007 (0.0006)
	-2192.4935	-4.1755e-007 1.0540e-006 (0.0010)
	-3809.7234	1.1749e-007 -1.8720e-007 1.3349e-007 (0.0004)
A_148 to L_FVA16 (1)	4648.7746	5.2543e-008 (0.0002)
	2330.9045	1.9042e-008 2.0211e-007 (0.0004)
	4052.2336	-2.8289e-008 -1.0068e-007 1.4001e-007 (0.0004)
A_148 to L_FVA17 (1)	-6946.5111	3.5293e-007 (0.0006)
	1731.6468	-4.3161e-007 1.0872e-006 (0.0010)
	2979.0486	1.2123e-007 -1.9267e-007 1.3788e-007 (0.0004)
BVHS to BS2 (1)	-70609.3646	6.7922e-006 (0.0026)
	31944.2021	7.3798e-008 6.0003e-006 (0.0024)
	56650.1125	4.3120e-007 -1.9254e-006 1.8556e-006 (0.0014)
BVHS to A_148 (1)	-66073.2499	1.3638e-005 (0.0037)
	35503.2714	3.5484e-007 1.4298e-005 (0.0038)
	62830.1033	-2.0909e-007 -3.8832e-006 3.4751e-006 (0.0019)

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B_369 to L_FVA01 (1)  -1455.5205  1.7821e-008 (0.0001)
                       2154.0854  -2.4121e-009 6.7797e-008 (0.0003)
                       3763.1803  5.8076e-009 -2.5175e-008 3.7149e-008 (0.0002)

C_189 to L_FVA12 (2)   5903.5381  2.4774e-005 (0.0050)
                      -11464.0725  -4.8756e-006 4.4813e-005 (0.0067)
                      -19908.4437  3.2896e-006 -6.0669e-006 5.4163e-006 (0.0023)

C_189 to L_FVA13 (1)  -9619.3839  3.3979e-008 (0.0002)
                      -3731.8219  4.1763e-009 2.2491e-007 (0.0005)
                      -6413.1244  -6.1479e-009 -8.8632e-008 1.0493e-007 (0.0003)

C_189 to L_FVA13 (2)  -9619.3803  4.8553e-008 (0.0002)
                      -3731.8302  -1.0963e-008 2.1970e-007 (0.0005)
                      -6413.1332  -4.1133e-009 -8.0187e-008 1.0585e-007 (0.0003)

C_189 to L_FVA14 (1)  -2609.5998  7.9799e-008 (0.0003)
                       2784.1451  9.1382e-009 3.4853e-007 (0.0006)
                       4824.0660  -3.3397e-009 -1.1284e-007 1.3580e-007 (0.0004)

C_189 to L_FVA15 (1)  -1542.8721  1.1973e-008 (0.0001)
                        204.4434  -7.2060e-009 5.7793e-008 (0.0002)
                        370.3069  7.3394e-010 -2.1343e-008 2.6901e-008 (0.0002)

C_189 to L_FVA18 (1)  -9949.3023  1.0562e-007 (0.0003)
                        114.0036  -2.5488e-009 3.4380e-007 (0.0006)
                        239.4032  5.3596e-009 -1.2397e-007 1.3573e-007 (0.0004)

ENG5 to A_148 (1)     -14052.2425  2.4559e-006 (0.0016)
                       6105.9516  1.4319e-006 1.9040e-005 (0.0044)
                      10583.0619  -5.0025e-007 -7.6444e-006 9.1143e-006 (0.0030)

ENG5 to BVHS (1)      52021.0004  2.0108e-006 (0.0014)
                      -29397.3597  4.2985e-008 1.4183e-006 (0.0012)
                      -52247.0207  3.3651e-008 -5.3321e-007 5.0548e-007 (0.0007)

ENG5 to COVG (1)      -14803.2959  1.8312e-006 (0.0014)
                      33258.7809  2.4603e-008 1.3445e-006 (0.0012)
                      57212.6052  2.5590e-008 -4.9542e-007 4.7334e-007 (0.0007)

GRIS to ENG5 (1)       1479.4414  1.8468e-006 (0.0014)
                      33559.8140  2.1006e-008 1.3497e-006 (0.0012)
                      59137.5585  2.5441e-008 -4.9303e-007 4.6817e-007 (0.0007)

G_95 to L_FVA04 (1)   18001.2590  1.1943e-007 (0.0003)
                       2119.7515  2.5007e-008 2.8022e-007 (0.0005)
                       3844.4450  1.3209e-008 -1.7319e-007 6.2218e-007 (0.0008)

G_95 to L_FVA05 (1)   14425.4576  1.0436e-007 (0.0003)
                       -208.4015  4.5212e-008 4.1013e-007 (0.0006)
                       -220.5883  2.3953e-008 -9.0508e-008 4.4353e-007 (0.0007)

G_95 to L_FVA06 (1)    5901.0785  2.5765e-007 (0.0005)
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                      -581.0599  -1.2359e-007 5.4875e-007 (0.0007)
                      -942.3523  -1.0223e-007 -2.3996e-007 4.7420e-007 (0.0007)

HOUM to ENG5 (1)      75729.7636  2.0418e-006 (0.0014)
                      15328.1986  4.4218e-008 1.4527e-006 (0.0012)
                      27592.9673  2.0200e-008 -5.4564e-007 5.1434e-007 (0.0007)

HOUM to ENG5 (2)      75729.7683  2.0339e-006 (0.0014)
                      15328.2147  2.1770e-008 1.5117e-006 (0.0012)
                      27592.9611  2.3228e-008 -5.5141e-007 5.2002e-007 (0.0007)

LMCN to A_148 (1)     55852.8624  1.3883e-005 (0.0037)
                      39868.7070  2.5446e-007 1.4948e-005 (0.0039)
                      70740.3234  -2.2890e-007 -4.0853e-006 3.5618e-006 (0.0019)

LMCN to ENG5 (1)      69905.1190  2.3218e-006 (0.0015)
                      33762.7479  4.2658e-008 1.6488e-006 (0.0013)
                      60157.2620  2.6491e-008 -6.1582e-007 5.8109e-007 (0.0008)

LMCN to ENG5 (2)      69905.1229  2.3308e-006 (0.0015)
                      33762.7545  3.4477e-008 1.6697e-006 (0.0013)
                      60157.2620  2.2727e-008 -6.2798e-007 5.9144e-007 (0.0008)

LWES to COVG (1)      24572.0449  1.8780e-006 (0.0014)
                      31977.6186  1.5775e-008 1.3439e-006 (0.0012)
                      55155.0335  3.2226e-008 -4.9881e-007 4.8208e-007 (0.0007)

LWES to ENG5 (1)      39375.3383  2.7909e-007 (0.0005)
                      -1281.1602  6.7761e-008 1.3643e-006 (0.0012)
                      -2057.5728  -2.7972e-008 -5.2916e-007 6.1694e-007 (0.0008)

LWES to GRIS (1)      37895.8985  2.0355e-006 (0.0014)
                      -34840.9760  3.2231e-008 1.4792e-006 (0.0012)
                      -61195.1294  1.9177e-008 -5.3976e-007 5.1197e-007 (0.0007)

LWES to HOUM (1)      -36354.4137  1.6324e-006 (0.0013)
                      -16609.3751  2.2801e-008 1.2049e-006 (0.0011)
                      -29650.5267  1.4326e-008 -4.3842e-007 4.1417e-007 (0.0006)

LWES to LMCN (1)      -30529.7694  1.9857e-006 (0.0014)
                      -35043.9120  2.6378e-008 1.4665e-006 (0.0012)
                      -62214.8223  1.6998e-008 -5.3258e-007 5.0159e-007 (0.0007)

L_278 to C_189 (2)     5322.7476  1.8934e-007 (0.0004)
                      10941.9106  1.2319e-007 1.1571e-006 (0.0011)
                      18945.9332  -1.3551e-007 -4.5206e-007 6.2014e-007 (0.0008)

L_278 to A_148 (1)    -18475.1750  8.5942e-008 (0.0003)
                       6248.5227  1.4154e-008 2.0820e-007 (0.0005)
                      10855.3236  -1.1529e-008 -1.5391e-007 3.2102e-007 (0.0006)

L_278 to C_189 (1)     5322.7308  1.3598e-007 (0.0004)
                      10941.9061  -6.3384e-008 3.4076e-007 (0.0006)
                      18945.8933  6.5584e-008 -2.2082e-007 3.8467e-007 (0.0006)
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L_278 to L_FVA03 (1)  -1336.0140  1.8782e-008 (0.0001)
                       -709.6379  4.5372e-009 7.1038e-008 (0.0003)
                      -1223.7842  7.9780e-009 -3.6173e-008 7.2372e-008 (0.0003)

L_278 to L_FVA12 (1)  11226.2862  4.9784e-008 (0.0002)
                       -522.1507  1.1712e-008 2.0827e-007 (0.0005)
                       -962.5090  -5.6600e-009 -8.1142e-008 8.3182e-008 (0.0003)

L_278 to L_FVA13 (1)  -4296.6559  8.3184e-008 (0.0003)
                       7210.0992  -1.7851e-008 3.0425e-007 (0.0006)
                      12532.7490  5.0813e-008 -9.3419e-008 2.0494e-007 (0.0005)

L_FVA01 to L_FVA10 (1) -2934.6239  7.3490e-007 (0.0009)
                       7854.7168  -5.1748e-007 3.1100e-006 (0.0018)
                      13666.1726  4.3548e-007 -1.1162e-006 9.6707e-007 (0.0010)

L_FVA01 to L_FVA02 (1)  8827.6720  1.0859e-007 (0.0003)
                      -1430.1343  -5.7867e-009 3.6290e-007 (0.0006)
                      -2473.9170  9.5989e-009 -1.1048e-007 1.0006e-007 (0.0003)

L_FVA01 to L_FVA03 (1) 19888.5288  1.3118e-007 (0.0004)
                       3089.0661  5.5060e-008 3.8081e-007 (0.0006)
                       5396.7447  -3.5057e-009 -1.2604e-007 1.3686e-007 (0.0004)

L_FVA01 to L_FVA09 (1) -5022.2075  1.5201e-007 (0.0004)
                       3820.5090  -1.7254e-007 4.2910e-007 (0.0007)
                       6636.8310  4.6911e-008 -9.5929e-008 1.1608e-007 (0.0003)

L_FVA01 to L_FVA09 (2) -5022.1964  8.0915e-008 (0.0003)
                       3820.5925  4.0888e-008 3.6770e-007 (0.0006)
                       6636.7690  2.2044e-009 -1.4593e-007 1.3767e-007 (0.0004)

L_FVA01 to L_FVA20 (1)  -816.8901  1.9981e-007 (0.0004)
                      -3818.9048  -2.3144e-007 1.3307e-006 (0.0012)
                      -6682.6186  6.2356e-008 -1.2547e-007 1.2445e-007 (0.0004)

L_FVA02 to L_FVA20 (1) -9644.5700  1.2218e-007 (0.0003)
                      -2388.7377  1.3796e-007 5.3873e-007 (0.0007)
                      -4208.7140  -1.2165e-008 -1.0718e-007 1.1469e-007 (0.0003)

L_FVA03 to L_FVA12 (1) 12562.3091  1.4229e-007 (0.0004)
                        187.4965  -7.6795e-008 4.9764e-007 (0.0007)
                        261.2783  5.9864e-008 -2.6357e-007 5.4754e-007 (0.0007)

L_FVA03 to L_FVA02 (1) -11060.8585  1.3520e-007 (0.0004)
                       -4519.2234  1.7904e-008 4.9643e-007 (0.0007)
                       -7870.6577  -1.2753e-008 -9.4947e-008 8.6901e-008 (0.0003)

L_FVA04 to L_FVA06 (1) -12100.1848  4.3889e-007 (0.0007)
                       -2700.8518  -4.0064e-007 1.8639e-006 (0.0014)
                       -4786.7971  8.9329e-008 -3.9112e-007 2.1330e-007 (0.0005)

L_FVA04 to L_FVA05 (1) -3575.8081  1.3722e-008 (0.0001)
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                      -2328.1494  2.8300e-009 6.8442e-008 (0.0003)
                      -4065.0482  -9.0000e-010 -2.3304e-008 3.3405e-008 (0.0002)

L_FVA04 to L_FVA10 (1)  9298.2551  1.5468e-007 (0.0004)
                      -5092.0700  9.5166e-008 3.9447e-007 (0.0006)
                      -8760.5771  -4.6957e-009 -2.7347e-008 1.7083e-007 (0.0004)

L_FVA04 to L_FVA17 (1)  8035.7892  7.0761e-008 (0.0003)
                      -1167.9908  6.4234e-008 5.2835e-007 (0.0007)
                      -1971.7906  5.9059e-009 -9.2183e-008 1.0527e-007 (0.0003)

L_FVA05 to L_FVA06 (1) -8524.3998  1.1175e-007 (0.0003)
                       -372.6917  -3.4143e-008 4.6238e-007 (0.0007)
                       -721.7529  -6.8809e-009 -1.3411e-007 1.6943e-007 (0.0004)

L_FVA08 to L_FVA09 (1)  9929.5861  1.1450e-007 (0.0003)
                      -1901.4498  3.7616e-008 4.6406e-007 (0.0007)
                      -3241.5093  3.5477e-009 -1.8444e-007 2.5591e-007 (0.0005)

L_FVA09 to L_FVA20 (1)  4205.3087  1.4011e-007 (0.0004)
                      -7639.3984  -1.3383e-007 7.2143e-007 (0.0008)
                      -13319.4509  4.6874e-008 -1.7305e-007 1.6123e-007 (0.0004)

L_FVA09 to L_FVA10 (1)  2087.5623  6.4494e-007 (0.0008)
                       4034.2011  1.2834e-007 3.1430e-006 (0.0018)
                       7029.3423  6.6607e-008 -8.2130e-007 1.0456e-006 (0.0010)

L_FVA10 to L_FVA17 (1) -1262.4516  2.1806e-008 (0.0001)
                       3924.1003  7.8182e-009 1.1404e-007 (0.0003)
                       6788.7794  -5.8873e-009 -3.9447e-008 5.7462e-008 (0.0002)

L_FVA12 to L_FVA13 (1) -15522.9926  9.9981e-008 (0.0003)
                       7732.3316  1.8430e-008 2.4178e-007 (0.0005)
                      13495.2083  -8.7934e-009 -1.7911e-007 4.3558e-007 (0.0007)

L_FVA12 to L_FVA16 (1) -25052.6351  2.5089e-006 (0.0016)
                       9101.4795  -3.6246e-006 1.3950e-005 (0.0037)
                      15870.1272  9.1464e-007 -2.3935e-006 1.8805e-006 (0.0014)

L_FVA13 to L_FVA16 (1) -9529.6949  8.9094e-008 (0.0003)
                       1369.2289  -4.1251e-008 5.0121e-007 (0.0007)
                       2374.8400  2.1844e-008 -1.5323e-007 1.5160e-007 (0.0004)

L_FVA13 to L_FVA15 (1)  8076.5040  3.9133e-008 (0.0002)
                       3936.2778  -7.4924e-009 2.2313e-007 (0.0005)
                       6783.4455  -5.8000e-009 -8.1337e-008 1.0032e-007 (0.0003)

L_FVA14 to L_FVA18 (1) -7339.7022  1.0752e-007 (0.0003)
                      -2670.1375  -4.4790e-009 4.5031e-007 (0.0007)
                      -4584.6634  2.7160e-008 -1.4062e-007 1.7318e-007 (0.0004)

L_FVA16 to L_FVA02 (1)  1429.4572  1.0480e-007 (0.0003)
                      -13808.1276  -1.5117e-008 4.3474e-007 (0.0007)
                      -24002.0962  2.2102e-008 -1.6637e-007 1.7706e-007 (0.0004)
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L_FVA16 to L_FVA14 (1) 16539.4715  1.6497e-007 (0.0004)
                        5146.7531  -8.6145e-009 4.3214e-007 (0.0007)
                        8862.3533  2.5563e-008 -9.0118e-008 1.9150e-007 (0.0004)

L_FVA16 to L_FVA15 (1) 17606.2024  2.3212e-007 (0.0005)
                        2567.0361  -2.1298e-007 7.4321e-007 (0.0009)
                        4408.6137  7.7132e-008 -1.7919e-007 2.4025e-007 (0.0005)

L_FVA16 to L_FVA18 (1)  9199.7687  1.2250e-007 (0.0003)
                        2476.6206  -1.8679e-009 5.1860e-007 (0.0007)
                        4277.6905  3.0557e-008 -1.6496e-007 2.0114e-007 (0.0004)

L_FVA20 to L_FVA19 (1)  1335.4287  6.7338e-008 (0.0003)
                       -3816.1299  6.7693e-008 3.4681e-007 (0.0006)
                       -6685.3819  -3.0968e-008 -1.1126e-007 1.7658e-007 (0.0004)

MSSC to A_148 (1)      -45538.0708  1.1341e-005 (0.0034)
                       -21623.6706  5.2896e-007 1.1421e-005 (0.0034)
                       -37000.9266  -2.3125e-007 -3.2315e-006 2.8711e-006 (0.0017)

MSSC to BS2 (1)        -50074.1961  5.8247e-006 (0.0024)
                       -25182.7448  1.1730e-007 5.0598e-006 (0.0022)
                       -43180.9084  3.5716e-007 -1.6866e-006 1.6291e-006 (0.0013)

MSSC to ENG5 (1)       -31485.8317  1.8494e-006 (0.0014)
                       -27729.6214  5.2069e-008 1.3173e-006 (0.0011)
                       -47583.9928  2.8141e-008 -5.0759e-007 4.7717e-007 (0.0007)

NOLA to A_148 (1)       3180.9228  4.9867e-007 (0.0007)
                        3048.6823  8.1994e-008 2.3409e-006 (0.0015)
                        5250.0242  -2.9833e-008 -9.2455e-007 1.1247e-006 (0.0011)

NOLA to A_148 (3)       3180.9495  3.3385e-006 (0.0018)
                        3048.6838  -2.3635e-006 1.3464e-005 (0.0037)
                        5250.0412  9.4087e-007 -3.9871e-006 3.7769e-006 (0.0019)

NOLA to ENG5 (1)       17233.1693  2.5755e-006 (0.0016)
                       -3057.2710  1.8304e-006 1.2591e-005 (0.0035)
                       -5333.0381  -2.1350e-007 -3.2520e-006 4.1233e-006 (0.0020)

NOLA to ENG5 (2)       17233.1686  2.5757e-006 (0.0016)
                       -3057.2746  1.8424e-006 1.2630e-005 (0.0036)
                       -5333.0378  -2.1715e-007 -3.2602e-006 4.1289e-006 (0.0020)

NOLA to LWES (1)       -22142.1748  4.0633e-006 (0.0020)
                       -1776.1000  3.0714e-006 1.6874e-005 (0.0041)
                       -3275.4753  -9.8547e-007 -5.6729e-006 5.2331e-006 (0.0023)

S_188 to COVG (1)      12953.3747  4.6615e-004 (0.0216)
                       28356.7687  -2.6369e-005 3.1927e-005 (0.0057)
                       48781.0260  3.8788e-005 -1.1065e-005 2.3939e-005 (0.0049)

S_188 to 5720 (1)      -9225.8971  4.1751e-008 (0.0002)
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                     -1437.0304  -1.1638e-008 1.9869e-007 (0.0004)
                     -2558.9061  8.2513e-009 -6.8221e-008 7.4082e-008 (0.0003)

S_188 to A_148 (1)    13704.4666  1.7730e-007 (0.0004)
                       1203.9325  -2.4256e-008 6.6666e-007 (0.0008)
                       2151.4857  7.6479e-008 -2.3197e-007 2.9864e-007 (0.0005)

S_188 to BS2 (1)       9168.3259  1.5149e-007 (0.0004)
                     -2355.1368  -2.1309e-008 5.7118e-007 (0.0008)
                     -4028.5134  6.5080e-008 -1.9883e-007 2.5510e-007 (0.0005)

S_188 to BS2 (2)       9168.3236  8.9601e-008 (0.0003)
                     -2355.1528  -1.0692e-008 5.8783e-007 (0.0008)
                     -4028.5013  2.0064e-008 -2.6723e-007 2.3820e-007 (0.0005)

S_188 to BS2 (3)       9168.3180  3.5678e-008 (0.0002)
                     -2355.1394  -2.1888e-008 1.6145e-007 (0.0004)
                     -4028.5123  9.4661e-009 -7.3065e-008 6.9368e-008 (0.0003)

S_188 to BS2 (5)       9168.3162  3.0947e-008 (0.0002)
                     -2355.1476  -1.6574e-008 9.7864e-008 (0.0003)
                     -4028.5143  1.3408e-008 -3.4126e-008 4.5249e-008 (0.0002)

S_188 to COVG (2)     12953.3916  1.0401e-005 (0.0032)
                     28356.7774  -9.4587e-007 1.0996e-005 (0.0033)
                     48781.0184  7.9337e-007 -3.2202e-006 2.5544e-006 (0.0016)

S_188 to ENG5 (1)     27756.6916  9.6343e-006 (0.0031)
                     -4902.0115  1.2280e-006 4.8273e-005 (0.0069)
                     -8431.5986  -1.1424e-006 -8.8992e-006 6.6327e-006 (0.0026)

S_188 to ENG5 (2)     27756.6839  1.0551e-006 (0.0010)
                     -4902.0086  -3.9646e-007 4.9228e-006 (0.0022)
                     -8431.6018  1.1167e-007 -1.8906e-006 2.3990e-006 (0.0015)

S_188 to GRIS (1)     26277.2567  5.3561e-004 (0.0231)
                     -38461.8229  -2.9148e-005 3.7870e-005 (0.0062)
                     -67569.1677  4.0892e-005 -1.2428e-005 2.6718e-005 (0.0052)

S_188 to GRIS (2)     26277.2620  1.2626e-005 (0.0036)
                     -38461.8359  -1.1635e-006 1.3085e-005 (0.0036)
                     -67569.1586  9.0196e-007 -3.8430e-006 3.0514e-006 (0.0017)

S_188 to HOUM (1)     -47973.0880  4.6925e-004 (0.0217)
                     -20230.2288  -2.4458e-005 3.2920e-005 (0.0057)
                     -36024.5496  3.5564e-005 -1.0850e-005 2.3389e-005 (0.0048)

S_188 to HOUM (2)     -47973.0691  1.0920e-005 (0.0033)
                     -20230.2376  -1.0008e-006 1.1451e-005 (0.0034)
                     -36024.5450  8.3363e-007 -3.3571e-006 2.6571e-006 (0.0016)

S_188 to LMCN (1)     -42148.4243  5.6678e-004 (0.0238)
                     -38664.7655  -2.9517e-005 4.0019e-005 (0.0063)
                     -68588.8546  4.2874e-005 -1.3119e-005 2.8299e-005 (0.0053)
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S_188 to LMCN (2)     -42148.4122  1.3621e-005 (0.0037)
                      -38664.7814  -1.2604e-006 1.3867e-005 (0.0037)
                      -68588.8447  9.1180e-007 -4.0791e-006 3.2492e-006 (0.0018)

S_188 to LWES (1)     -11618.6558  2.7177e-006 (0.0016)
                      -3620.8444  1.7750e-007 1.6129e-005 (0.0040)
                      -6374.0347  -5.9730e-008 -5.7266e-006 4.3177e-006 (0.0021)

S_188 to LWES (2)     -11618.6451  5.0358e-006 (0.0022)
                      -3620.8908  -5.5162e-006 3.0475e-005 (0.0055)
                      -6374.0029  9.5718e-007 -1.0312e-005 7.4756e-006 (0.0027)

S_188 to L_FVA04 (2)  -1277.8418  6.6892e-008 (0.0003)
                       4103.5412  -2.5574e-008 4.4197e-007 (0.0007)
                       7102.3204  2.4805e-008 -1.1060e-007 1.1786e-007 (0.0003)

S_188 to L_FVA08 (1)  -3996.7668  2.2796e-007 (0.0005)
                      -3121.1793  -7.5848e-008 6.8823e-007 (0.0008)
                      -5446.1395  1.1636e-007 -4.6913e-007 6.3158e-007 (0.0008)

S_188 to L_FVA09 (1)   5932.8156  2.7669e-007 (0.0005)
                      -5022.6079  -9.1586e-008 8.3763e-007 (0.0009)
                      -8687.6702  1.4107e-007 -5.7241e-007 7.6823e-007 (0.0009)

S_188 to NOLA (1)     10523.5244  4.4683e-006 (0.0021)
                      -1844.7418  6.0919e-007 2.9782e-005 (0.0055)
                      -3098.5591  4.0222e-008 -6.9910e-006 4.2790e-006 (0.0021)

S_188 to NOLA (2)     10523.5232  4.5116e-006 (0.0021)
                      -1844.7561  -4.9295e-006 2.7342e-005 (0.0052)
                      -3098.5503  8.5061e-007 -9.2498e-006 6.7075e-006 (0.0026)

V_375 to A_148 (1)    -11157.2572  2.3405e-007 (0.0005)
                       3993.6059  1.9729e-008 1.1029e-006 (0.0011)
                       6921.9861  4.0190e-008 -1.6620e-007 3.9199e-007 (0.0006)

V_375 to A_148 (2)    -11157.2550  9.3918e-008 (0.0003)
                       3993.6095  3.3563e-008 5.8492e-007 (0.0008)
                       6921.9776  1.6175e-008 -2.4229e-007 2.2941e-007 (0.0005)

V_375 to A_148 (3)    -11157.2499  4.7074e-008 (0.0002)
                       3993.6117  -7.2837e-009 1.6988e-007 (0.0004)
                       6921.9772  1.4665e-009 -8.4303e-008 8.0070e-008 (0.0003)

V_375 to A_148 (4)    -11157.2399  5.2643e-008 (0.0002)
                       3993.6122  3.5841e-008 4.4967e-007 (0.0007)
                       6921.9852  -1.2896e-008 -2.0504e-007 3.2367e-007 (0.0006)

V_375 to A_148 (5)    -11157.2507  6.1922e-008 (0.0002)
                       3993.6208  5.3948e-008 4.2761e-007 (0.0007)
                       6921.9906  7.8578e-009 -7.5823e-008 3.0700e-007 (0.0006)

V_375 to A_148 (6)    -11157.2676  2.3598e-007 (0.0005)
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                      3993.6080  -1.2146e-007 1.2464e-006 (0.0011)
                      6922.0108  1.2250e-007 -5.0797e-007 4.7141e-007 (0.0007)

V_375 to COVG (1)    -11908.3145  7.0816e-006 (0.0027)
                     31146.4640  4.1942e-007 4.9964e-006 (0.0022)
                     53551.5157  1.4792e-007 -1.5732e-006 1.5119e-006 (0.0012)

V_375 to GRIS (1)     1415.5459  1.7764e-005 (0.0042)
                     -35672.1526  -3.6192e-007 8.2664e-006 (0.0029)
                     -62798.6618  -9.8904e-007 -2.3240e-006 3.2156e-006 (0.0018)

V_375 to LAKEFRONT (1) -5055.1550  9.8152e-008 (0.0003)
                      6540.0864  -1.3366e-008 4.3529e-007 (0.0007)
                     11338.6968  3.5064e-008 -2.8985e-007 3.3145e-007 (0.0006)

V_375 to LAKEFRONT (4) -5055.1480  1.1098e-007 (0.0003)
                      6540.0673  -4.1512e-009 5.1324e-007 (0.0007)
                     11338.7014  3.9186e-008 -2.5054e-007 2.5821e-007 (0.0005)

V_375 to LMCN (1)    -67010.1284  9.3428e-006 (0.0031)
                     -35875.0930  4.9945e-007 6.6174e-006 (0.0026)
                     -63818.3508  2.1180e-007 -2.1109e-006 2.0099e-006 (0.0014)

V_375 to LMCN (2)    -67010.2178  1.5895e-003 (0.0399)
                     -35875.1076  6.8263e-005 1.0206e-004 (0.0101)
                     -63818.3485  -9.8560e-005 -3.1976e-005 7.1135e-005 (0.0084)

V_375 to LMCN (3)    -67010.0764  6.7346e-004 (0.0260)
                     -35875.1261  -3.2461e-004 2.7253e-004 (0.0165)
                     -63818.3421  8.7407e-005 -7.5937e-005 4.7876e-005 (0.0069)

V_375 to LMCN (4)    -67010.1198  1.4042e-005 (0.0037)
                     -35875.0763  4.8426e-006 1.1087e-005 (0.0033)
                     -63818.3606  -8.0728e-007 -3.5720e-006 3.2793e-006 (0.0018)

V_375 to LWES (1)    -36480.3620  6.2306e-007 (0.0008)
                      -831.1712  7.5036e-008 3.4400e-006 (0.0019)
                     -1603.5190  -4.1154e-008 -1.3362e-006 1.6038e-006 (0.0013)

V_375 to L_278 (1)    7317.8651  5.8520e-008 (0.0002)
                     -2254.8273  1.0639e-008 1.3831e-007 (0.0004)
                     -3933.3740  1.1517e-009 -8.8820e-008 2.4100e-007 (0.0005)

V_375 to L_278 (2)    7317.8509  2.4734e-007 (0.0005)
                     -2254.8170  2.2232e-007 7.7710e-007 (0.0009)
                     -3933.4021  -1.2199e-007 -8.7129e-007 1.7838e-006 (0.0013)

V_375 to L_FVA01 (1) -13906.6911  2.5381e-007 (0.0005)
                     -6053.4961  -3.6778e-008 4.6858e-007 (0.0007)
                     -10553.9498  7.9881e-008 -1.3745e-007 2.3102e-007 (0.0005)

V_375 to L_FVA03 (2)   5981.8442  1.0965e-007 (0.0003)
                     -2964.4357  3.9674e-008 4.8144e-007 (0.0007)
                     -5157.1806  -1.7391e-008 -2.2818e-007 1.6748e-007 (0.0004)
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V_375 to L_FVA09 (1)  -18928.8720  1.3435e-007 (0.0004)
                      -2232.9198  4.0658e-008 4.2390e-007 (0.0007)
                      -3917.1653  2.3091e-008 -2.1423e-007 3.5966e-007 (0.0006)

V_375 to L_FVA12 (2)  18544.1446  2.3460e-007 (0.0005)
                      -2776.9628  -1.2776e-007 6.4927e-007 (0.0008)
                      -4895.8877  1.2029e-007 -3.0512e-007 3.2939e-007 (0.0006)

V_375 to L_FVA16 (1)  -6508.4745  9.1280e-008 (0.0003)
                       6324.5211  5.4929e-008 4.2651e-007 (0.0007)
                      10974.2169  -6.2881e-008 -2.4929e-007 4.2415e-007 (0.0007)

V_375 to NOLA (2)     -14338.1952  3.1958e-006 (0.0018)
                        944.9342  -3.8305e-007 1.6161e-005 (0.0040)
                       1671.9473  3.1278e-007 -6.7842e-006 6.0349e-006 (0.0025)

V_375 to NOLA (3)     -14338.1783  2.7841e-006 (0.0017)
                        944.9419  5.5888e-007 1.0932e-005 (0.0033)
                       1671.9465  5.0442e-007 -3.9111e-006 5.4645e-006 (0.0023)

V_375 to NOLA (4)     -14338.1796  3.1399e-006 (0.0018)
                        944.9467  1.5036e-006 1.4565e-005 (0.0038)
                       1671.9424  -2.3731e-007 -5.9937e-006 5.1842e-006 (0.0023)

V_375 to S_188 (1)    -24861.7008  2.8264e-007 (0.0005)
                       2789.6834  -1.6146e-007 9.8210e-007 (0.0010)
                       4770.4951  2.9393e-009 -5.5489e-007 5.9206e-007 (0.0008)

V_375 to S_188 (2)    -24861.7030  1.9307e-007 (0.0004)
                       2789.6885  7.6242e-008 1.9729e-006 (0.0014)
                       4770.4998  -3.2011e-008 -9.0849e-007 7.1640e-007 (0.0008)

V_375 to S_188 (3)    -24861.7018  1.8994e-007 (0.0004)
                       2789.6330  -7.7321e-008 8.9962e-007 (0.0009)
                       4770.5286  1.0335e-008 -5.5777e-007 5.8634e-007 (0.0008)

V_375 to S_188 (4)    -24861.7096  2.6024e-007 (0.0005)
                       2789.7042  -1.1819e-007 1.2851e-006 (0.0011)
                       4770.4914  1.5629e-007 -3.5852e-007 3.7122e-007 (0.0006)
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OUTPUT VECTOR RESIDUALS (East, North, Height - Local Level)

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SESSION NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)	- PPM -	DIST (km)	STD - STD (m)
5720 to G_95 (2)	-0.0035	0.0270	0.0259 $	3.101	12.1	0.0011
5720 to L_FVA04 (2)	-0.0035	0.0047	-0.0014 $	0.440	13.7	0.0008
5720 to L_FVA05 (2)	0.0005	-0.0021	-0.0019 $	0.369	7.8	0.0004
5720 to L_FVA06 (1)	0.0020	0.0039	-0.0028 $	0.748	7.0	0.0014

5720 to L_FVA08 (1)	-0.0050	0.0019	-0.0014	$	0.884	6.2	0.0012
5720 to L_FVA09 (1)	-0.0046	0.0040	0.0213	$	1.326	16.7	0.0011
A_148 to BS2 (2)	-0.0005	-0.0103	0.0052	$	1.368	8.5	0.0003
A_148 to LAKEFRONT (1)	-0.0012	0.0024	0.0015	$	0.385	8.0	0.0003
A_148 to L_FVA10 (1)	-0.0048	0.0047	-0.0221	$	3.219	7.2	0.0012
A_148 to L_FVA16 (1)	0.0023	-0.0057	0.0189	$	3.013	6.6	0.0006
A_148 to L_FVA17 (1)	0.0109	-0.0087	0.0187	$	3.017	7.8	0.0013
BVHS to BS2 (1)	-0.0168	0.0289	-0.0302	$	0.470	96.0	0.0038
BVHS to A_148 (1)	-0.0014	0.0290	-0.0459	$	0.555	97.8	0.0056
B_369 to L_FVA01 (1)	0.0051	0.0016	0.0069	$	1.924	4.6	0.0004
C_189 to L_FVA12 (2)	0.0358	0.0267	0.0442	$	2.648	23.7	0.0087
C_189 to L_FVA13 (1)	-0.0001	-0.0088	-0.0137	$	1.338	12.1	0.0006
C_189 to L_FVA13 (2)	-0.0037	0.0031	-0.0165	$	1.414	12.1	0.0006
C_189 to L_FVA14 (1)	0.0005	0.0022	-0.0087	$	1.455	6.2	0.0008
C_189 to L_FVA15 (1)	-0.0019	0.0029	-0.0035	$	3.076	1.6	0.0003
C_189 to L_FVA18 (1)	0.0005	0.0038	-0.0114	$	1.206	10.0	0.0008
ENG5 to A_148 (1)	-0.0005	0.0074	0.0018		0.413	18.6	0.0055
ENG5 to BVHS (1)	0.0082	-0.0198	0.0029	$	0.273	79.4	0.0020
ENG5 to COVG (1)	0.0054	-0.0002	-0.0019	$	0.085	67.8	0.0019
GRIS to ENG5 (1)	-0.0052	0.0239	-0.0091	$	0.383	68.0	0.0019
G_95 to L_FVA04 (1)	0.0073	0.0199	0.0105	$	1.279	18.5	0.0010
G_95 to L_FVA05 (1)	0.0014	0.0102	-0.0009	$	0.717	14.4	0.0010
G_95 to L_FVA06 (1)	-0.0110	0.0050	0.0208	$	4.004	6.0	0.0011
HOUM to ENG5 (1)	0.0031	0.0025	-0.0134	$	0.171	82.0	0.0020
HOUM to ENG5 (2)	-0.0016	-0.0001	0.0037		0.049	82.0	0.0020
LMCN to A_148 (1)	0.0353	0.0138	-0.0013	$	0.385	98.6	0.0057
LMCN to ENG5 (1)	0.0217	0.0096	-0.0097	$	0.261	98.2	0.0021
LMCN to ENG5 (2)	0.0178	0.0063	-0.0040	$	0.196	98.2	0.0021
LWES to COVG (1)	0.0002	0.0062	-0.0009	$	0.092	68.3	0.0019
LWES to ENG5 (1)	-0.0028	0.0064	0.0033	$	0.195	39.4	0.0015
LWES to GRIS (1)	0.0010	-0.0183	0.0097	$	0.259	80.0	0.0020
LWES to HOUM (1)	-0.0174	0.0002	-0.0040	$	0.359	49.8	0.0018
LWES to LMCN (1)	-0.0357	-0.0123	0.0035	$	0.488	77.7	0.0020
L_278 to C_189 (2)	-0.0205	-0.0167	-0.0354	$	1.961	22.5	0.0014
L_278 to A_148 (1)	0.0552	0.0095	0.0785	$	4.320	22.3	0.0008
L_278 to C_189 (1)	-0.0036	0.0200	-0.0193	$	1.246	22.5	0.0009
L_278 to L_FVA03 (1)	-0.0010	-0.0015	-0.0164	$	8.494	1.9	0.0004
L_278 to L_FVA12 (1)	0.0147	0.0031	0.0177	$	2.060	11.3	0.0006
L_278 to L_FVA13 (1)	-0.0010	0.0211	-0.0100	$	1.547	15.1	0.0008
L_FVA01 to L_FVA10 (1)	0.0048	-0.0119	0.0722	$	4.575	16.0	0.0022
L_FVA01 to L_FVA02 (1)	0.0003	-0.0010	0.0153	$	1.655	9.3	0.0008
L_FVA01 to L_FVA03 (1)	0.0044	0.0019	0.0355	$	1.718	20.8	0.0008
L_FVA01 to L_FVA09 (1)	0.0059	-0.0062	-0.0360	$	4.044	9.2	0.0008
L_FVA01 to L_FVA09 (2)	-0.0050	0.0060	0.0672	$	7.390	9.2	0.0008
L_FVA01 to L_FVA20 (1)	-0.0039	0.0043	-0.0261	$	3.453	7.7	0.0013
L_FVA02 to L_FVA20 (1)	0.0038	-0.0001	-0.0067	$	0.717	10.8	0.0009
L_FVA03 to L_FVA12 (1)	0.0069	-0.0027	0.0406	$	3.284	12.6	0.0011
L_FVA03 to L_FVA02 (1)	-0.0024	0.0050	-0.0421	$	2.966	14.3	0.0008
L_FVA04 to L_FVA06 (1)	-0.0142	0.0051	-0.0249	$	2.188	13.3	0.0016
L_FVA04 to L_FVA05 (1)	0.0009	0.0014	-0.0008	$	0.308	5.9	0.0003
L_FVA04 to L_FVA10 (1)	-0.0114	0.0013	0.0069	$	0.973	13.8	0.0008
L_FVA04 to L_FVA17 (1)	0.0021	0.0059	-0.0124	$	1.656	8.4	0.0008
L_FVA05 to L_FVA06 (1)	0.0081	0.0019	-0.0129	$	1.793	8.6	0.0009
L_FVA08 to L_FVA09 (1)	-0.0027	0.0000	0.0053	$	0.560	10.6	0.0009

L_FVA09 to L_FVA20 (1)	-0.0011	0.0041	0.0240	$	1.529	15.9	0.0010
L_FVA09 to L_FVA10 (1)	0.0201	-0.0030	0.1020	$	12.431	8.4	0.0022
L_FVA10 to L_FVA17 (1)	-0.0007	0.0002	0.0026	$	0.338	7.9	0.0004
L_FVA12 to L_FVA13 (1)	0.0345	0.0202	0.0680	$	3.589	22.0	0.0009
L_FVA12 to L_FVA16 (1)	-0.0086	-0.0029	-0.0360	$	1.196	31.0	0.0043
L_FVA13 to L_FVA16 (1)	0.0091	0.0048	0.0056	$	1.180	9.9	0.0009
L_FVA13 to L_FVA15 (1)	0.0060	-0.0069	0.0139	$	1.480	11.3	0.0006
L_FVA14 to L_FVA18 (1)	-0.0003	0.0001	0.0010		0.115	9.1	0.0009
L_FVA16 to L_FVA02 (1)	0.0096	0.0035	0.0320	$	1.213	27.7	0.0008
L_FVA16 to L_FVA14 (1)	-0.0010	-0.0039	0.0109	$	0.598	19.5	0.0009
L_FVA16 to L_FVA15 (1)	-0.0065	-0.0124	-0.0069	$	0.851	18.3	0.0011
L_FVA16 to L_FVA18 (1)	-0.0007	-0.0068	0.0159	$	1.661	10.4	0.0009
L_FVA20 to L_FVA19 (1)	-0.0000	-0.0000	0.0000		0.000	7.8	0.0008
MSSC to A_148 (1)	-0.0255	0.0007	-0.0005	$	0.408	62.5	0.0051
MSSC to BS2 (1)	-0.0301	-0.0048	0.0066	$	0.441	70.8	0.0035
MSSC to ENG5 (1)	-0.0216	-0.0033	0.0005	$	0.344	63.4	0.0019
NOLA to A_148 (1)	-0.0032	0.0093	0.0001	$	1.440	6.9	0.0020
NOLA to A_148 (3)	-0.0300	-0.0062	-0.0071	$	4.580	6.9	0.0045
NOLA to ENG5 (1)	-0.0068	0.0030	-0.0031		0.441	18.3	0.0044
NOLA to ENG5 (2)	-0.0061	0.0046	-0.0063		0.543	18.3	0.0044
NOLA to LWES (1)	0.0017	0.0000	0.0080		0.366	22.5	0.0051
S_188 to COVG (1)	0.0268	-0.0107	-0.0119		0.539	57.9	0.0228
S_188 to 5720 (1)	0.0013	-0.0046	0.0098	$	1.125	9.7	0.0006
S_188 to A_148 (1)	-0.0177	-0.0023	-0.0156	$	1.703	13.9	0.0011
S_188 to BS2 (1)	-0.0069	0.0047	0.0043	$	0.913	10.3	0.0010
S_188 to BS2 (2)	-0.0047	0.0022	-0.0155	$	1.592	10.3	0.0010
S_188 to BS2 (3)	0.0011	0.0051	0.0015	$	0.523	10.3	0.0005
S_188 to BS2 (5)	0.0028	0.0109	-0.0046	$	1.181	10.3	0.0004
S_188 to COVG (2)	0.0098	-0.0086	-0.0006		0.225	57.9	0.0049
S_188 to ENG5 (1)	0.0003	0.0059	0.0003		0.200	29.4	0.0080
S_188 to ENG5 (2)	0.0080	0.0072	0.0043	$	0.395	29.4	0.0029
S_188 to GRIS (1)	-0.0008	-0.0101	0.0168		0.239	82.1	0.0245
S_188 to GRIS (2)	-0.0062	-0.0116	0.0010		0.161	82.1	0.0054
S_188 to HOUM (1)	0.0131	-0.0014	-0.0108		0.269	63.3	0.0229
S_188 to HOUM (2)	-0.0058	-0.0010	-0.0205	$	0.337	63.3	0.0050
S_188 to LMCN (1)	-0.0244	-0.0059	0.0018		0.282	89.3	0.0252
S_188 to LMCN (2)	-0.0366	-0.0067	-0.0169	$	0.458	89.3	0.0055
S_188 to LWES (1)	0.0122	0.0038	0.0074	$	1.072	13.7	0.0048
S_188 to LWES (2)	0.0013	-0.0006	-0.0486	$	3.542	13.7	0.0066
S_188 to L_FVA04 (2)	-0.0009	0.0015	-0.0073	$	0.906	8.3	0.0008
S_188 to L_FVA08 (1)	0.0023	-0.0014	0.0044	$	0.695	7.4	0.0012
S_188 to L_FVA09 (1)	0.0035	0.0065	0.0387	$	3.377	11.7	0.0014
S_188 to NOLA (1)	0.0051	0.0023	0.0015		0.516	11.1	0.0062
S_188 to NOLA (2)	0.0062	0.0017	-0.0153		1.495	11.1	0.0062
V_375 to A_148 (1)	-0.0056	0.0071	-0.0184	$	1.492	13.7	0.0013
V_375 to A_148 (2)	-0.0078	0.0128	-0.0110	$	1.353	13.7	0.0010
V_375 to A_148 (3)	-0.0128	0.0120	-0.0089	$	1.434	13.7	0.0005
V_375 to A_148 (4)	-0.0229	0.0048	-0.0124	$	1.929	13.7	0.0009
V_375 to A_148 (5)	-0.0121	-0.0042	-0.0077	$	1.091	13.7	0.0009
V_375 to A_148 (6)	0.0048	-0.0153	-0.0289	$	2.408	13.7	0.0014
V_375 to COVG (1)	0.0042	-0.0031	0.0098	$	0.176	63.1	0.0037
V_375 to GRIS (1)	-0.0018	-0.0039	0.0085		0.132	72.2	0.0054
V_375 to LAKEFRONT (1)	0.0042	-0.0109	-0.0060	$	0.935	14.0	0.0009
V_375 to LAKEFRONT (4)	-0.0028	-0.0053	-0.0248	$	1.822	14.0	0.0009

V_375 to LMCN (1)	-0.0321	0.0010	-0.0035	$	0.326	99.2	0.0042
V_375 to LMCN (2)	0.0572	0.0064	-0.0178		0.607	99.2	0.0420
V_375 to LMCN (3)	-0.0844	0.0096	-0.0364		0.931	99.2	0.0315
V_375 to LMCN (4)	-0.0406	0.0012	0.0159	$	0.440	99.2	0.0053
V_375 to LWES (1)	0.0066	0.0001	-0.0031	$	0.200	36.5	0.0024
V_375 to L_278 (1)	-0.0082	-0.0154	-0.0010	$	2.030	8.6	0.0007
V_375 to L_278 (2)	0.0060	0.0038	0.0219	$	2.677	8.6	0.0017
V_375 to L_FVA01 (1)	-0.0002	0.0042	0.0010	$	0.236	18.5	0.0010
V_375 to L_FVA03 (2)	-0.0024	-0.0123	0.0193	$	2.728	8.4	0.0009
V_375 to L_FVA09 (1)	-0.0208	0.0048	0.0465	$	2.629	19.5	0.0010
V_375 to L_FVA12 (2)	0.0132	-0.0159	0.0322	$	1.974	19.4	0.0011
V_375 to L_FVA16 (1)	-0.0113	-0.0014	0.0112	$	1.125	14.2	0.0010
V_375 to NOLA (2)	0.0129	0.0052	-0.0020		0.974	14.5	0.0050
V_375 to NOLA (3)	-0.0040	0.0020	0.0051		0.472	14.5	0.0044
V_375 to NOLA (4)	-0.0027	0.0032	0.0113		0.831	14.5	0.0048
V_375 to S_188 (1)	-0.0109	0.0090	0.0086	$	0.651	25.5	0.0014
V_375 to S_188 (2)	-0.0087	0.0025	0.0107	$	0.550	25.5	0.0017
V_375 to S_188 (3)	-0.0100	0.0052	-0.0518	$	2.080	25.5	0.0013
V_375 to S_188 (4)	-0.0021	0.0018	0.0285	$	1.123	25.5	0.0014
RMS	0.0161	0.0092	0.0235				

$ - This session is flagged as a 3-sigma outlier

****

CONTROL POINT RESIDUALS (ADJUSTMENT MADE)

****

STA. NAME	-- RE -- (m)	-- RN -- (m)	-- RH -- (m)
5720	-0.0016	0.0017	
A_148	0.0054	-0.0104	0.0000
B_369	0.0026	0.0003	0.0007
BVHS	-0.0001	0.0011	
C_189			-0.0007
COVG	-0.0000	-0.0001	
ENG5	0.0002	-0.0024	
G_95			-0.0000
GRIS	-0.0001	0.0017	
HOUM	0.0001	0.0001	
L_278	0.0073	0.0041	
LMCN	0.0004	0.0009	
LWES	-0.0005	-0.0006	
MSSC	-0.0002	-0.0001	
NOLA	-0.0003	0.0001	
S_188	0.0009	0.0038	
V_375	-0.0141	-0.0001	
RMS	0.0044	0.0032	0.0005

****

OUTPUT STATION COORDINATES (LAT/LONG/HT)

****

STA_ID	-- LATITUDE --	-- LONGITUDE --	- ELLHGT -
5720	29 56 24.28498	-90 19 29.10963	-17.6377
A_148	29 59 20.98689	-90 05 14.21485	-24.3620
B_369	29 46 05.46851	-90 06 01.68873	-23.6783
BS2	29 55 29.24053	-90 08 03.13322	-19.1513
BVHS	29 20 12.48971	-89 24 23.01085	-14.2222
C_189	30 04 24.49886	-89 50 25.89969	-25.6807
COVG	30 28 33.26965	-90 05 43.92326	-4.5725
ENG5	29 52 44.24636	-89 56 30.19791	-17.0022
G_95	30 00 02.35283	-90 25 44.92623	-17.9230
GRIS	29 15 55.88308	-89 57 26.26266	-15.6274
HOUM	29 35 32.10988	-90 43 24.98886	-11.3324
L_278	29 52 34.17153	-89 53 45.38506	-23.6504
L_FVA01	29 48 26.24615	-90 06 56.03181	-21.2528
L_FVA02	29 46 53.61712	-90 01 27.27205	-18.7577
L_FVA03	29 51 48.26587	-89 54 35.21318	-19.7444
L_FVA04	30 02 26.61060	-90 14 33.61444	-21.2121
L_FVA05	29 59 54.21404	-90 16 46.66068	-25.0086
L_FVA06	29 59 27.08109	-90 22 04.61469	-21.3454
L_FVA08	29 54 36.17523	-90 16 13.82764	-21.9338
L_FVA09	29 52 34.74749	-90 10 03.47101	-21.8993
L_FVA10	29 56 58.04946	-90 08 46.06089	-18.1103
L_FVA12	29 51 58.10605	-89 46 47.11500	-22.6807
L_FVA13	30 00 23.83400	-89 56 25.21996	-21.5190
L_FVA14	30 07 25.48850	-89 52 03.09809	-20.9550
L_FVA15	30 04 38.29935	-89 51 23.48928	-20.5566
L_FVA16	30 01 52.88685	-90 02 20.84189	-20.4511
L_FVA17	30 01 12.64711	-90 09 33.54729	-21.2395
L_FVA18	30 04 33.38719	-89 56 37.38942	-20.5864
L_FVA19	29 40 06.28862	-90 06 36.17583	-23.6086
L_FVA20	29 44 16.24972	-90 07 26.14477	-23.2930
LAKEFRONT	30 02 06.65082	-90 01 26.60265	-25.3613
LMCN	29 15 17.90443	-90 39 40.65329	-14.7420
LWES	29 54 01.29545	-90 20 57.83391	-15.6771
MSSC	30 22 30.79466	-89 36 49.90329	-11.7017
NOLA	29 56 03.73286	-90 07 12.64689	-0.1016
S_188	29 58 00.31266	-90 13 45.30473	-23.7168
V_375	29 55 01.55072	-89 58 18.04322	-25.2079

****

OUTPUT VARIANCE/COVARIANCE

****

		2
STA_ID	SE/SN/SUP	--------- CX matrix (m)----------
	(39.40 %)	(not scaled by confidence level)
	(m)	(ECEF, XYZ cartesian)
5720	0.0001	7.1448e-009
	0.0001	-4.8034e-010 7.0869e-008

```
              0.0003  4.5591e-010 -3.5245e-008 2.6872e-008

A_148         0.0001  4.7414e-009
              0.0001  4.3026e-011 7.9888e-009
              0.0001  1.2865e-010 -1.7513e-009 5.9095e-009

B_369         0.0001  8.3489e-009
              0.0001  5.0900e-011 9.3170e-009
              0.0001  2.4382e-010 -4.8063e-010 8.6200e-009

BS2           0.0001  1.0354e-008
              0.0001  -9.4645e-010 4.9072e-008
              0.0002  1.0599e-009 -2.1089e-008 2.1142e-008

BVHS          0.0001  1.0049e-008
              0.0001  -1.1530e-008 1.1179e-006
              0.0012  6.4451e-009 -6.1801e-007 3.5412e-007

C_189         0.0002  2.7299e-008
              0.0002  -5.3837e-011 1.6225e-008
              0.0001  1.5180e-010 1.2052e-008 3.0652e-008

COVG          0.0001  9.8712e-009
              0.0001  9.8508e-010 6.9438e-007
              0.0010  -5.4878e-010 -3.9742e-007 2.3964e-007

ENG5          0.0001  9.1073e-009
              0.0001  1.2867e-010 4.2688e-007
              0.0007  -1.5371e-011 -2.3738e-007 1.4192e-007

G_95          0.0002  4.0378e-008
              0.0003  1.0239e-009 3.0388e-008
              0.0001  1.6749e-009 3.6816e-008 7.4944e-008

GRIS          0.0001  9.8849e-009
              0.0001  -6.6114e-010 8.0043e-007
              0.0010  3.7912e-010 -4.3911e-007 2.5293e-007

HOUM          0.0001  9.9417e-009
              0.0001  8.6417e-009 7.0702e-007
              0.0010  -4.8322e-009 -3.9197e-007 2.2903e-007

L_278         0.0001  6.5665e-009
              0.0001  6.2370e-010 4.4088e-008
              0.0002  -1.1544e-010 -2.3649e-008 2.2162e-008

L_FVA01       0.0001  1.5390e-008
              0.0001  -1.1053e-009 4.6548e-008
              0.0002  3.1125e-009 -1.6235e-008 2.4181e-008

L_FVA02       0.0002  3.9211e-008
              0.0002  7.0191e-010 1.4666e-007
              0.0004  2.3531e-009 -4.2803e-008 4.6160e-008
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L_FVA03         0.0001  1.6094e-008
                0.0001  3.2286e-009 6.9886e-008
                0.0003  1.1616e-009 -3.0690e-008 3.5369e-008

L_FVA04         0.0001  1.7048e-008
                0.0002  -4.8489e-010 8.0008e-008
                0.0003  2.2256e-009 -2.4311e-008 3.2449e-008

L_FVA05         0.0001  1.6921e-008
                0.0002  -6.8503e-010 8.3125e-008
                0.0003  1.0125e-009 -3.0169e-008 3.7333e-008

L_FVA06         0.0003  6.5712e-008
                0.0002  -3.0553e-008 2.2853e-007
                0.0005  4.7808e-009 -5.8722e-008 6.5151e-008

L_FVA08         0.0002  5.8720e-008
                0.0003  -1.0751e-008 2.2819e-007
                0.0006  1.9815e-008 -1.1832e-007 1.4766e-007

L_FVA09         0.0002  2.4287e-008
                0.0002  -2.6250e-009 8.4466e-008
                0.0003  6.1513e-009 -3.4549e-008 4.5396e-008

L_FVA10         0.0002  4.0497e-008
                0.0002  -1.0232e-008 1.4985e-007
                0.0004  8.7581e-009 -2.6915e-008 4.4691e-008

L_FVA12         0.0002  2.8807e-008
                0.0002  -9.4644e-010 1.0214e-007
                0.0004  2.0878e-009 -4.4563e-008 5.7514e-008

L_FVA13         0.0002  2.5673e-008
                0.0002  -6.3225e-010 6.0103e-008
                0.0003  2.0803e-009 -1.3600e-008 4.4293e-008

L_FVA14         0.0002  5.8950e-008
                0.0003  2.2131e-009 1.6996e-007
                0.0004  2.5311e-009 -4.1534e-008 8.5361e-008

L_FVA15         0.0002  3.2436e-008
                0.0002  -4.8612e-009 5.8494e-008
                0.0002  1.2405e-009 -6.1477e-009 4.6604e-008

L_FVA16         0.0001  2.0582e-008
                0.0002  9.7579e-010 6.9909e-008
                0.0003  -2.0138e-009 -2.3941e-008 4.0612e-008

L_FVA17         0.0002  3.8779e-008
                0.0002  -9.8257e-009 1.6559e-007
                0.0004  9.3161e-009 -3.1580e-008 4.5743e-008

L_FVA18         0.0002  5.9590e-008
                0.0003  3.0151e-010 1.7669e-007
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               0.0004  5.1606e-009 -5.0196e-008 8.6512e-008

L_FVA19        0.0003  1.2227e-007
               0.0004  5.8532e-008 6.0046e-007
               0.0008  -1.9790e-008 -1.6241e-007 2.4073e-007

L_FVA20        0.0002  5.4934e-008
               0.0003  -9.1605e-009 2.5365e-007
               0.0005  1.1178e-008 -5.1149e-008 6.4147e-008

LAKEFRONT      0.0001  1.5864e-008
               0.0001  -4.4635e-009 6.2909e-008
               0.0003  2.5125e-009 -2.7770e-008 3.0289e-008

LMCN           0.0001  9.9147e-009
               0.0001  7.0526e-009 6.1314e-007
               0.0009  -3.8754e-009 -3.3409e-007 1.9365e-007

LWES           0.0001  9.2710e-009
               0.0001  3.4087e-009 5.0302e-007
               0.0008  -1.9095e-009 -2.8071e-007 1.6763e-007

MSSC           0.0001  9.9650e-009
               0.0001  -6.6271e-009 9.9110e-007
               0.0012  3.8651e-009 -5.6970e-007 3.4009e-007

NOLA           0.0001  9.5312e-009
               0.0001  2.5655e-009 8.0975e-007
               0.0010  -1.4345e-009 -4.5698e-007 2.7051e-007

S_188          0.0001  5.4906e-009
               0.0001  -1.1905e-009 5.0508e-008
               0.0003  8.1320e-010 -2.5100e-008 1.9390e-008

V_375          0.0001  4.6822e-009
               0.0001  1.9525e-010 3.2153e-008
               0.0002  8.5107e-011 -1.6197e-008 1.4500e-008




************************************************************
    VARIANCE FACTOR = 780.4704

    Note: Values < 1.0 indicate statistics are pessimistic, while
          values > 1.0 indicate optimistic statistics. Entering this
          value as the network adjustment scale factor will bring
          variance factor to one.
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Appendix G: REAL TIME KINEMATIC (RTK)

Elevation 2004.65 Epoch

Point	Easting	Northing	Elev	Description
0001	3732038.2190	498621.9303	19.6704	BASECHEC
0002	3732070.1498	498767.4762	9.3354	CHENIERS
0003	3732054.3418	498730.2499	8.7758	CHENIERS
0004	3732021.8959	498696.1943	8.1280	CHENIERS
0005	3731973.4562	498663.3399	8.0681	CHENIERS
0006	3731951.1553	498649.6945	8.1262	CHENIERS
0007	3731930.6964	498636.4069	7.9868	WETLAND
0008	3731910.0446	498622.5624	8.0581	WETLAND
0009	3731892.1690	498615.0626	8.1080	WETLAND
0010	3731872.1484	498601.5157	8.0806	WETLAND
0011	3731864.8760	498597.5859	8.1577	WETLAND
0012	3733368.7659	499602.9196	6.3210	BARE
0013	3733371.7955	499565.2577	4.2004	BARE
0014	3733386.2867	499551.8266	3.5638	BARE
0015	3733425.8307	499568.5287	3.3166	BARE
0016	3733450.7592	499600.6843	8.1213	BARE
0017	3733430.4985	499752.5425	6.5641	CHENIERS
0018	3733393.6147	499767.0331	6.6680	CHENIERS
0019	3733359.8443	499811.5087	7.5717	CHENIERS
0020	3733332.8913	499827.8639	7.9456	CHENIERS
0021	3733287.2976	499774.0957	8.1026	CHENIERS
0022	3733230.8638	499730.7506	6.6033	WETLAND
0023	3733213.7646	499719.0020	6.6725	WETLAND
0024	3733197.5306	499707.0486	6.6668	WETLAND
0025	3733169.9178	499693.7757	6.7670	WETLAND
0026	3733151.6757	499687.5875	6.6615	WETLAND
0027	3733362.2595	499688.7573	19.4231	LFVA21
0028	3733362.2568	499688.7498	19.4223	LFVA21
0029	3733362.2678	499688.7034	19.4220	LFVA21
0030	3733362.3243	499688.7164	19.3961	LFVA21
0031	3733362.3467	499688.7015	19.3889	LFVA21
0032	3733362.3774	499688.6643	19.3781	LFVA21
0033	3733362.3305	499688.6788	19.4004	LFVA21
0034	3733362.3330	499688.6848	19.3988	LFVA21
0035	3733362.3512	499688.6742	19.3931	LFVA21
0036	3733362.3746	499688.6505	19.3902	LFVA21
0037	3735768.0636	499789.3590	19.2323	LFVA22
0038	3735768.1070	499789.3605	19.2652	LFVA22
0039	3735768.1633	499789.3691	19.2672	LFVA22
0040	3735768.1227	499789.4005	19.2630	LFVA22
0041	3735768.1442	499789.3872	19.2477	LFVA22
0042	3735768.1662	499789.4327	19.2536	LFVA22
0043	3735768.2282	499789.4098	19.2602	LFVA22
0044	3735768.2056	499789.4063	19.2653	LFVA22
0045	3735768.2241	499789.4123	19.2805	LFVA22
0046	3735768.1766	499789.4214	19.2757	LFVA22
0047	3735650.3179	504211.3245	19.6934	FLVA23
0048	3735650.1429	504211.3326	19.6872	FLVA23
0049	3735650.1579	504211.3456	19.6977	FLVA23
0050	3735650.1949	504211.3239	19.7196	FLVA23
0051	3735650.1944	504211.3397	19.6860	FLVA23
0052	3735650.2196	504211.3426	19.7049	FLVA23
0053	3735650.1819	504211.3564	19.6850	FLVA23
0054	3735650.1926	504211.3640	19.6968	FLVA23
0055	3735650.1832	504211.3450	19.6918	FLVA23
0056	3735650.1959	504211.3560	19.6831	FLVA23

0057	3736322.3619	503960.3302	7.2840	EP
0058	3736319.8776	503934.2406	7.2432	EP
0059	3736317.4532	503906.8942	7.1208	EP
0060	3736314.1683	503874.5079	7.0495	EP
0061	3736309.9299	503828.4459	7.0622	EP
0062	3736259.8427	503762.1373	6.1990	H-GRASS
0063	3736262.0839	503742.9380	6.1883	H-GRASS
0064	3736272.2485	503728.9482	5.9869	H-GRASS
0065	3736286.2168	503737.3364	6.1290	H-GRASS
0066	3736304.8308	503747.3960	5.8639	H-GRASS
0067	3737258.0393	503691.3899	4.9729	BARE
0068	3737245.6943	503711.4212	4.7344	BARE
0069	3737254.5915	503728.6866	4.7674	BARE
0070	3737268.6405	503736.6537	4.9090	BARE
0071	3737273.8404	503707.1972	5.1183	BARE
0072	3737266.5389	503672.6134	5.1143	EP
0073	3737243.5248	503674.5662	5.2139	EP
0074	3737215.5698	503676.9749	5.2758	EP
0075	3737224.5546	503658.9777	5.2381	EP
0076	3737250.6627	503656.7395	5.1923	EP
0077	3728588.0154	497975.9287	20.0919	LFVA24
0078	3728588.0276	497975.9259	20.0798	LFVA24
0079	3728588.0070	497975.9010	20.0881	LFVA24
0080	3728588.0226	497975.8858	20.0907	LFVA24
0081	3728587.9868	497975.9547	20.0655	LFVA24
0082	3728587.9392	497975.8487	20.0931	LFVA24
0083	3728587.9975	497975.8789	20.0943	LFVA24
0084	3728588.0819	497975.8833	20.0940	LFVA24
0085	3728588.0708	497975.9136	20.0848	LFVA24
0086	3728588.0350	497975.9686	20.0947	LFVA24
0087	3724794.3653	499153.2030	19.5769	LFVA25
0088	3724794.4524	499153.1650	19.6086	LFVA25
0089	3724794.4714	499153.1895	19.5961	LFVA25
0090	3724794.4852	499153.2121	19.5907	LFVA25
0091	3724794.4954	499153.2121	19.5884	LFVA25
0092	3724794.4957	499153.2341	19.5815	LFVA25
0093	3724794.5030	499153.2222	19.6082	LFVA25
0094	3724794.4646	499153.2208	19.6152	LFVA25
0095	3724794.5034	499153.2002	19.5815	LFVA25
0096	3734483.2724	497183.6213	2.2236	TRE
0097	3734485.3744	497145.9449	2.3175	TRE
0098	3734478.9925	497097.1639	0.7186	TRE
0099	3735027.9688	498676.2606	2.5441	TRE
0100	3735042.8324	498723.3982	5.0731	TRE
0101	3744719.7672	500439.6597	8.0175	EP
0102	3744719.7550	500463.4665	8.0157	EP
0103	3744720.4427	500485.6200	7.9756	EP
0104	3744719.8850	500509.0477	8.0157	EP
0105	3744719.5553	500527.7408	8.0041	EP
0106	3743206.8467	502379.3996	3.4690	EDGE_CON
0107	3743183.0674	502387.3106	3.2639	EDGE_CON
0108	3743181.8559	502376.5713	3.2804	EDGE_CON
0109	3743171.8625	502370.7251	3.0866	EDGE_CON
0110	3743164.0673	502330.6647	3.1155	EDGE_CON
0111	3743024.7367	504168.8027	2.1222	BARE
0112	3743007.8572	504191.4410	2.1196	BARE
0113	3742996.5373	504213.9859	2.2349	BARE
0114	3742983.7626	504189.5286	2.1026	BARE
0115	3742963.0717	504181.6436	1.4971	BARE

0116	3735465.5360	512152.0013	2.1564	BARE
0117	3735478.8518	512138.6919	2.3735	BARE
0118	3735502.2573	512142.0595	2.3143	BARE
0119	3735485.5307	512166.1071	2.5966	BARE
0120	3735459.7273	512170.8786	2.1385	BARE
0121	3733362.2843	499688.7677	19.4503	LFVA21
0122	3733362.2456	499688.7742	19.4392	LFVA21
0123	3733362.2564	499688.8034	19.4302	LFVA21
0124	3733362.2625	499688.8315	19.4365	LFVA21
0125	3733362.2895	499688.8598	19.4425	LFVA21
0126	3733362.3027	499688.8752	19.4233	LFVA21
0127	3733362.3131	499688.8346	19.4405	LFVA21
0128	3733362.3266	499688.8624	19.4472	LFVA21
0129	3733362.3103	499688.7876	19.4529	LFVA21
0130	3733362.3295	499688.8357	19.4646	LFVA21
0131	3735768.1599	499789.3265	19.2901	LFVA22
0132	3735768.0250	499789.3328	19.2971	LFVA22
0133	3735767.9459	499789.3839	19.3135	LFVA22
0134	3735768.0214	499789.4151	19.3059	LFVA22
0135	3735768.0153	499789.4199	19.2857	LFVA22
0136	3735768.0458	499789.4701	19.2570	LFVA22
0137	3735768.0319	499789.4322	19.2638	LFVA22
0138	3735768.1350	499789.3594	19.2667	LFVA22
0139	3735768.1468	499789.3217	19.2867	LFVA22
0140	3735768.1182	499789.3203	19.2792	LFVA22
0141	3735650.1540	504211.4233	19.6447	FLVA23
0142	3735650.1550	504211.3874	19.6881	FLVA23
0143	3735650.1165	504211.3931	19.6630	FLVA23
0144	3735650.1388	504211.4010	19.6788	FLVA23
0145	3735650.1523	504211.4730	19.6443	FLVA23
0146	3735650.1783	504211.4885	19.6318	FLVA23
0147	3735650.2067	504211.4067	19.6634	FLVA23
0148	3735650.2100	504211.4338	19.6700	FLVA23
0149	3735650.2952	504211.3655	19.6711	FLVA23
0150	3735650.2200	504211.3735	19.6403	FLVA23
0151	3728587.9097	497975.7207	20.0998	LFVA24
0152	3728587.8415	497975.6644	20.0824	LFVA24
0153	3728587.9563	497975.7297	20.1007	LFVA24
0154	3728587.9289	497975.7242	20.0914	LFVA24
0155	3728587.9392	497975.7872	20.0777	LFVA24
0156	3728587.8477	497975.7814	20.1024	LFVA24
0157	3728588.0145	497975.9184	20.0775	LFVA24
0158	3728588.0443	497975.9386	20.0781	LFVA24
0159	3728588.0013	497975.9255	20.0557	LFVA24
0160	3728588.0463	497975.8902	20.0964	LFVA24
0161	3724794.4797	499153.1956	19.5768	LFVA25
0162	3724794.4686	499153.1643	19.5840	LFVA25
0163	3724794.4630	499153.2203	19.5730	LFVA25
0164	3724794.4329	499153.2128	19.5509	LFVA25
0165	3724794.4689	499153.2370	19.5707	LFVA25
0166	3724794.4651	499153.3051	19.6194	LFVA25
0167	3724794.4598	499153.2506	19.5829	LFVA25
0168	3724794.4432	499153.2382	19.6057	LFVA25
0169	3724794.4430	499153.2861	19.5912	LFVA25
0170	3724794.4677	499153.2777	19.6255	LFVA25
0171	3732038.1219	498622.0722	19.4490	BASECHEC
LFVA03	3732038.4067	498622.0552	19.4915	

Point	Easting	Northing	Elev	Description
0001	3773235.9440	500151.5237	9.8780	BASECHEC
0002	3773477.0424	502072.2713	10.1959	LFVA26
0003	3773477.0568	502072.2571	10.2023	LFVA26
0004	3773477.0900	502072.3091	10.1934	LFVA26
0005	3773477.0449	502072.3579	10.1836	LFVA26
0006	3773477.0729	502072.3521	10.1870	LFVA26
0007	3773477.0682	502072.3493	10.1722	LFVA26
0008	3773477.0926	502072.3180	10.1923	LFVA26
0009	3773477.0739	502072.3113	10.1887	LFVA26
0010	3773477.0238	502072.3629	10.1940	LFVA26
0011	3773476.9893	502072.3095	10.1923	LFVA26
0012	3772170.5558	504286.2742	9.4239	LFVA27
0013	3772170.5333	504286.2647	9.4130	LFVA27
0014	3772170.5198	504286.2480	9.4390	LFVA27
0015	3772170.4643	504286.2232	9.4232	LFVA27
0016	3772170.4657	504286.2633	9.4329	LFVA27
0017	3772170.4654	504286.2025	9.4034	LFVA27
0018	3772170.4386	504286.2074	9.3939	LFVA27
0019	3772170.4449	504286.1643	9.4015	LFVA27
0020	3772170.3821	504286.1791	9.4044	LFVA27
0021	3772170.4301	504286.2230	9.4045	LFVA27
0022	3772167.4708	504341.6150	0.9355	WETLAND
0023	3772114.6226	504355.4597	0.9986	WETLAND
0024	3772078.7106	504364.5000	1.1670	WETLAND
0025	3772063.3157	504369.7007	1.3668	WETLAND
0026	3772048.5338	504372.4815	0.9824	WETLAND
0027	3772154.0103	504239.1366	-0.7836	TRE
0028	3772171.3524	504231.3442	-0.9128	TRE
0029	3772184.9043	504223.2545	-1.1013	TRE
0030	3772198.6303	504218.6901	-1.4249	TRE
0031	3772211.3495	504214.5895	-1.4393	TRE
0032	3769756.6265	504958.8278	9.4758	LFVA28
0033	3769756.7994	504958.8179	9.4717	LFVA28
0034	3769756.7543	504958.8495	9.4926	LFVA28
0035	3769756.8138	504958.8510	9.4797	LFVA28
0036	3769756.8257	504958.8712	9.4793	LFVA28
0037	3769756.7522	504958.8075	9.4715	LFVA28
0038	3769756.7319	504958.8894	9.4819	LFVA28
0039	3769756.7001	504958.8318	9.4781	LFVA28
0040	3769756.6547	504958.8164	9.4647	LFVA28
0041	3769756.6663	504958.8360	9.4875	LFVA28
0042	3767598.7114	505372.1236	9.1843	LFVA29
0043	3767598.5584	505371.9234	9.1732	LFVA29
0044	3767598.5886	505371.9066	9.1562	LFVA29
0045	3767598.6402	505371.8975	9.1609	LFVA29
0046	3767598.6243	505371.9503	9.1582	LFVA29
0047	3767598.6420	505371.9166	9.1679	LFVA29
0048	3767598.6731	505371.9578	9.1622	LFVA29
0049	3767598.6411	505371.8653	9.1481	LFVA29
0050	3767598.6574	505371.8530	9.1609	LFVA29
0051	3767598.7139	505371.9800	9.1598	LFVA29
0052	3757085.0669	504321.4520	9.7835	LFVA30
0053	3757085.0805	504321.4019	9.7709	LFVA30
0054	3757085.1120	504321.3827	9.7800	LFVA30
0055	3757085.1153	504321.4333	9.7628	LFVA30
0056	3757085.1236	504321.3890	9.7627	LFVA30
0057	3757085.1916	504321.3828	9.7782	LFVA30
0058	3757085.1752	504321.3160	9.7471	LFVA30

0059	3757085.1490	504321.3204	9.7506	LFVA30
0060	3757085.1569	504321.3070	9.7810	LFVA30
0061	3757085.1059	504321.3709	9.7809	LFVA30
0062	3773461.5987	499850.4032	0.1521	TRE
0063	3773439.9031	499811.0259	0.5887	TRE
0064	3773422.0396	499785.8052	0.6476	TRE
0065	3773418.8973	499768.3452	0.6085	TRE
0066	3773414.3915	499737.3254	0.7499	TRE
0067	3770028.2064	503913.2183	5.1870	EP
0068	3770002.4142	503922.1537	5.2075	EP
0069	3769978.9469	503930.1877	5.2048	EP
0070	3769957.6991	503937.1821	5.1437	EP
0071	3769937.0811	503943.4120	5.1442	EP
0072	3769969.2635	503978.8900	-1.1575	CHENIERS
0073	3769946.0492	503990.3782	-0.9574	CHENIERS
0074	3769915.7791	504000.5930	-1.1260	CHENIERS
0075	3769886.8594	504008.6369	-1.1850	CHENIERS
0076	3769858.4301	504016.9633	-1.2585	CHENIERS
0077	3763416.2046	504578.0015	-1.0550	WETLAND
0078	3763400.8105	504599.7994	-0.6467	WETLAND
0079	3763386.3026	504609.6949	-0.8625	WETLAND
0080	3763401.5634	504617.6405	-1.0069	WETLAND
0081	3763411.0598	504625.6246	-1.0933	WETLAND
0082	3763413.8921	504658.5558	-0.2948	CHENIERS
0083	3763399.5121	504651.4381	0.0999	CHENIERS
0084	3763393.2209	504650.3181	-0.5399	CHENIERS
0085	3763398.0070	504639.9745	-0.6345	CHENIERS
0086	3763381.2151	504630.5259	-0.8124	WETLAND
0087	3773477.0149	502072.1460	10.1945	LFVA26
0088	3773476.9830	502072.1586	10.2005	LFVA26
0089	3773476.9583	502072.2048	10.1614	LFVA26
0090	3773476.9460	502072.2196	10.1560	LFVA26
0091	3773476.9590	502072.2031	10.1671	LFVA26
0092	3773476.9570	502072.2349	10.1783	LFVA26
0093	3773476.9614	502072.2492	10.2027	LFVA26
0094	3773476.9130	502072.1974	10.1652	LFVA26
0095	3773476.8431	502072.1841	10.1660	LFVA26
0096	3773476.8869	502072.3161	10.1512	LFVA26
0097	3772170.4829	504286.3925	9.4030	LFVA27
0098	3772170.4799	504286.3863	9.3970	LFVA27
0099	3772170.4721	504286.4222	9.4109	LFVA27
0100	3772170.4957	504286.4244	9.4193	LFVA27
0101	3772170.4557	504286.3816	9.4012	LFVA27
0102	3772170.4512	504286.4039	9.4272	LFVA27
0103	3772170.4225	504286.3838	9.4041	LFVA27
0104	3772170.4569	504286.3649	9.3988	LFVA27
0105	3772170.4373	504286.3592	9.3941	LFVA27
0106	3772170.3865	504286.3529	9.4082	LFVA27
0107	3769756.7057	504958.6889	9.4574	LFVA28
0108	3769756.7735	504958.7495	9.4617	LFVA28
0109	3769756.7615	504958.7820	9.4560	LFVA28
0110	3769756.6539	504958.7687	9.4347	LFVA28
0111	3769756.7945	504958.8080	9.4474	LFVA28
0112	3769756.7689	504958.7657	9.4508	LFVA28
0113	3769756.7933	504958.8294	9.4527	LFVA28
0114	3769756.7557	504958.8512	9.4326	LFVA28
0115	3769756.7778	504958.8708	9.4302	LFVA28
0116	3769756.7936	504958.9386	9.4406	LFVA28
0117	3767598.8822	505372.6301	9.0429	LFVA29

0118	3767598.9008	505372.5670	9.0615	LFVA29
0119	3767598.8946	505372.5021	9.1040	LFVA29
0120	3767598.8960	505372.4908	9.0641	LFVA29
0121	3767598.9371	505372.4313	9.0803	LFVA29
0122	3767598.9649	505372.4319	9.0839	LFVA29
0123	3767598.9621	505372.4692	9.0928	LFVA29
0124	3767598.9347	505372.4656	9.0959	LFVA29
0125	3767598.9548	505372.4842	9.0693	LFVA29
0126	3767599.0359	505372.4698	9.0692	LFVA29
0127	3757084.5873	504321.6419	9.8608	LFVA30
0128	3757084.6277	504321.6708	9.8167	LFVA30
0129	3757084.6669	504321.6860	9.8278	LFVA30
0130	3757084.6470	504321.6491	9.8666	LFVA30
0131	3757084.6556	504321.6929	9.8314	LFVA30
0132	3757084.5795	504321.7069	9.8565	LFVA30
0133	3757084.6006	504321.7280	9.8744	LFVA30
0134	3757084.6151	504321.7052	9.8775	LFVA30
0135	3757084.6743	504321.7192	9.8647	LFVA30
0136	3757084.7050	504321.7293	9.8330	LFVA30
0137	3757072.0004	504364.1714	10.4272	CHENIERS
0138	3757085.5437	504365.1695	-4.8932	CHENIERS
0139	3757120.6929	504267.1447	-1.6214	CHENIERS
LFVA12	3773235.5957	500151.3501	9.8459	

Point	Easting	Northing	Elev	Description
001	3614365.4870	546444.3174	11.7656	BASECHEK
002	3613232.6317	545165.1870	10.8426	LFVA31
003	3613232.6174	545165.1713	10.8349	LFVA31
004	3613232.6438	545165.1569	10.8490	LFVA31
005	3613232.6088	545165.0663	10.8036	LFVA31
006	3613232.5279	545165.0406	10.8243	LFVA31
007	3613232.5651	545165.0443	10.8305	LFVA31
008	3613232.5640	545165.0475	10.8171	LFVA31
009	3613232.5600	545165.0495	10.8006	LFVA31
010	3613232.5468	545165.0677	10.8061	LFVA31
011	3613232.6099	545165.1575	10.8049	LFVA31
012	3613185.4801	545127.6214	2.8923	BARE
013	3613209.1731	545117.4310	2.8004	BARE
014	3613234.1181	545116.4530	2.8532	BARE
015	3613244.4520	545096.7921	2.8793	BARE
016	3613269.7288	545098.9818	2.7081	BARE
017	3614305.7797	542856.4346	8.8322	LFVA32
018	3614305.8342	542856.4435	8.8344	LFVA32
019	3614305.8779	542856.4297	8.8446	LFVA32
020	3614305.8768	542856.4018	8.8646	LFVA32
021	3614305.8620	542856.4203	8.8516	LFVA32
022	3614305.8895	542856.4173	8.8555	LFVA32
023	3614305.9131	542856.3995	8.8344	LFVA32
024	3614305.9276	542856.4215	8.8486	LFVA32
025	3614305.8719	542856.4750	8.8547	LFVA32
026	3614305.8960	542856.4464	8.8523	LFVA32
027	3603583.4709	537207.5537	5.1396	BARE
028	3603592.3040	537229.7482	4.5588	BARE
029	3603582.7103	537247.3061	3.9376	BARE
030	3603553.7857	537247.5002	4.4361	BARE
031	3603547.7501	537224.8491	5.2455	BARE
032	3606093.5801	536807.7565	5.3430	EP
033	3606088.5688	536823.3577	3.4455	EP
034	3606054.8985	536814.5287	3.7889	EP
035	3606039.8423	536812.8402	3.7894	EP
036	3606012.3903	536810.8015	3.7190	EP
037	3605989.0779	536809.2445	3.5984	EP
038	3605960.8489	536805.5797	3.4201	EP
039	3606001.7997	536808.9166	3.4907	STRIPE
040	3606013.9814	536792.9980	3.8562	STRIPE
041	3606024.5966	536793.6822	3.8609	STRIPE
042	3610196.6092	538292.3814	4.7957	HIGRASS
043	3610177.2176	538289.0567	5.1164	HIGRASS
044	3610159.3939	538284.4345	4.8614	HIGRASS
045	3610179.6545	538401.1724	5.1243	HIGRASS
046	3610183.8566	538412.4723	5.0995	HIGRASS
047	3613767.2847	539571.0990	3.9069	HIGRASS
048	3613773.3696	539545.6771	6.6781	HIGRASS
049	3613782.0617	539533.0152	6.4813	HIGRASS
050	3613777.6412	539524.2535	6.2086	HIGRASS
051	3613787.1576	539492.8483	5.6635	HIGRASS
052	3613798.7485	539518.6572	6.0541	LOTREES
053	3613851.4199	539520.1306	3.4622	LOTREES
054	3625324.9136	539427.5674	3.0293	EC
055	3625334.0056	539439.6393	3.1526	EC
056	3625339.1160	539462.5154	3.0881	EC
057	3625353.9256	539509.9721	3.0215	EC
058	3625357.3364	539525.4281	3.2825	EC

059	3615981.0128	544118.7734	-3.0845	TREES
060	3615962.8751	544136.9472	-3.2778	TREES
061	3615921.2671	544153.8781	-3.4251	TREES
062	3615900.9640	544169.9278	-3.6145	TREES
063	3615860.9807	544186.6316	-3.3144	TREES
064	3615872.1079	544240.0107	-2.9467	BARE
065	3615900.3233	544234.6024	-2.8711	BARE
066	3615928.4816	544225.9695	-3.0773	BARE
067	3615962.2829	544209.1522	-2.9540	BARE
068	3615988.3937	544188.7738	-2.7404	BARE
069	3614731.5429	543602.7030	1.2659	wetland
070	3614738.3010	543596.1383	1.0799	wetland
071	3614749.6551	543652.0805	1.4523	wetland
072	3614730.9021	543667.9965	0.3879	wetland
073	3614715.7347	543680.4961	1.2436	wetland
074	3613232.5828	545165.1725	10.8588	LFVA31
075	3613232.5935	545165.1791	10.8406	LFVA31
076	3613232.5940	545165.1787	10.8484	LFVA31
077	3613232.6093	545165.1952	10.8613	LFVA31
078	3613232.5889	545165.1665	10.8485	LFVA31
079	3613232.6358	545165.1861	10.8421	LFVA31
080	3613232.6154	545165.1815	10.8232	LFVA31
081	3613232.5878	545165.1831	10.8305	LFVA31
082	3613232.6173	545165.1764	10.8360	LFVA31
083	3613232.6410	545165.1966	10.8357	LFVA31
084	3614305.8322	542856.6797	8.8047	LFVA32
085	3614305.8402	542856.6308	8.8082	LFVA32
086	3614305.9070	542856.5590	8.8388	LFVA32
087	3614305.9277	542856.5381	8.8336	LFVA32
088	3614305.9281	542856.5446	8.8532	LFVA32
089	3614305.9171	542856.5376	8.8330	LFVA32
090	3614305.8798	542856.5654	8.8425	LFVA32
091	3614305.9204	542856.5786	8.8146	LFVA32
092	3614305.9211	542856.5879	8.8106	LFVA32
093	3614305.9012	542856.5958	8.8171	LFVA32
094	3612324.4301	544721.4730	1.2689	wetland
095	3612346.5714	544731.6016	0.8243	wetland
096	3612288.9963	544639.4008	1.5199	wetland
097	3612293.9688	544640.2307	1.8377	wetland
098	3612289.9839	544633.9291	1.6425	wetland
099	3614365.6925	546441.5232	3.5388	BASECHEK
FVA05	3614365.3676	546441.4242	3.6287	

Point	Easting	Northing	Elev	Description
001	3586431.8061	543463.3441	37.4811	BASECHEK
002	3591212.4906	541957.8540	15.5463	LFVA33
003	3591212.4972	541957.8184	15.5282	LFVA33
004	3591212.5336	541957.8143	15.5624	LFVA33
005	3591212.5487	541957.8369	15.5201	LFVA33
006	3591212.5352	541957.8299	15.5457	LFVA33
007	3591212.5364	541957.7980	15.5413	LFVA33
008	3591212.5348	541957.8313	15.5165	LFVA33
009	3591212.5623	541957.8193	15.5237	LFVA33
010	3591212.5541	541957.8164	15.5339	LFVA33
011	3591212.5694	541957.8386	15.5639	LFVA33
012	3583466.1285	545174.3854	15.4185	LFVA34
013	3583466.1157	545174.4807	15.3887	LFVA34
014	3583466.2299	545174.5539	15.3979	LFVA34
015	3583466.2233	545174.4887	15.4069	LFVA34
016	3583466.2139	545174.4783	15.4250	LFVA34
017	3583466.1452	545174.4805	15.4139	LFVA34
018	3583466.1487	545174.4664	15.4271	LFVA34
019	3583466.1434	545174.4705	15.4179	LFVA34
020	3583466.1314	545174.5035	15.4315	LFVA34
021	3583466.1229	545174.4636	15.4429	LFVA34
022	3579104.7532	537148.7182	27.2761	LFVA35
023	3579104.7391	537148.7000	27.2855	LFVA35
024	3579104.7613	537148.6823	27.2816	LFVA35
025	3579104.6811	537148.6513	27.2967	LFVA35
026	3579104.7065	537148.6223	27.3379	LFVA35
027	3579104.7032	537148.5889	27.2931	LFVA35
028	3579104.6700	537148.6174	27.3018	LFVA35
029	3579104.6783	537148.6151	27.2899	LFVA35
030	3579104.6736	537148.5956	27.2866	LFVA35
031	3579104.7263	537148.5989	27.3136	LFVA35
032	3571155.2217	545656.7637	28.2786	LFVA36
033	3571155.2061	545656.8010	28.3088	LFVA36
034	3571155.2084	545656.7992	28.2754	LFVA36
035	3571155.2129	545656.7470	28.2829	LFVA36
036	3571155.2514	545656.7562	28.2778	LFVA36
037	3571155.2226	545656.7677	28.3080	LFVA36
038	3571155.2069	545656.7178	28.3265	LFVA36
039	3571155.2237	545656.6644	28.3220	LFVA36
040	3571155.2368	545656.7116	28.2807	LFVA36
041	3571155.2409	545656.6867	28.3374	LFVA36
042	3563271.9870	552520.3574	5.3761	BARE
043	3563258.3575	552530.9347	5.3956	BARE
044	3563240.0084	552541.9898	5.3784	BARE
045	3563219.4032	552549.0341	5.2246	BARE
046	3563201.0115	552555.4832	5.1054	BARE
047	3563468.4615	552634.9665	2.0632	wetland
048	3563500.9514	552671.4062	2.3168	wetland
049	3563528.5396	552700.7768	2.4750	wetland
050	3563539.4061	552712.7778	2.7988	wetland
051	3563548.2948	552726.2333	2.7605	wetland
052	3563412.3576	552618.9852	4.9518	HIGRASS
053	3563401.1578	552608.5872	5.0647	HIGRASS
054	3563390.6594	552585.2766	4.8234	HIGRASS
055	3563384.9654	552576.1524	4.9977	HIGRASS
056	3563374.2091	552558.7536	4.9672	HIGRASS
057	3561030.3586	554230.8594	6.6723	BARE
058	3561029.6866	554254.9127	7.3369	BARE

059	3561023.3911	554271.3933	7.8558	BARE
060	3561035.9835	554287.6706	7.8228	BARE
061	3561053.8816	554283.7141	7.3609	BARE
062	3561163.3454	554326.3200	4.8856	TREES
063	3559269.2697	547089.2292	15.5548	HIGRASS
064	3559263.3979	547099.8924	15.7668	HIGRASS
065	3559251.1889	547103.0172	15.4762	HIGRASS
066	3559243.5623	547101.9422	15.3931	HIGRASS
067	3559236.4334	547110.0374	15.2445	HIGRASS
068	3573430.8281	553170.9449	3.3204	TREES
069	3565507.6578	560101.1338	1.1962	wetland
070	3565508.9427	560096.0636	1.3284	wetland
071	3565517.7283	560111.9170	1.3124	wetland
072	3565518.9678	560121.0118	1.1790	wetland
073	3565513.9236	560094.0324	1.1802	wetland
074	3576197.5242	555694.7206	3.8292	CHEINERS
075	3576197.4061	555694.7312	3.8886	CHEINERS
076	3576181.5400	555679.7987	3.6834	CHEINERS
077	3576161.3586	555667.0551	3.9917	CHEINERS
078	3576140.5964	555652.0754	4.0591	CHEINERS
079	3576131.3303	555632.4793	3.8989	CHEINERS
080	3573360.9305	552446.3476	3.3595	EC
081	3573378.1842	552441.2786	3.6224	EC
082	3573348.4676	552471.6609	3.1325	EC
083	3573357.2900	552492.6917	2.9910	EC
084	3573366.3857	552488.3596	3.2308	EC
085	3587340.9733	542427.6603	2.3547	wetland
086	3587334.9023	542421.2852	1.7079	wetland
087	3587319.7044	542407.1395	1.4988	wetland
088	3587294.7197	542381.8871	2.6987	wetland
089	3587300.3296	542379.3030	3.0265	wetland
090	3588310.4671	542076.8330	1.0919	BARE
091	3588304.5394	542095.0872	1.1105	BARE
092	3588303.1111	542114.3289	1.2341	BARE
093	3588278.3931	542118.3638	1.0775	BARE
094	3588276.7041	542091.7088	1.0976	BARE
095	3571155.0655	545656.9267	28.3607	LFVA36
096	3571155.1105	545656.9158	28.3654	LFVA36
097	3571155.0661	545656.9120	28.3808	LFVA36
098	3571155.0811	545656.9391	28.3535	LFVA36
099	3571155.0878	545656.9149	28.3501	LFVA36
100	3571155.0600	545656.9154	28.3776	LFVA36
101	3571155.1097	545656.9471	28.3580	LFVA36
102	3571155.0917	545656.9660	28.3919	LFVA36
103	3571155.0701	545656.9179	28.3389	LFVA36
104	3571155.1006	545656.9714	28.3517	LFVA36
105	3579104.8489	537148.8105	27.2147	LFVA35
106	3579104.8327	537148.8274	27.1847	LFVA35
107	3579104.8280	537148.7914	27.2084	LFVA35
108	3579104.8193	537148.8086	27.2001	LFVA35
109	3579104.8608	537148.8120	27.1700	LFVA35
110	3579104.8413	537148.8180	27.1952	LFVA35
111	3579104.8314	537148.8269	27.2021	LFVA35
112	3579104.8288	537148.8140	27.1508	LFVA35
113	3579104.7908	537148.8168	27.2178	LFVA35
114	3579104.7717	537148.8287	27.2245	LFVA35
115	3583466.1334	545174.5647	15.4405	LFVA34
116	3583466.1142	545174.5532	15.4038	LFVA34
117	3583466.1179	545174.4974	15.4067	LFVA34

118	3583466.0631	545174.5144	15.4199	LFVA34
119	3583466.0501	545174.4878	15.4006	LFVA34
120	3583466.0676	545174.5042	15.4229	LFVA34
121	3583466.0907	545174.5493	15.4502	LFVA34
122	3583466.0901	545174.5319	15.4651	LFVA34
123	3583466.0995	545174.5531	15.4426	LFVA34
124	3583466.0769	545174.4828	15.4468	LFVA34
125	3591212.5632	541957.8141	15.4639	L_FVA33
126	3591212.5940	541957.7471	15.4482	L_FVA33
127	3591212.7337	541957.4716	15.4564	L_FVA33
128	3591212.4860	541957.9506	15.5384	L_FVA33
129	3591212.4842	541957.9769	15.5203	L_FVA33
130	3591212.4852	541957.9986	15.5432	L_FVA33
131	3591212.4555	541958.0015	15.5288	L_FVA33
132	3591212.4793	541957.9920	15.5076	L_FVA33
133	3591212.5192	541958.0294	15.4870	L_FVA33
134	3591212.4766	541958.0263	15.4744	L_FVA33
135	3584560.2414	535789.0134	1.0401	HIGRASS
136	3584562.5779	535773.8365	1.3201	HIGRASS
137	3584555.8632	535755.6937	0.8956	HIGRASS
138	3584538.2945	535775.5519	1.4368	HIGRASS
139	3584548.6722	535790.8641	1.1192	HIGRASS
140	3580645.6968	531276.1697	10.0367	HIGRASS
141	3580632.5401	531295.7057	10.0450	HIGRASS
142	3580619.2142	531297.4774	9.9760	HIGRASS
143	3580604.5538	531290.9832	10.1104	HIGRASS
144	3580605.0483	531278.2102	10.2904	HIGRASS
145	3579511.3640	534206.8119	7.4301	EC
146	3579524.4755	534219.5064	7.4161	EC
147	3579536.9586	534231.7547	7.4508	EC
148	3579502.6673	534198.3401	7.2543	EC
149	3579515.3324	534210.7416	7.4542	EC
150	3579366.1575	536371.1925	7.1093	HIGRASS
151	3579378.3631	536386.0166	7.0664	HIGRASS
152	3579389.4113	536400.7493	7.1390	HIGRASS
153	3579390.2067	536413.2767	7.4346	HIGRASS
154	3579397.4270	536426.3312	7.8440	HIGRASS
155	3579220.1306	538602.9622	5.5884	TREES
156	3586433.1717	543453.9738	15.6276	BASECHEK
LFVA06	3586432.8199	543454.3329	15.6070	

Point	Easting	Northing	Elev	Description
001	3664647.4511	452184.0265	6.7724	BASECHEK
002	3670316.3494	422183.0657	1.5625	CHEINERS
003	3670315.3617	422200.7390	1.7473	CHEINERS
004	3670293.8854	422218.0623	1.5211	CHEINERS
005	3670216.3420	423118.2220	4.1752	BARE
006	3670208.6893	423101.1800	4.2152	BARE
007	3670208.6288	423080.1638	4.2886	BARE
008	3670196.9490	423053.6850	4.3991	BARE
009	3670189.5284	423035.1056	4.2293	BARE
010	3670303.0203	422818.6342	0.7475	wetland
011	3670313.4905	422832.8149	0.6452	wetland
012	3670327.5150	422854.1862	0.7509	wetland
013	3670337.0444	422865.1383	0.7257	wetland
014	3670343.3697	422872.7016	0.6729	wetland
015	3669776.1417	424114.9473	2.5396	EP
016	3669806.5144	424116.0527	2.9590	EP
017	3669821.3566	424116.3428	3.2868	EP
018	3669836.8410	424116.5469	3.3913	EP
019	3669849.2202	424116.3938	3.4150	EP
020	3669436.4043	426636.9220	-0.0140	BARE
021	3669436.3360	426616.5636	-0.1625	BARE
022	3669451.5229	426612.3706	-0.3682	BARE
023	3669471.4606	426619.3634	-0.2706	BARE
024	3669485.7300	426624.8324	0.1162	BARE
025	3669380.1358	427035.2278	1.7538	EP
026	3669394.8377	427034.6177	1.5732	EP
027	3669411.0855	427033.9808	1.4714	EP
028	3669421.5233	427033.5412	1.4327	EP
029	3669396.5278	427016.1961	1.6725	EP
030	3672084.6518	427920.2072	3.3147	CHEINERS
031	3672084.5854	427920.2901	3.3491	CHEINERS
032	3671636.2449	429403.4694	-0.5773	BARE
033	3671646.6466	429397.1095	-0.5765	BARE
034	3671656.4930	429420.6331	-0.6112	BARE
035	3671642.5690	429428.4383	-0.6120	BARE
036	3671639.9954	429566.8923	-0.2272	EC
037	3671624.7865	429567.2160	-0.3876	EC
038	3671609.7592	429576.1036	-0.4104	EC
039	3671610.0526	429596.7266	-0.3925	EC
040	3671632.7265	429583.3300	-0.4057	EC
041	3671632.5586	429582.8888	-0.2710	EC
042	3671268.5297	429880.1293	0.1648	HIGRASS
043	3671270.4459	429860.3712	-0.3447	HIGRASS
044	3671274.7527	429843.8034	-0.3652	HIGRASS
045	3671287.1853	429829.7003	-0.3759	HIGRASS
046	3671290.1648	429850.4023	-0.4869	HIGRASS
047	3672028.6048	431202.4165	-1.0264	TREES
048	3672076.9578	431215.0257	-1.5097	TREES
049	3672102.4856	431190.9256	-1.6062	TREES
050	3673099.8728	433330.2692	0.1360	BARE
051	3673103.2725	433344.2443	0.2130	BARE
052	3673106.4751	433355.3878	0.2977	BARE
053	3673109.3683	433366.0793	0.1971	BARE
054	3673112.2304	433377.5283	0.2416	BARE
055	3673220.4588	433409.3308	-1.0347	TREES
056	3673650.6062	433606.7436	-2.2019	EC
057	3673673.8834	433601.0793	-2.2930	EC
058	3673695.7394	433595.6185	-2.3263	EC

059	3673723.5890	433588.6449	-2.3075	EC
060	3673764.6013	433579.0180	-2.4930	EC
061	3664345.3942	446550.2687	0.5573	BARE
062	3664344.0444	446568.7497	0.5650	BARE
063	3664328.4785	446586.0968	0.5964	BARE
064	3664310.0945	446584.7209	0.2742	BARE
065	3664304.8359	446566.7977	0.3631	BARE
066	3663265.5529	450335.9411	6.3368	BARE
067	3663277.0725	450341.8541	6.2392	BARE
068	3663285.8621	450348.5980	6.2210	BARE
069	3663211.7071	450313.3264	5.6602	BARE
070	3663149.5597	450280.2542	4.7324	BARE
071	3663152.9452	450263.6887	1.2975	wetland
072	3663139.8979	450255.3361	0.8850	wetland
073	3663127.8593	450249.3169	1.0716	wetland
074	3663112.3580	450241.1479	1.8306	wetland
075	3663100.8498	450232.8890	1.0819	wetland
076	3662348.7196	451030.0878	1.8708	EC
077	3662327.9270	451019.6293	1.6796	EC
078	3662324.4635	451002.2740	1.6436	EP
079	3662330.9681	450994.3303	1.6959	EP
080	3662285.2890	451013.0142	1.3463	EP
081	3662347.4827	451061.9787	1.2674	TREES
082	3662348.2020	451065.3382	0.9261	TREES
083	3665899.5012	448318.9922	1.1826	HIGRASS
084	3665897.7069	448313.1354	1.5538	HIGRASS
085	3665900.2804	448304.7125	1.6764	HIGRASS
086	3665902.5931	448296.8620	1.3241	HIGRASS
087	3665910.1351	448286.1969	1.5765	HIGRASS
088	3665918.6393	448248.5185	1.6708	CHEINERS
089	3665932.5259	448255.2384	1.7521	CHEINERS
090	3665950.5711	448261.9851	1.6381	CHEINERS
091	3665961.5659	448270.6568	1.5751	CHEINERS
092	3665981.1985	448281.5682	1.4871	CHEINERS
093	3663869.6939	450806.9010	0.8149	BARE
094	3663845.2470	450804.3839	0.9594	BARE
095	3663809.0341	450784.5865	1.5383	BARE
096	3663795.7466	450788.4533	1.2533	BARE
097	3663782.6339	450800.7750	1.1682	BARE
098	3664693.9039	452159.9529	3.1794	CHEINERS
099	3661204.7737	453487.0270	4.0648	BARE
100	3661189.3929	453476.6698	3.5028	BARE
101	3661214.9607	453443.4219	3.3727	BARE
102	3661216.9142	453431.9166	2.9057	BARE
103	3661221.6586	453408.2579	2.1780	BARE
104	3662186.6844	453395.0857	3.5042	EP
105	3662179.5011	453410.2177	3.4014	EP
106	3662173.5763	453425.7414	3.1452	EP
107	3662170.3414	453435.1141	2.9252	EP
108	3662162.0529	453462.5326	2.7273	EP
109	3663080.5563	453729.9376	2.1696	TREES
110	3661147.7934	455866.3638	2.3864	BARE
111	3661136.3563	455869.4031	2.4509	BARE
112	3661122.8289	455868.6336	2.2815	BARE
113	3661106.2761	455861.7605	2.1767	BARE
114	3661093.3308	455855.8318	2.4032	BARE
115	3661282.5143	454496.2542	8.1794	CHEINERS
116	3661296.8468	454478.9192	8.0549	CHEINERS
117	3661321.1180	454485.2594	7.7201	CHEINERS

118	3661336.5334	454456.3440	7.3895	CHEINERS
119	3661322.8811	454436.8474	7.1799	CHEINERS
120	3661407.7241	454427.2940	1.4026	wetland
121	3661398.6788	454418.4534	1.8511	wetland
122	3661392.9882	454401.1078	2.1089	wetland
123	3661385.1285	454388.1113	2.4608	wetland
124	3661399.2667	454388.5244	1.2840	wetland
125	3661944.0276	457035.7592	3.0090	EP
126	3661938.1566	457047.1744	2.9990	EP
127	3661930.5725	457060.5070	2.8883	EP
128	3661923.5585	457072.6439	2.7446	EP
129	3661915.3282	457087.8941	2.7285	EP
130	3661984.2519	457000.9521	3.3106	BARE
131	3661991.6654	456985.6801	3.3068	BARE
132	3661999.4895	456970.8487	3.1647	BARE
133	3662005.4739	456959.9194	3.0490	BARE
134	3662017.5273	456939.7557	3.2940	BARE
135	3670983.9837	460580.9985	1.8789	BARE
136	3670970.1905	460592.9052	1.7742	BARE
137	3670951.6723	460606.1156	1.8130	BARE
138	3670943.8406	460623.6367	1.7352	BARE
139	3670931.0445	460638.6243	1.7602	BARE
140	3674243.0840	460831.8905	2.1588	EP
141	3674247.2219	460825.3214	2.1869	EP
142	3674262.6261	460807.7531	1.9817	EP
143	3674283.1447	460813.4743	2.1055	EP
144	3674297.9209	460817.6272	2.1711	EP
145	3675139.6671	460014.1854	0.9987	BARE
146	3675158.3299	459996.3095	0.8367	BARE
147	3675176.4401	459979.1750	0.7236	BARE
148	3675190.3940	459966.9290	0.7943	BARE
149	3675210.0664	459953.4368	0.6869	BARE
150	3675249.6045	459948.1736	0.4510	TREES
151	3677467.1241	462102.6266	1.1768	BARE
152	3677450.9965	462092.4748	1.2938	BARE
153	3677432.0922	462077.6157	1.4085	BARE
154	3677411.6760	462063.2688	1.2443	BARE
155	3677392.4210	462049.0776	1.4065	BARE
L FVA20	3664647.4020	452184.5470	6.7783	

Point	Easting	Northing	Elev	Description
001	3667033.3684	477464.6091	14.2333	BASECHEK
002	3664819.3759	489960.4063	13.7874	LFVA37
003	3664819.4227	489960.5086	13.8144	LFVA37
004	3664819.4427	489960.5315	13.7832	LFVA37
005	3664819.4309	489960.5173	13.7961	LFVA37
006	3664819.4382	489960.4525	13.7821	LFVA37
007	3664819.4667	489960.5256	13.8215	LFVA37
008	3664819.4762	489960.5056	13.8237	LFVA37
009	3664819.5035	489960.5701	13.8288	LFVA37
010	3664819.4817	489960.5501	13.8391	LFVA37
011	3664819.5157	489960.6117	13.8251	LFVA37
012	3677698.4354	478720.8946	12.4881	LFVA38
013	3677698.4657	478720.8775	12.4994	LFVA38
014	3677698.5061	478720.9212	12.4869	LFVA38
015	3677698.4795	478720.8734	12.4738	LFVA38
016	3677698.4834	478720.8770	12.5005	LFVA38
017	3677698.4822	478720.8866	12.4727	LFVA38
018	3677698.4973	478720.8922	12.5140	LFVA38
019	3677698.4247	478720.8696	12.4658	LFVA38
020	3677698.4326	478720.8475	12.5120	LFVA38
021	3677698.4479	478720.9188	12.4945	LFVA38
022	3681558.4734	476823.8393	13.4057	LFVA39
023	3681558.4372	476823.8381	13.3726	LFVA39
024	3681558.4195	476823.7997	13.3800	LFVA39
025	3681558.4341	476823.8126	13.3983	LFVA39
026	3681558.4070	476823.8611	13.3609	LFVA39
027	3681558.7608	476823.6764	13.4197	LFVA39
028	3681558.7449	476823.6688	13.4222	LFVA39
029	3681558.7078	476823.6424	13.4040	LFVA39
030	3681558.6666	476823.5803	13.4298	LFVA39
031	3681558.7204	476823.6543	13.4355	LFVA39
032	3687899.3338	475017.1617	-4.8955	BARE
033	3687907.8768	475037.3245	-4.9348	BARE
034	3687917.5156	475064.1080	-5.0506	BARE
035	3687913.1067	475080.9654	-5.2050	BARE
036	3687898.7078	475058.6446	-5.1396	BARE
037	3690321.1564	473939.0757	-2.5398	TREES
038	3690332.6116	473936.7647	-2.8831	TREES
039	3676461.9062	488226.6052	-5.1799	HIGRASS
040	3676446.6970	488227.0749	-5.3008	HIGRASS
041	3676374.4943	488228.3158	-4.7537	HIGRASS
042	3676359.8013	488225.9443	-5.0271	HIGRASS
043	3676324.7587	488227.7488	-5.1635	HIGRASS
044	3676862.9981	488267.5834	-3.0833	wetland
045	3676862.4129	488297.1335	-3.1631	wetland
046	3676858.9963	488331.0265	-3.2938	wetland
047	3676856.1900	488363.6076	-3.1810	wetland
048	3676856.3808	488384.2698	-3.2108	wetland
049	3677037.9110	488210.7559	-2.8588	TREES
050	3677064.6869	488213.7714	-3.4382	TREES
051	3673984.6054	480760.7746	-1.9279	TREES
052	3673981.7348	480725.7925	-1.6622	TREES
053	3673978.6602	480675.3357	-2.1269	TREES
054	3673970.5462	480588.6467	-1.7771	TREES
055	3673968.0794	480553.2421	-1.9748	TREES
056	3672615.0682	472581.3263	-3.1007	BARE
057	3672610.6205	472592.0287	-3.1967	BARE
058	3672606.5363	472611.4240	-3.5022	BARE

059	3672604.4778	472624.9469	-3.5972	BARE
060	3672602.3435	472638.1946	-3.8210	BARE
061	3677698.5733	478720.9841	12.8478	LFVA38
062	3677698.5708	478720.9888	12.8253	LFVA38
063	3677698.5472	478720.9786	12.7627	LFVA38
064	3677698.5636	478720.9920	12.8160	LFVA38
065	3677698.5625	478720.9823	12.7422	LFVA38
066	3677698.5499	478721.0584	12.7512	LFVA38
067	3677698.5365	478721.0215	12.6779	LFVA38
068	3677698.5187	478721.0073	12.6846	LFVA38
069	3677698.5055	478721.0348	12.7028	LFVA38
070	3677698.4474	478721.1078	12.6324	LFVA38
071	3672410.2545	466663.0315	2.3846	EP
072	3672397.4068	466666.0752	2.4846	EP
073	3672379.3049	466670.7235	2.4563	EP
074	3672341.0364	466679.8239	2.4668	EP
075	3672334.6804	466681.3409	2.3398	EP
076	3670245.9821	479715.1167	2.6781	wetland
077	3670269.9832	479731.5240	2.8064	wetland
078	3670283.4724	479738.5303	3.0376	wetland
079	3670242.7420	479712.7242	2.9586	wetland
080	3670234.9658	479701.1164	3.1265	wetland
081	3668202.7461	485110.2496	3.6863	BARE
082	3668206.9927	485092.6016	3.9475	BARE
083	3668213.3298	485073.8676	4.0524	BARE
084	3668219.0290	485057.1548	3.9766	BARE
085	3668225.2736	485039.8383	4.2062	BARE
086	3666117.8442	488940.2377	3.5671	EC
087	3666108.4869	488930.9049	3.3712	EC
088	3666100.6632	488943.9541	3.3296	EC
089	3666090.3953	488960.9852	3.3837	EC
090	3666101.1306	488963.7457	3.5046	EC
091	3670456.2254	484953.4093	4.8174	HIGRASS
092	3670469.3809	484950.1906	4.9661	HIGRASS
093	3670473.2199	484959.4175	4.9455	HIGRASS
094	3670466.2640	484978.6527	4.7938	HIGRASS
095	3670449.7477	484983.0649	4.6464	HIGRASS
096	3681558.6261	476823.8069	13.2978	LFVA39
097	3681558.6784	476823.7855	13.2992	LFVA39
098	3681558.7056	476823.7806	13.2948	LFVA39
099	3681558.6833	476823.7222	13.3151	LFVA39
100	3681558.7387	476823.7469	13.3129	LFVA39
101	3681558.6738	476823.7562	13.3162	LFVA39
102	3681558.6529	476823.7264	13.3601	LFVA39
103	3681558.5978	476823.6319	13.3746	LFVA39
104	3681558.6044	476823.6070	13.3752	LFVA39
105	3681558.6726	476823.6833	13.3337	LFVA39
106	3664819.3867	489960.4421	13.9595	LFVA37
107	3664819.4047	489960.3884	13.9358	LFVA37
108	3664819.4103	489960.3793	13.9508	LFVA37
109	3664819.4427	489960.3164	13.9524	LFVA37
110	3664819.4327	489960.3565	13.9794	LFVA37
111	3664819.4269	489960.3555	13.9364	LFVA37
112	3664819.4283	489960.3878	13.9173	LFVA37
113	3664819.4774	489960.4091	13.9196	LFVA37
114	3664819.4066	489960.4057	13.9130	LFVA37
115	3664819.4354	489960.4210	13.9233	LFVA37
116	3667033.1795	477464.9419	14.1404	BASECHEK
L FVA01	3667033.5413	477464.4671	14.2291	

Point	Easting	Northing	Elev	Description
001	3617549.7806	514342.1675	12.9464	BASECHEK
002	3619625.6990	514343.0656	0.9686	wetland
003	3619606.8754	514341.2204	0.7734	wetland
004	3619593.7082	514338.8481	0.9403	wetland
005	3619581.2318	514336.1979	1.0318	wetland
006	3619574.3251	514336.7693	0.9627	wetland
007	3619829.9348	514301.4894	13.7236	LFVA41
008	3619829.8893	514301.4019	13.7257	LFVA41
009	3619829.8792	514301.4155	13.7310	LFVA41
010	3619829.7645	514301.3120	13.7020	LFVA41
011	3619829.7802	514301.3391	13.7086	LFVA41
012	3619829.7312	514301.3990	13.7039	LFVA41
013	3619829.7442	514301.3682	13.7363	LFVA41
014	3619829.7449	514301.3550	13.7365	LFVA41
015	3619829.8104	514301.3446	13.7690	LFVA41
016	3619829.7607	514301.3999	13.8083	LFVA41
017	3630018.6041	500691.4729	14.0870	LFVA11
018	3630018.5862	500691.4747	14.1078	LFVA11
019	3630018.5834	500691.3803	14.1198	LFVA11
020	3630018.6044	500691.3820	14.1276	LFVA11
021	3630018.6199	500691.3676	14.1311	LFVA11
022	3630018.6870	500691.3562	14.1193	LFVA11
023	3630018.6799	500691.3527	14.1200	LFVA11
024	3630018.6726	500691.3549	14.1172	LFVA11
025	3630018.6618	500691.3238	14.1237	LFVA11
026	3630018.6106	500691.2284	14.0994	LFVA11
027	3618288.7912	515824.9877	5.0683	EP
028	3618300.3583	515824.2717	5.0488	EP
029	3618314.5189	515823.7345	4.9336	EP
030	3618331.2851	515822.0773	4.9148	EP
031	3618353.8604	515821.0760	4.7952	EP
032	3618217.9948	518385.5058	4.6915	
033	3618217.9982	518385.2681	4.7379	HIGRASS
034	3618200.7747	518375.2065	4.8983	HIGRASS
035	3618175.3096	518367.0380	4.9477	HIGRASS
036	3618169.6390	518348.4286	4.6864	HIGRASS
037	3618195.4064	518348.9954	4.6754	HIGRASS
038	3630294.6375	515197.9356	-1.0234	TREES
039	3630295.8841	515225.9816	-0.9834	TREES
040	3625956.7427	520839.4414	1.2934	BARE
041	3625947.1735	520832.7886	1.2453	BARE
042	3625933.1889	520822.6412	1.2862	BARE
043	3625923.0812	520815.7962	1.0897	BARE
044	3625910.0162	520812.6600	1.0949	BARE
045	3622603.2746	525843.9239	1.1487	TREES
046	3622612.8232	525858.9384	1.0002	TREES
047	3625313.6990	533483.9182	11.6858	HIGRASS
048	3625306.6034	533487.4481	11.7405	HIGRASS
049	3625305.8921	533496.5676	11.7485	HIGRASS
050	3625299.5109	533497.9107	11.5288	HIGRASS
051	3625322.3695	533487.9731	11.8576	HIGRASS
052	3630018.3586	500691.1816	13.9694	LFVA11
053	3630018.4001	500691.2555	14.0053	LFVA11
054	3630018.4187	500691.3147	13.9871	LFVA11
055	3630018.3842	500691.3332	14.0111	LFVA11
056	3630018.4383	500691.3876	13.9946	LFVA11
057	3630018.4030	500691.3006	13.9904	LFVA11
058	3630018.4020	500691.2494	13.9737	LFVA11

059	3630018.4088	500691.3942	13.9676	LFVA11
060	3630018.4330	500691.4055	13.9801	LFVA11
061	3630018.3886	500691.3687	13.9989	LFVA11
062	3630018.4369	500691.3642	14.0118	LFVA11
063	3619829.7627	514301.2027	13.7347	LFVA41
064	3619829.7833	514301.1689	13.7170	LFVA41
065	3619829.8146	514301.1113	13.7306	LFVA41
066	3619829.8327	514301.1405	13.7284	LFVA41
067	3619829.8590	514301.1971	13.7304	LFVA41
068	3619829.8696	514301.1824	13.7273	LFVA41
069	3619829.8596	514301.1378	13.7440	LFVA41
070	3619829.9065	514301.1698	13.7299	LFVA41
071	3619829.9020	514301.1396	13.7337	LFVA41
072	3619829.9053	514301.1421	13.7412	LFVA41
073	3617549.7526	514342.1748	12.9925	BASECHEK
LFVA08	3617550.1327	514342.3345	13.0152	

Point	Easting	Northing	Elev	Description
001	3650266.8367	502394.2545	12.9803	BASECHEK
002	3646374.6260	500051.3799	13.0916	LFVA07
003	3646374.5037	500051.2644	13.1588	LFVA07
004	3646374.4973	500051.2242	13.1791	LFVA07
005	3646374.5587	500051.3216	13.1564	LFVA07
006	3646374.5904	500051.3139	13.1596	LFVA07
007	3646374.5717	500051.3011	13.1206	LFVA07
008	3646374.6070	500051.3508	13.1396	LFVA07
009	3646374.5831	500051.2933	13.1160	LFVA07
010	3646374.5901	500051.2819	13.1496	LFVA07
011	3646374.5735	500051.3190	13.1281	LFVA07
012	3650138.0421	502630.8754	-7.9107	wetland
013	3650152.9103	502643.9670	-7.7737	wetland
014	3650171.3451	502655.9493	-7.5146	wetland
015	3650174.3461	502670.2158	-7.7379	wetland
016	3650179.7235	502683.9990	-8.0525	wetland
017	3651645.1254	509731.7134	-3.0585	LOTREES
018	3651630.1289	509713.8224	-3.0938	LOTREES
019	3651693.2445	509744.7949	-3.2810	LOTREES
020	3651705.2998	509778.4409	-2.3008	LOTREES
021	3651679.3457	509786.8974	-2.5371	LOTREES
022	3659565.1971	506199.3231	13.6870	LFVA40
023	3659565.2257	506199.3276	13.6815	LFVA40
024	3659565.2086	506199.3085	13.6370	LFVA40
025	3659565.2343	506199.3155	13.6601	LFVA40
026	3659565.1785	506199.4530	13.6482	LFVA40
027	3659565.1235	506199.4189	13.6471	LFVA40
028	3659565.1325	506199.4682	13.6852	LFVA40
029	3659565.1799	506199.4930	13.6557	LFVA40
030	3659565.1720	506199.5069	13.6694	LFVA40
031	3659565.1701	506199.4414	13.6657	LFVA40
032	3659517.3783	506053.8275	2.4725	HIGRASS
033	3659504.4050	506058.1476	2.2979	HIGRASS
034	3659493.8479	506058.9615	2.2473	HIGRASS
035	3659485.3362	506057.4692	2.3093	HIGRASS
036	3659480.7492	506055.4590	2.3021	HIGRASS
037	3660434.8870	501416.3250	-3.8300	CHEINERS
038	3660479.7541	501419.0083	-4.1950	CHEINERS
039	3660502.0628	501417.9707	-4.1169	CHEINERS
040	3660517.1536	501415.9421	-4.0888	CHEINERS
041	3660533.6468	501412.6859	-3.8228	CHEINERS
042	3664504.5320	503808.6494	1.7879	TREES
043	3664494.2628	503727.8538	1.8429	TREES
044	3664487.5922	503686.5466	1.4182	TREES
045	3664487.3140	503666.7771	1.5746	TREES
046	3664487.2931	503652.3474	1.4307	TREES
047	3654002.1001	507982.0123	-4.2725	CHEINERS
048	3654001.5160	507960.8881	-4.2467	CHEINERS
049	3654008.8589	507930.1880	-4.7901	CHEINERS
050	3654001.9322	507994.4662	-4.2757	CHEINERS
051	3653985.4690	508036.5112	-4.2630	CHEINERS
052	3651597.9846	512094.4247	-3.8659	EC
053	3651588.2916	512098.1593	-3.8808	EC
054	3651570.0198	512105.0340	-3.9577	EC
055	3651559.4099	512109.1654	-4.0644	EC
056	3651536.3120	512117.8213	-4.2034	EC
057	3647466.5246	510133.0452	-0.7483	HIGRASS
058	3647470.1644	510126.2086	-0.6646	HIGRASS

059	3647471.8798	510119.7270	-0.6070	HIGRASS
060	3647458.6942	510144.3869	-0.5426	HIGRASS
061	3647450.5296	510151.3005	-0.6737	HIGRASS
062	3648043.7615	510086.4890	-4.1229	TREES
063	3648021.8814	510098.6700	-4.1536	TREES
064	3642498.9633	514164.8150	2.4670	BARE
065	3642500.5648	514182.5481	2.6279	BARE
066	3642502.0055	514201.4900	2.3877	BARE
067	3642505.3041	514131.4389	1.9263	BARE
068	3642497.7411	514120.3083	1.6811	BARE
069	3645634.1587	508629.5505	-3.4710	TREES
070	3645597.9001	508625.9312	-4.4119	TREES
071	3645557.9420	508629.4124	-4.0734	TREES
072	3645505.3367	508623.3777	-4.6542	TREES
073	3645440.4478	508625.9327	-3.9520	TREES
074	3639735.7900	508499.5129	-7.7104	TREES
075	3648730.1658	515310.6777	0.1726	TREES
076	3648764.9860	515296.6343	-0.0018	TREES
077	3648795.1670	515290.9617	0.3971	TREES
078	3648824.5599	515284.5922	0.2811	TREES
079	3648843.6680	515280.4178	0.1860	TREES
080	3654690.7502	511771.2468	-0.2146	TREES
081	3654653.2557	511777.3408	-1.0659	TREES
082	3654633.9914	511784.3304	-1.6582	TREES
083	3654618.8623	511779.0705	-2.1784	TREES
084	3654630.0037	511787.0716	-1.7008	TREES
085	3659564.9569	506199.5422	13.6553	LFVA40
086	3659565.0944	506199.5152	13.6625	LFVA40
087	3659565.0742	506199.5143	13.6480	LFVA40
088	3659565.0339	506199.5340	13.6739	LFVA40
089	3659565.0362	506199.4828	13.6360	LFVA40
090	3659565.0318	506199.4523	13.6530	LFVA40
091	3659565.0141	506199.4358	13.6327	LFVA40
092	3659565.0018	506199.3255	13.6388	LFVA40
093	3659564.9819	506199.4364	13.6458	LFVA40
094	3659565.0772	506199.5347	13.6469	LFVA40
095	3646374.7756	500051.4796	13.0976	LFVA07
096	3646374.7471	500051.5025	13.0914	LFVA07
097	3646374.7855	500051.5033	13.0879	LFVA07
098	3646374.7215	500051.5650	13.0648	LFVA07
099	3646374.8049	500051.5550	13.0456	LFVA07
100	3646374.7763	500051.5141	13.0696	LFVA07
101	3646374.8092	500051.5092	13.0472	LFVA07
102	3646374.8299	500051.5620	13.0589	LFVA07
103	3646374.7357	500051.5135	13.0848	LFVA07
104	3646374.7409	500051.5082	13.0796	LFVA07
105	3650266.7278	502393.3531	12.7948	BASECHEK
LFVA09	3650266.5409	502393.8064	12.8216	

Point	Easting	Northing	Elev	Description
001	3652364.3594	554734.4273	16.2249	BASECHEK
002	3647325.3632	555215.9994	16.3173	LFVA42
003	3647325.3803	555216.0359	16.3578	LFVA42
004	3647325.4040	555216.0348	16.3100	LFVA42
005	3647325.4102	555216.0562	16.3527	LFVA42
006	3647325.3965	555215.9916	16.3490	LFVA42
007	3647325.3778	555215.9759	16.3277	LFVA42
008	3647325.3726	555216.0063	16.3027	LFVA42
009	3647325.4119	555216.0478	16.3373	LFVA42
010	3647325.4228	555216.0640	16.3195	LFVA42
011	3647325.4405	555216.0643	16.3272	LFVA42
012	3629297.1987	560902.2041	16.4716	LFVA43
013	3629297.2108	560902.2859	16.4460	LFVA43
014	3629297.2141	560902.2374	16.4466	LFVA43
015	3629297.1017	560902.2750	16.4465	LFVA43
016	3629297.0348	560902.2246	16.4848	LFVA43
017	3629297.0506	560902.2356	16.4603	LFVA43
018	3629297.0512	560902.2836	16.4985	LFVA43
019	3629297.0698	560902.2707	16.4809	LFVA43
020	3629297.0616	560902.2558	16.4585	LFVA43
021	3629297.0164	560902.2560	16.4588	LFVA43
022	3627448.8219	554215.8430	-6.2156	BARE
023	3627437.8406	554217.0036	-6.2151	BARE
024	3627425.5787	554219.5017	-6.4286	BARE
025	3627416.1792	554219.0560	-6.0481	BARE
026	3628222.1298	554110.5910	-5.9173	HIGRASS
027	3628218.0738	554095.7347	-5.9488	HIGRASS
028	3628213.9513	554085.8036	-5.8538	HIGRASS
029	3628217.5099	554077.7688	-5.6375	HIGRASS
030	3628235.2162	554074.5403	-5.2259	HIGRASS
031	3628165.0734	554149.1154	-6.8769	EC
032	3628157.3847	554149.4949	-6.8612	EC
033	3628148.8978	554159.1780	-6.7347	EC
034	3628144.0356	554173.9356	-6.2073	EC
035	3628190.4923	554168.7812	-6.3289	EC
036	3636612.3003	538551.3341	0.5343	EC
037	3636609.3861	538560.9350	0.5831	EC
038	3636606.5524	538569.7656	0.6193	EC
039	3636603.9471	538578.1100	0.6107	EC
040	3636598.8212	538594.7764	0.7108	EC
041	3646031.6605	540927.2444	-1.9411	BARE
042	3646032.8871	540916.5782	-1.9422	BARE
043	3646036.3123	540902.3395	-1.7095	BARE
044	3646038.5290	540890.6100	-1.7361	BARE
045	3646041.6612	540875.5722	-1.6425	BARE
046	3629296.9582	560902.2312	16.4927	LFVA43
047	3629296.9174	560902.2311	16.4901	LFVA43
048	3629296.9334	560902.2191	16.4920	LFVA43
049	3629296.9588	560902.2369	16.5010	LFVA43
050	3629296.8643	560902.1995	16.5043	LFVA43
051	3629296.8668	560902.1597	16.5121	LFVA43
052	3629296.8793	560902.1994	16.4742	LFVA43
053	3629296.8860	560902.2283	16.4589	LFVA43
054	3629296.8579	560902.2888	16.4874	LFVA43
055	3629296.9491	560902.1633	16.4733	LFVA43
056	3647325.7478	555216.0915	16.3223	LFVA42
057	3647325.7198	555216.0324	16.3216	LFVA42
058	3647325.7978	555216.0502	16.3125	LFVA42

059	3647325.7651	555216.0284	16.3191	LFVA42
060	3647325.7806	555216.0363	16.2999	LFVA42
061	3647325.8090	555216.0415	16.3076	LFVA42
062	3647325.8625	555216.0731	16.3214	LFVA42
063	3647325.8764	555216.0791	16.3196	LFVA42
064	3647325.8590	555216.0104	16.3116	LFVA42
065	3647325.8362	555216.0098	16.3286	LFVA42
066	3652364.4057	554734.4352	16.2004	BASECHEK
LFVA17	3652364.7293	554734.2710	16.1680	

Point	Easting	Northing	Elev	Description
001	3721720.1113	550579.8076	14.9872	BASECHEK
002	3719659.7591	550097.8670	13.9267	LFVA45
003	3719659.7578	550097.7930	13.9298	LFVA45
004	3719659.7841	550097.7892	13.9336	LFVA45
005	3719659.7833	550097.7501	13.9201	LFVA45
006	3719659.7578	550097.7697	13.9139	LFVA45
007	3719659.7478	550097.7922	13.9186	LFVA45
008	3719659.7943	550097.7249	13.9015	LFVA45
009	3719659.7357	550097.7614	13.9208	LFVA45
010	3719659.7135	550097.8034	13.9154	LFVA45
011	3719659.5768	550098.0126	13.9048	LFVA45
012	3718091.4320	549730.0066	14.8720	LFVA46
013	3718091.4332	549729.9811	14.8927	LFVA46
014	3718091.4451	549729.9487	14.8849	LFVA46
015	3718091.4312	549729.9767	14.9133	LFVA46
016	3718091.5240	549730.2032	14.8915	LFVA46
017	3718091.4890	549730.1123	14.9021	LFVA46
018	3718091.4906	549730.0890	14.9241	LFVA46
019	3718091.4898	549730.0529	14.9286	LFVA46
020	3718091.4907	549729.9821	14.9008	LFVA46
021	3718091.5439	549730.0154	14.9232	LFVA46
022	3728070.6465	557358.6443	-2.8913	wetland
023	3728066.6615	557350.5233	-2.9972	wetland
024	3728056.7569	557340.0302	-3.1198	wetland
025	3728049.3029	557326.2769	-2.9583	wetland
026	3728045.1351	557321.7503	-2.9347	wetland
027	3732456.3304	561625.6586	4.3493	CHEINERS
028	3732454.0969	561599.7927	4.5229	CHEINERS
029	3732485.4522	561618.8963	5.5233	CHEINERS
030	3732488.6725	561599.6966	5.5301	CHEINERS
031	3732513.4812	561619.5493	5.1590	CHEINERS
032	3729402.5643	548020.9573	5.6513	HIGRASS
033	3729415.5750	548014.0482	5.8079	HIGRASS
034	3729426.1957	548012.5273	5.7944	HIGRASS
035	3729430.6858	548003.6583	5.9077	HIGRASS
036	3729434.8875	547993.5192	5.8600	HIGRASS
037	3719566.0837	539071.5488	3.6479	EP
038	3719559.9359	539056.2717	3.7474	EP
039	3719551.6930	539036.9571	3.7918	EP
040	3719547.1734	539025.3859	3.7446	EP
041	3719537.4555	539001.9000	3.7904	EP
042	3702717.0725	538482.7419	-5.5132	BARE
043	3702727.5805	538468.9256	-5.2091	BARE
044	3702735.4442	538456.8617	-4.9577	BARE
045	3702719.2322	538450.2642	-5.0794	BARE
046	3702704.4589	538449.5123	-5.1566	BARE
047	3702699.4630	538435.1418	-5.2878	BARE
048	3702691.3172	538425.4976	-5.3259	BARE
049	3707309.9059	553486.2496	-0.9902	BARE
050	3707297.0945	553482.5260	-1.0896	BARE
051	3707282.0080	553479.1855	-1.2561	BARE
052	3707271.3287	553469.8936	-1.1851	BARE
053	3707257.4661	553473.1866	-1.4323	BARE
LFVA13	3721720.3853	550579.8807	15.0427	

Point	Easting	Northing	Elev	Description
001	3721720.0727	550579.5620	14.9807	BASECHEK
002	3719659.4786	550097.8222	13.8806	LFVA45
003	3719659.4717	550097.8265	13.8900	LFVA45
004	3719659.5200	550097.8145	13.8722	LFVA45
005	3719659.5331	550097.7310	13.8720	LFVA45
006	3719659.5124	550097.7556	13.9028	LFVA45
007	3719659.5031	550097.7209	13.8857	LFVA45
008	3719659.5410	550097.6989	13.8801	LFVA45
009	3719659.5862	550097.6673	13.9055	LFVA45
010	3719659.5650	550097.6666	13.8832	LFVA45
011	3719659.5733	550097.6620	13.9072	LFVA45
012	3719659.5729	550097.6680	13.9168	LFVA45
013	3718091.2331	549730.1259	14.8706	LFVA46
014	3718091.2426	549730.1463	14.8729	LFVA46
015	3718091.2442	549730.1264	14.8655	LFVA46
016	3718091.2503	549730.0869	14.8798	LFVA46
017	3718091.2419	549730.0681	14.8684	LFVA46
018	3718091.2374	549730.1199	14.8622	LFVA46
019	3718091.2358	549730.0822	14.8572	LFVA46
020	3718091.2016	549730.1109	14.8665	LFVA46
021	3718091.1924	549730.0825	14.8515	LFVA46
022	3718091.1676	549730.0745	14.8518	LFVA46
LFVA13	3721720.3853	550579.8807	15.0427	

Point	Easting	Northing	Elev	Description
001	3747915.0425	576615.8589	18.7423	BASECHEK
002	3742333.6358	596879.4619	17.7670	LFVA44
003	3742333.8995	596879.3663	17.7991	LFVA44
004	3742333.9098	596879.3393	17.8095	LFVA44
005	3742333.9276	596879.3829	17.8136	LFVA44
006	3742333.8940	596879.3889	17.8046	LFVA44
007	3742333.8971	596879.3921	17.8310	LFVA44
008	3742333.8824	596879.3896	17.8124	LFVA44
009	3742333.8957	596879.3246	17.7828	LFVA44
010	3742333.8553	596879.3595	17.8214	LFVA44
011	3742333.8647	596879.3407	17.8106	LFVA44
012	3742381.3812	596861.5523	17.0309	EP
013	3742387.3246	596870.5886	17.0273	EP
014	3742394.6254	596880.7574	16.9946	EP
015	3742400.4254	596889.6221	16.9914	EP
016	3742409.2133	596902.5065	16.8811	EP
017	3742333.9061	596879.4557	17.8508	LFVA44
018	3742333.9078	596879.4237	17.8374	LFVA44
019	3742333.9825	596879.4695	17.8189	LFVA44
020	3742333.9374	596879.4406	17.8218	LFVA44
021	3742333.9371	596879.4426	17.8056	LFVA44
022	3742333.9513	596879.4709	17.8409	LFVA44
023	3742333.9396	596879.4433	17.8515	LFVA44
024	3742333.9492	596879.4392	17.8631	LFVA44
025	3742333.9509	596879.4399	17.8809	LFVA44
026	3742333.9418	596879.4341	17.8706	LFVA44
027	3742333.9623	596879.4248	17.8452	LFVA44
028	3742333.9500	596879.4477	17.8520	LFVA44
029	3736458.3080	588801.6168	0.4181	LOTREES
030	3736446.1908	588832.9963	1.4336	LOTREES
031	3736383.7029	588812.0802	2.7892	LOTREES
032	3736322.4708	588794.4617	3.3651	LOTREES
033	3736370.1494	588806.6033	2.5771	LOTREES
034	3730427.1716	580841.9172	1.7071	BARE
035	3730430.5164	580855.7292	1.6115	BARE
036	3730431.3298	580870.6698	1.5951	BARE
037	3730437.1105	580885.5403	1.5613	BARE
038	3730439.9220	580903.1673	1.5223	BARE
039	3744496.3481	591567.0505	1.4506	EC
040	3744498.2601	591557.6673	1.4708	EC
041	3744490.9737	591560.3506	1.4428	EC
042	3744485.5643	591576.1220	1.3676	EC
043	3744483.2291	591588.5648	1.3023	EC
044	3746283.2778	575684.1006	2.2932	BARE
045	3746272.8104	575690.0996	2.3031	BARE
046	3746260.9494	575694.2783	2.4259	BARE
047	3746250.8805	575682.7494	2.6543	BARE
048	3746255.9589	575701.5710	2.4970	BARE
049	3743907.1369	569892.3812	1.0630	CHEINERS
050	3743930.4595	569910.9241	0.7791	CHEINERS
051	3743947.1696	569921.5744	0.8361	CHEINERS
052	3743959.6885	569932.6811	0.8793	CHEINERS
053	3743969.9183	569940.8879	1.0196	CHEINERS
054	3759935.0751	572631.9723	3.8256	BARE
055	3759934.2999	572641.4915	4.1158	BARE
056	3759941.7492	572653.1722	4.2411	BARE
057	3759947.8866	572652.5498	4.4365	BARE
058	3759959.0337	572627.3420	3.6361	BARE

059	3742333.5661	596879.5266	17.8711	LFVA44
060	3742333.5305	596879.5504	17.8936	LFVA44
061	3742333.5134	596879.5686	17.9066	LFVA44
062	3742333.5194	596879.4425	17.8682	LFVA44
063	3742333.5470	596879.5254	17.9021	LFVA44
064	3742333.5590	596879.4689	17.8811	LFVA44
065	3742333.5980	596879.4866	17.8987	LFVA44
066	3742333.5644	596879.5283	17.8712	LFVA44
067	3742333.5930	596879.4594	17.8608	LFVA44
068	3742333.5406	596879.4718	17.8336	LFVA44
069	3747915.4925	576615.3314	18.6051	BASECHEK
LFVA15	3747915.0918	576615.4383	18.7205	

Point	Easting	Northing	Elev	Description
001	3675284.1411	543696.2710	5.6509	BASECHEK
002	3681668.5081	559409.6046	18.3823	LFVA47
003	3681668.5152	559409.6116	18.4174	LFVA47
004	3681668.5196	559409.6257	18.4475	LFVA47
005	3681668.5095	559409.6262	18.4458	LFVA47
006	3681668.5187	559409.6336	18.4409	LFVA47
007	3681668.5269	559409.6109	18.4369	LFVA47
008	3681668.5188	559409.6277	18.4301	LFVA47
009	3681668.5232	559409.6374	18.4252	LFVA47
010	3681668.5008	559409.6165	18.4318	LFVA47
011	3681668.5096	559409.6331	18.4462	LFVA47
012	3680030.7436	559087.1041	18.1827	LFVA48
013	3680030.7579	559087.1179	18.1910	LFVA48
014	3680030.7512	559087.1404	18.2078	LFVA48
015	3680030.7461	559087.1311	18.1842	LFVA48
016	3680030.7461	559087.1283	18.1966	LFVA48
017	3680030.7499	559087.1284	18.1884	LFVA48
018	3680030.7303	559087.0906	18.1899	LFVA48
019	3680030.7421	559087.1278	18.1557	LFVA48
020	3680030.7356	559087.1039	18.1598	LFVA48
021	3680030.7477	559087.1088	18.1734	LFVA48
022	3668494.4346	557267.0127	18.7334	LFVA49
023	3668494.4180	557266.9895	18.7317	LFVA49
024	3668494.4219	557266.9823	18.7203	LFVA49
025	3668494.4317	557267.0168	18.7714	LFVA49
026	3668494.4228	557266.9833	18.7514	LFVA49
027	3668494.4228	557266.9849	18.7478	LFVA49
028	3668494.4236	557267.0036	18.7564	LFVA49
029	3668494.4116	557266.9857	18.7618	LFVA49
030	3668494.4178	557266.9780	18.7534	LFVA49
031	3668494.4248	557266.9862	18.7529	LFVA49
032	3667899.5605	552084.2602	-7.5229	EC
033	3667879.8675	552086.0446	-7.4031	EC
034	3667869.5487	552086.8222	-7.4226	EC
035	3667868.3327	552074.5279	-7.1957	EC
036	3667867.4938	552063.8161	-7.1162	EC
037	3657628.4425	548019.1742	-1.7483	BARE
038	3657630.7363	548028.7599	-1.5752	BARE
039	3657631.5078	548038.7384	-1.6652	BARE
040	3668022.3075	541357.5925	1.4634	BARE
041	3668021.0210	541305.4584	1.1452	BARE
042	3668019.2981	541274.3374	0.9375	BARE
043	3668019.3501	541270.8547	0.7939	BARE
044	3668018.7458	541255.0200	0.6600	BARE
045	3668017.9087	541238.5040	0.5522	BARE
046	3668023.7859	541164.0995	0.4589	EC
047	3668023.9895	541171.8916	0.0629	EC
048	3668024.8663	541199.7506	0.0095	EC
049	3668025.8388	541226.7701	0.4693	EC
050	3668026.3543	541239.0205	0.6352	EC
051	3668027.6257	541266.6079	0.9296	EC
052	3668028.9545	541311.5458	1.0863	EC
053	3668030.1172	541338.8183	1.0920	EC
054	3668031.0073	541368.5003	1.3643	EC
055	3679288.9460	534990.8306	0.3421	HIGRASS
056	3679300.2072	534982.7708	0.3009	HIGRASS
057	3679309.5901	534975.5948	0.4422	HIGRASS
058	3679325.5760	534962.3264	0.6353	HIGRASS

059	3679337.7199	534954.7147	0.2811	HIGRASS
060	3679352.9099	534942.7661	0.2054	HIGRASS
061	3679368.2058	534928.3390	0.3994	HIGRASS
062	3678788.2691	530883.8483	0.9428	BARE
063	3678811.6339	530876.5020	0.8370	BARE
064	3678811.0268	530859.4111	0.9345	BARE
065	3678875.5572	530807.0086	0.9818	BARE
066	3678879.4491	530884.2236	0.0801	EC
067	3678851.9246	530896.1030	0.3769	EC
068	3678828.8827	530905.9138	0.5510	EC
069	3678803.7176	530916.7545	0.6383	EC
070	3678791.8502	530921.7936	0.5790	EC
071	3678763.6448	530934.1074	0.6567	EC
072	3688169.7909	536324.6992	2.3430	BARE
073	3688174.6341	536344.8199	2.4046	BARE
074	3681668.5257	559409.6795	18.4461	LFVA47
075	3681668.5204	559409.6609	18.4562	LFVA47
076	3681668.5365	559409.7004	18.4574	LFVA47
077	3681668.5247	559409.6609	18.4387	LFVA47
078	3681668.5312	559409.6683	18.4516	LFVA47
079	3681668.5246	559409.6693	18.4627	LFVA47
080	3681668.5506	559409.6823	18.4493	LFVA47
081	3681668.5526	559409.6861	18.4599	LFVA47
082	3681668.5213	559409.6734	18.4608	LFVA47
083	3681668.5334	559409.6840	18.4676	LFVA47
084	3680030.7401	559087.1807	18.1778	LFVA48
085	3680030.7391	559087.1618	18.1405	LFVA48
086	3680030.7577	559087.1909	18.1420	LFVA48
087	3680030.7585	559087.2009	18.1477	LFVA48
088	3680030.7515	559087.1778	18.1204	LFVA48
089	3680030.7542	559087.1758	18.1226	LFVA48
090	3680030.7693	559087.1831	18.1540	LFVA48
091	3680030.7552	559087.1835	18.1720	LFVA48
092	3680030.7924	559087.1799	18.1752	LFVA48
093	3680030.7498	559087.1800	18.1506	LFVA48
094	3668494.4509	557266.9811	18.8590	LFVA49
095	3668494.4570	557266.9708	18.8710	LFVA49
096	3668494.3904	557267.0856	18.8261	LFVA49
097	3668494.4078	557267.0426	18.7974	LFVA49
098	3668494.3770	557267.0458	18.8083	LFVA49
099	3668494.3681	557267.0431	18.8083	LFVA49
100	3668494.3806	557267.0408	18.7763	LFVA49
101	3668494.3717	557267.0329	18.7956	LFVA49
102	3668494.3338	557267.0431	18.8064	LFVA49
103	3668494.3155	557267.0556	18.8096	LFVA49
104	3668494.3610	557267.0584	18.7895	LFVA49
105	3668494.3757	557267.0440	18.7973	LFVA49
106	3675283.9720	543696.2682	5.6943	BASECHEK
A148	3675283.4392	543696.0743	5.6595	

Point	Easting	Northing	Elev	Description
001	3712188.3976	517906.5309	2.2446	BASECHEK
002	3712654.5831	518218.3345	19.5255	LFVA50
003	3712654.5900	518218.3698	19.5404	LFVA50
004	3712654.5834	518218.3705	19.5518	LFVA50
005	3712654.5617	518218.3558	19.4890	LFVA50
006	3712654.5709	518218.3517	19.5236	LFVA50
007	3712654.5662	518218.3520	19.5216	LFVA50
008	3712654.5437	518218.3495	19.5146	LFVA50
009	3712654.5610	518218.3698	19.5379	LFVA50
010	3712654.5728	518218.3548	19.4689	LFVA50
011	3712654.5803	518218.3588	19.5235	LFVA50
012	3696955.4619	520731.6118	-5.2875	STRIPE
013	3696990.3631	520730.1421	-5.0398	STRIPE
014	3697016.1147	520729.0307	-5.0739	STRIPE
015	3697049.4225	520727.3976	-5.1765	STRIPE
016	3697053.7445	520799.3880	-4.9973	STRIPE
017	3697019.8730	520800.8527	-4.8822	STRIPE
018	3696993.3919	520802.3983	-4.8478	STRIPE
019	3696957.4007	520803.8356	-5.0719	STRIPE
020	3696830.8695	520594.5386	-4.7144	BARE
021	3696807.3088	520576.2778	-4.7298	BARE
022	3696773.6035	520589.2408	-4.7737	BARE
023	3696757.2129	520612.4223	-4.9022	BARE
024	3696880.3051	520620.4050	-4.8746	LOTREES
025	3696904.8790	520615.0430	-5.1984	LOTREES
026	3696958.9831	520613.3543	-4.5227	LOTREES
027	3696991.0933	520610.8394	-4.7596	LOTREES
028	3697428.9006	510372.3083	-4.5970	LOTREES
029	3697440.4409	510367.0288	-4.1726	LOTREES
030	3697470.1248	510379.5620	-4.1615	LOTREES
031	3697476.0628	510369.7114	-3.8468	HIGRASS
032	3697487.3553	510349.3383	-3.1831	HIGRASS
033	3697498.1717	510334.9041	-3.0541	HIGRASS
034	3697504.1723	510312.6641	-3.2737	HIGRASS
035	3697511.7284	510287.3258	-3.4312	HIGRASS
036	3697496.6309	510260.7911	-3.4698	LOTREES
037	3697464.6518	510239.8543	-4.0114	LOTREES
038	3697438.1935	510295.7195	-3.7233	HIGRASS
039	3697407.5113	510301.2930	-3.8967	HIGRASS
040	3697385.3463	510295.7028	-3.8623	HIGRASS
041	3697375.7366	510281.6844	-4.0195	HIGRASS
042	3697373.4956	510264.9420	-4.0384	HIGRASS
043	3697260.8647	510280.1154	-4.3108	EC
044	3697260.1358	510267.5220	-4.3811	EC
045	3697259.4137	510250.3655	-4.3136	EC
046	3697258.7942	510237.2071	-4.1214	EC
047	3697256.9869	510197.8138	-4.1880	EC
048	3697255.8210	510169.3557	-4.1716	EC
049	3712654.5904	518218.3944	19.5982	LFVA50
050	3712654.5779	518218.3828	19.6505	LFVA50
051	3712654.5674	518218.3833	19.6285	LFVA50
052	3712654.5720	518218.4085	19.5672	LFVA50
053	3712654.5503	518218.4026	19.5706	LFVA50
054	3712654.5812	518218.3901	19.5964	LFVA50
055	3712654.5709	518218.3981	19.5382	LFVA50
056	3712654.5734	518218.3964	19.5160	LFVA50
057	3712654.5737	518218.3831	19.5421	LFVA50
058	3712654.5710	518218.3832	19.5452	LFVA50

V375	3712188.5681	517907.0252	2.2081

Elevation 2006.81 Epoch

Point	Easting	Northing	Elev	Description
0001	3732038.2190	498621.9303	19.7295	BASECHEC
0002	3732070.1498	498767.4762	9.3944	CHENIERS
0003	3732054.3418	498730.2499	8.8348	CHENIERS
0004	3732021.8959	498696.1943	8.1870	CHENIERS
0005	3731973.4562	498663.3399	8.1271	CHENIERS
0006	3731951.1553	498649.6945	8.1853	CHENIERS
0007	3731930.6964	498636.4069	8.0459	WETLAND
0008	3731910.0446	498622.5624	8.1171	WETLAND
0009	3731892.1690	498615.0626	8.1671	WETLAND
0010	3731872.1484	498601.5157	8.1396	WETLAND
0011	3731864.8760	498597.5859	8.2168	WETLAND
0012	3733368.7659	499602.9196	6.3800	BARE
0013	3733371.7955	499565.2577	4.2594	BARE
0014	3733386.2867	499551.8266	3.6228	BARE
0015	3733425.8307	499568.5287	3.3756	BARE
0016	3733450.7592	499600.6843	8.1803	BARE
0017	3733430.4985	499752.5425	6.6232	CHENIERS
0018	3733393.6147	499767.0331	6.7271	CHENIERS
0019	3733359.8443	499811.5087	7.6308	CHENIERS
0020	3733332.8913	499827.8639	8.0046	CHENIERS
0021	3733287.2976	499774.0957	8.1617	CHENIERS
0022	3733230.8638	499730.7506	6.6624	WETLAND
0023	3733213.7646	499719.0020	6.7315	WETLAND
0024	3733197.5306	499707.0486	6.7258	WETLAND
0025	3733169.9178	499693.7757	6.8260	WETLAND
0026	3733151.6757	499687.5875	6.7206	WETLAND
0027	3733362.2595	499688.7573	19.4822	LFVA21
0028	3733362.2568	499688.7498	19.4813	LFVA21
0029	3733362.2678	499688.7034	19.4811	LFVA21
0030	3733362.3243	499688.7164	19.4552	LFVA21
0031	3733362.3467	499688.7015	19.4480	LFVA21
0032	3733362.3774	499688.6643	19.4372	LFVA21
0033	3733362.3305	499688.6788	19.4594	LFVA21
0034	3733362.3330	499688.6848	19.4579	LFVA21
0035	3733362.3512	499688.6742	19.4522	LFVA21
0036	3733362.3746	499688.6505	19.4493	LFVA21
0037	3735768.0636	499789.3590	19.2913	LFVA22
0038	3735768.1069	499789.3605	19.3243	LFVA22
0039	3735768.1633	499789.3691	19.3262	LFVA22
0040	3735768.1226	499789.4005	19.3221	LFVA22
0041	3735768.1442	499789.3872	19.3067	LFVA22
0042	3735768.1662	499789.4326	19.3126	LFVA22
0043	3735768.2282	499789.4097	19.3192	LFVA22
0044	3735768.2056	499789.4063	19.3244	LFVA22
0045	3735768.2241	499789.4123	19.3395	LFVA22
0046	3735768.1765	499789.4214	19.3348	LFVA22
0047	3735650.3179	504211.3245	19.7524	FLVA23
0048	3735650.1429	504211.3326	19.7462	FLVA23
0049	3735650.1579	504211.3456	19.7567	FLVA23
0050	3735650.1949	504211.3238	19.7786	FLVA23
0051	3735650.1944	504211.3397	19.7450	FLVA23
0052	3735650.2196	504211.3426	19.7640	FLVA23
0053	3735650.1819	504211.3564	19.7441	FLVA23
0054	3735650.1925	504211.3639	19.7558	FLVA23
0055	3735650.1832	504211.3450	19.7508	FLVA23
0056	3735650.1959	504211.3560	19.7422	FLVA23

0057	3736322.3618	503960.3302	7.3430	EP
0058	3736319.8776	503934.2406	7.3023	EP
0059	3736317.4532	503906.8942	7.1799	EP
0060	3736314.1683	503874.5079	7.1085	EP
0061	3736309.9299	503828.4459	7.1213	EP
0062	3736259.8427	503762.1372	6.2581	H-GRASS
0063	3736262.0839	503742.9380	6.2474	H-GRASS
0064	3736272.2485	503728.9482	6.0459	H-GRASS
0065	3736286.2168	503737.3364	6.1881	H-GRASS
0066	3736304.8308	503747.3960	5.9230	H-GRASS
0067	3737258.0393	503691.3898	5.0319	BARE
0068	3737245.6943	503711.4212	4.7935	BARE
0069	3737254.5915	503728.6866	4.8264	BARE
0070	3737268.6405	503736.6537	4.9680	BARE
0071	3737273.8404	503707.1972	5.1773	BARE
0072	3737266.5389	503672.6134	5.1734	EP
0073	3737243.5248	503674.5662	5.2730	EP
0074	3737215.5698	503676.9748	5.3348	EP
0075	3737224.5545	503658.9777	5.2972	EP
0076	3737250.6627	503656.7395	5.2514	EP
0077	3728588.0154	497975.9287	20.1510	LFVA24
0078	3728588.0276	497975.9259	20.1388	LFVA24
0079	3728588.0070	497975.9010	20.1471	LFVA24
0080	3728588.0226	497975.8858	20.1498	LFVA24
0081	3728587.9868	497975.9547	20.1246	LFVA24
0082	3728587.9392	497975.8487	20.1521	LFVA24
0083	3728587.9975	497975.8789	20.1534	LFVA24
0084	3728588.0819	497975.8833	20.1530	LFVA24
0085	3728588.0708	497975.9136	20.1439	LFVA24
0086	3728588.0350	497975.9686	20.1537	LFVA24
0087	3724794.3653	499153.2030	19.6359	LFVA25
0088	3724794.4525	499153.1650	19.6676	LFVA25
0089	3724794.4714	499153.1895	19.6552	LFVA25
0090	3724794.4852	499153.2121	19.6497	LFVA25
0091	3724794.4954	499153.2121	19.6475	LFVA25
0092	3724794.4958	499153.2341	19.6406	LFVA25
0093	3724794.5030	499153.2222	19.6672	LFVA25
0094	3724794.4647	499153.2208	19.6743	LFVA25
0095	3724794.5035	499153.2002	19.6406	LFVA25
0096	3734483.2724	497183.6214	2.2826	TRE
0097	3734485.3744	497145.9449	2.3765	TRE
0098	3734478.9925	497097.1639	0.7776	TRE
0099	3735027.9688	498676.2606	2.6031	TRE
0100	3735042.8324	498723.3982	5.1321	TRE
0101	3744719.7671	500439.6597	8.0765	EP
0102	3744719.7550	500463.4665	8.0747	EP
0103	3744720.4427	500485.6200	8.0347	EP
0104	3744719.8850	500509.0477	8.0747	EP
0105	3744719.5552	500527.7408	8.0631	EP
0106	3743206.8467	502379.3996	3.5280	EDGE_CON
0107	3743183.0674	502387.3106	3.3230	EDGE_CON
0108	3743181.8559	502376.5713	3.3395	EDGE_CON
0109	3743171.8625	502370.7251	3.1456	EDGE_CON
0110	3743164.0673	502330.6647	3.1746	EDGE_CON
0111	3743024.7367	504168.8027	2.1812	BARE
0112	3743007.8572	504191.4410	2.1786	BARE
0113	3742996.5373	504213.9859	2.2939	BARE
0114	3742983.7626	504189.5286	2.1616	BARE
0115	3742963.0716	504181.6436	1.5562	BARE

0116	3735465.5360	512152.0013	2.2155	BARE
0117	3735478.8518	512138.6918	2.4325	BARE
0118	3735502.2573	512142.0595	2.3734	BARE
0119	3735485.5307	512166.1071	2.6556	BARE
0120	3735459.7272	512170.8785	2.1976	BARE
0121	3733362.2843	499688.7677	19.5093	LFVA21
0122	3733362.2456	499688.7741	19.4983	LFVA21
0123	3733362.2564	499688.8034	19.4893	LFVA21
0124	3733362.2625	499688.8315	19.4956	LFVA21
0125	3733362.2895	499688.8598	19.5015	LFVA21
0126	3733362.3027	499688.8752	19.4823	LFVA21
0127	3733362.3131	499688.8346	19.4996	LFVA21
0128	3733362.3266	499688.8624	19.5063	LFVA21
0129	3733362.3103	499688.7876	19.5119	LFVA21
0130	3733362.3295	499688.8357	19.5236	LFVA21
0131	3735768.1599	499789.3265	19.3491	LFVA22
0132	3735768.0250	499789.3328	19.3562	LFVA22
0133	3735767.9459	499789.3839	19.3726	LFVA22
0134	3735768.0213	499789.4151	19.3650	LFVA22
0135	3735768.0153	499789.4199	19.3447	LFVA22
0136	3735768.0458	499789.4701	19.3160	LFVA22
0137	3735768.0319	499789.4322	19.3228	LFVA22
0138	3735768.1350	499789.3594	19.3257	LFVA22
0139	3735768.1468	499789.3217	19.3458	LFVA22
0140	3735768.1182	499789.3203	19.3382	LFVA22
0141	3735650.1540	504211.4233	19.7038	FLVA23
0142	3735650.1550	504211.3874	19.7472	FLVA23
0143	3735650.1165	504211.3931	19.7220	FLVA23
0144	3735650.1388	504211.4010	19.7379	FLVA23
0145	3735650.1523	504211.4729	19.7034	FLVA23
0146	3735650.1783	504211.4885	19.6908	FLVA23
0147	3735650.2067	504211.4067	19.7225	FLVA23
0148	3735650.2100	504211.4338	19.7291	FLVA23
0149	3735650.2952	504211.3655	19.7301	FLVA23
0150	3735650.2200	504211.3735	19.6993	FLVA23
0151	3728587.9098	497975.7207	20.1588	LFVA24
0152	3728587.8415	497975.6644	20.1415	LFVA24
0153	3728587.9563	497975.7297	20.1597	LFVA24
0154	3728587.9290	497975.7242	20.1505	LFVA24
0155	3728587.9392	497975.7872	20.1368	LFVA24
0156	3728587.8477	497975.7814	20.1614	LFVA24
0157	3728588.0145	497975.9184	20.1365	LFVA24
0158	3728588.0444	497975.9386	20.1371	LFVA24
0159	3728588.0013	497975.9255	20.1148	LFVA24
0160	3728588.0463	497975.8902	20.1554	LFVA24
0161	3724794.4797	499153.1956	19.6359	LFVA25
0162	3724794.4686	499153.1643	19.6431	LFVA25
0163	3724794.4630	499153.2203	19.6321	LFVA25
0164	3724794.4329	499153.2128	19.6100	LFVA25
0165	3724794.4689	499153.2370	19.6298	LFVA25
0166	3724794.4651	499153.3051	19.6785	LFVA25
0167	3724794.4598	499153.2506	19.6419	LFVA25
0168	3724794.4432	499153.2382	19.6648	LFVA25
0169	3724794.4430	499153.2861	19.6502	LFVA25
0170	3724794.4677	499153.2777	19.6846	LFVA25
0171	3732038.1219	498622.0722	19.5081	BASECHEC
LFVA03	3732038.4067	498622.0552	19.5506	

Point	Easting	Northing	Elev	Description
0001	3773235.9440	500151.5237	9.9535	BASECHEC
0002	3773477.0424	502072.2713	10.2713	LFVA26
0003	3773477.0568	502072.2571	10.2777	LFVA26
0004	3773477.0900	502072.3091	10.2689	LFVA26
0005	3773477.0449	502072.3579	10.2591	LFVA26
0006	3773477.0729	502072.3521	10.2624	LFVA26
0007	3773477.0682	502072.3493	10.2477	LFVA26
0008	3773477.0926	502072.3179	10.2678	LFVA26
0009	3773477.0739	502072.3113	10.2642	LFVA26
0010	3773477.0238	502072.3629	10.2695	LFVA26
0011	3773476.9893	502072.3095	10.2678	LFVA26
0012	3772170.5558	504286.2742	9.4994	LFVA27
0013	3772170.5333	504286.2647	9.4885	LFVA27
0014	3772170.5198	504286.2480	9.5144	LFVA27
0015	3772170.4643	504286.2232	9.4987	LFVA27
0016	3772170.4657	504286.2633	9.5084	LFVA27
0017	3772170.4654	504286.2025	9.4789	LFVA27
0018	3772170.4387	504286.2074	9.4694	LFVA27
0019	3772170.4449	504286.1642	9.4769	LFVA27
0020	3772170.3821	504286.1791	9.4798	LFVA27
0021	3772170.4301	504286.2230	9.4800	LFVA27
0022	3772167.4708	504341.6149	1.0110	WETLAND
0023	3772114.6226	504355.4596	1.0741	WETLAND
0024	3772078.7106	504364.5000	1.2425	WETLAND
0025	3772063.3157	504369.7007	1.4422	WETLAND
0026	3772048.5338	504372.4815	1.0578	WETLAND
0027	3772154.0103	504239.1366	-0.7082	TRE
0028	3772171.3524	504231.3442	-0.8373	TRE
0029	3772184.9043	504223.2545	-1.0258	TRE
0030	3772198.6303	504218.6901	-1.3494	TRE
0031	3772211.3495	504214.5895	-1.3639	TRE
0032	3769756.6265	504958.8278	9.5512	LFVA28
0033	3769756.7994	504958.8179	9.5471	LFVA28
0034	3769756.7543	504958.8494	9.5681	LFVA28
0035	3769756.8138	504958.8510	9.5552	LFVA28
0036	3769756.8257	504958.8712	9.5548	LFVA28
0037	3769756.7522	504958.8075	9.5470	LFVA28
0038	3769756.7319	504958.8894	9.5573	LFVA28
0039	3769756.7001	504958.8318	9.5536	LFVA28
0040	3769756.6547	504958.8164	9.5402	LFVA28
0041	3769756.6663	504958.8359	9.5629	LFVA28
0042	3767598.7114	505372.1236	9.2597	LFVA29
0043	3767598.5584	505371.9234	9.2487	LFVA29
0044	3767598.5886	505371.9065	9.2317	LFVA29
0045	3767598.6403	505371.8975	9.2364	LFVA29
0046	3767598.6243	505371.9503	9.2337	LFVA29
0047	3767598.6420	505371.9166	9.2434	LFVA29
0048	3767598.6732	505371.9578	9.2377	LFVA29
0049	3767598.6411	505371.8652	9.2235	LFVA29
0050	3767598.6574	505371.8530	9.2363	LFVA29
0051	3767598.7139	505371.9799	9.2353	LFVA29
0052	3757085.0669	504321.4520	9.8590	LFVA30
0053	3757085.0806	504321.4019	9.8464	LFVA30
0054	3757085.1120	504321.3827	9.8555	LFVA30
0055	3757085.1154	504321.4333	9.8383	LFVA30
0056	3757085.1237	504321.3890	9.8381	LFVA30
0057	3757085.1917	504321.3827	9.8536	LFVA30
0058	3757085.1752	504321.3159	9.8225	LFVA30

0059	3757085.1491	504321.3204	9.8260	LFVA30
0060	3757085.1570	504321.3070	9.8565	LFVA30
0061	3757085.1060	504321.3709	9.8563	LFVA30
0062	3773461.5987	499850.4032	0.2275	TRE
0063	3773439.9031	499811.0259	0.6641	TRE
0064	3773422.0396	499785.8052	0.7230	TRE
0065	3773418.8973	499768.3452	0.6840	TRE
0066	3773414.3915	499737.3254	0.8254	TRE
0067	3770028.2064	503913.2183	5.2624	EP
0068	3770002.4142	503922.1537	5.2830	EP
0069	3769978.9469	503930.1877	5.2802	EP
0070	3769957.6991	503937.1821	5.2192	EP
0071	3769937.0811	503943.4120	5.2197	EP
0072	3769969.2635	503978.8900	-1.0821	CHENIERS
0073	3769946.0492	503990.3782	-0.8820	CHENIERS
0074	3769915.7791	504000.5930	-1.0505	CHENIERS
0075	3769886.8594	504008.6369	-1.1096	CHENIERS
0076	3769858.4301	504016.9633	-1.1831	CHENIERS
0077	3763416.2046	504578.0015	-0.9795	WETLAND
0078	3763400.8105	504599.7994	-0.5712	WETLAND
0079	3763386.3026	504609.6949	-0.7871	WETLAND
0080	3763401.5635	504617.6405	-0.9315	WETLAND
0081	3763411.0598	504625.6245	-1.0178	WETLAND
0082	3763413.8921	504658.5558	-0.2193	CHENIERS
0083	3763399.5121	504651.4381	0.1753	CHENIERS
0084	3763393.2209	504650.3181	-0.4645	CHENIERS
0085	3763398.0071	504639.9745	-0.5591	CHENIERS
0086	3763381.2151	504630.5259	-0.7370	WETLAND
0087	3773477.0149	502072.1459	10.2699	LFVA26
0088	3773476.9830	502072.1586	10.2760	LFVA26
0089	3773476.9583	502072.2048	10.2368	LFVA26
0090	3773476.9460	502072.2196	10.2315	LFVA26
0091	3773476.9590	502072.2031	10.2425	LFVA26
0092	3773476.9570	502072.2349	10.2537	LFVA26
0093	3773476.9614	502072.2492	10.2782	LFVA26
0094	3773476.9130	502072.1974	10.2406	LFVA26
0095	3773476.8431	502072.1841	10.2415	LFVA26
0096	3773476.8869	502072.3161	10.2266	LFVA26
0097	3772170.4829	504286.3925	9.4785	LFVA27
0098	3772170.4799	504286.3863	9.4724	LFVA27
0099	3772170.4721	504286.4222	9.4864	LFVA27
0100	3772170.4957	504286.4244	9.4948	LFVA27
0101	3772170.4557	504286.3816	9.4767	LFVA27
0102	3772170.4512	504286.4039	9.5027	LFVA27
0103	3772170.4225	504286.3837	9.4796	LFVA27
0104	3772170.4569	504286.3649	9.4743	LFVA27
0105	3772170.4373	504286.3592	9.4696	LFVA27
0106	3772170.3865	504286.3529	9.4836	LFVA27
0107	3769756.7057	504958.6889	9.5328	LFVA28
0108	3769756.7735	504958.7495	9.5372	LFVA28
0109	3769756.7615	504958.7820	9.5315	LFVA28
0110	3769756.6539	504958.7687	9.5102	LFVA28
0111	3769756.7945	504958.8079	9.5229	LFVA28
0112	3769756.7689	504958.7657	9.5262	LFVA28
0113	3769756.7933	504958.8294	9.5281	LFVA28
0114	3769756.7557	504958.8512	9.5081	LFVA28
0115	3769756.7779	504958.8708	9.5056	LFVA28
0116	3769756.7936	504958.9386	9.5160	LFVA28
0117	3767598.8822	505372.6301	9.1184	LFVA29

0118	3767598.9008	505372.5670	9.1370	LFVA29
0119	3767598.8946	505372.5021	9.1794	LFVA29
0120	3767598.8960	505372.4908	9.1396	LFVA29
0121	3767598.9371	505372.4313	9.1558	LFVA29
0122	3767598.9649	505372.4319	9.1593	LFVA29
0123	3767598.9622	505372.4692	9.1683	LFVA29
0124	3767598.9348	505372.4656	9.1714	LFVA29
0125	3767598.9548	505372.4841	9.1448	LFVA29
0126	3767599.0359	505372.4698	9.1447	LFVA29
0127	3757084.5873	504321.6419	9.9363	LFVA30
0128	3757084.6278	504321.6708	9.8921	LFVA30
0129	3757084.6670	504321.6860	9.9033	LFVA30
0130	3757084.6470	504321.6491	9.9420	LFVA30
0131	3757084.6557	504321.6928	9.9068	LFVA30
0132	3757084.5795	504321.7069	9.9320	LFVA30
0133	3757084.6007	504321.7280	9.9499	LFVA30
0134	3757084.6152	504321.7052	9.9530	LFVA30
0135	3757084.6744	504321.7192	9.9401	LFVA30
0136	3757084.7050	504321.7292	9.9084	LFVA30
0137	3757072.0005	504364.1714	10.5027	CHENIERS
0138	3757085.5437	504365.1695	-4.8932	CHENIERS
0139	3757120.6929	504267.1447	-1.5460	CHENIERS
LFVA12	3773235.5957	500151.3501	9.9213	

Point	Easting	Northing	Elev	Description
001	3614365.4870	546444.3174	11.7656	BASECHEK
002	3613232.6317	545165.1870	10.8984	LFVA31
003	3613232.6174	545165.1713	10.8906	LFVA31
004	3613232.6438	545165.1569	10.9048	LFVA31
005	3613232.6088	545165.0663	10.8593	LFVA31
006	3613232.5279	545165.0406	10.8800	LFVA31
007	3613232.5651	545165.0443	10.8863	LFVA31
008	3613232.5640	545165.0475	10.8729	LFVA31
009	3613232.5600	545165.0495	10.8564	LFVA31
010	3613232.5468	545165.0677	10.8619	LFVA31
011	3613232.6100	545165.1575	10.8607	LFVA31
012	3613185.4801	545127.6214	2.9481	BARE
013	3613209.1731	545117.4310	2.8561	BARE
014	3613234.1181	545116.4530	2.9090	BARE
015	3613244.4520	545096.7921	2.9350	BARE
016	3613269.7288	545098.9818	2.7638	BARE
017	3614305.7797	542856.4346	8.8880	LFVA32
018	3614305.8342	542856.4435	8.8902	LFVA32
019	3614305.8779	542856.4297	8.9004	LFVA32
020	3614305.8768	542856.4018	8.9203	LFVA32
021	3614305.8620	542856.4204	8.9073	LFVA32
022	3614305.8895	542856.4173	8.9113	LFVA32
023	3614305.9131	542856.3995	8.8902	LFVA32
024	3614305.9276	542856.4215	8.9043	LFVA32
025	3614305.8719	542856.4750	8.9105	LFVA32
026	3614305.8960	542856.4464	8.9080	LFVA32
027	3603583.4709	537207.5537	5.1954	BARE
028	3603592.3040	537229.7482	4.6146	BARE
029	3603582.7103	537247.3061	3.9934	BARE
030	3603553.7857	537247.5003	4.4918	BARE
031	3603547.7501	537224.8491	5.3013	BARE
032	3606093.5801	536807.7565	5.3987	EP
033	3606088.5688	536823.3577	3.5012	EP
034	3606054.8986	536814.5288	3.8447	EP
035	3606039.8423	536812.8402	3.8451	EP
036	3606012.3903	536810.8015	3.7748	EP
037	3605989.0779	536809.2446	3.6541	EP
038	3605960.8489	536805.5797	3.4758	EP
039	3606001.7997	536808.9167	3.5465	STRIPE
040	3606013.9814	536792.9980	3.9120	STRIPE
041	3606024.5966	536793.6823	3.9166	STRIPE
042	3610196.6092	538292.3815	4.8515	HIGRASS
043	3610177.2176	538289.0567	5.1722	HIGRASS
044	3610159.3939	538284.4345	4.9172	HIGRASS
045	3610179.6545	538401.1724	5.1801	HIGRASS
046	3610183.8566	538412.4723	5.1553	HIGRASS
047	3613767.2847	539571.0990	3.9626	HIGRASS
048	3613773.3696	539545.6772	6.7338	HIGRASS
049	3613782.0617	539533.0152	6.5370	HIGRASS
050	3613777.6412	539524.2535	6.2643	HIGRASS
051	3613787.1576	539492.8483	5.7193	HIGRASS
052	3613798.7485	539518.6572	6.1098	LOTREES
053	3613851.4199	539520.1307	3.5180	LOTREES
054	3625324.9136	539427.5674	3.0850	EC
055	3625334.0055	539439.6393	3.2084	EC
056	3625339.1160	539462.5154	3.1439	EC
057	3625353.9255	539509.9721	3.0773	EC
058	3625357.3363	539525.4281	3.3383	EC

059	3615981.0128	544118.7734	-3.0287	TREES
060	3615962.8751	544136.9472	-3.2221	TREES
061	3615921.2671	544153.8781	-3.3693	TREES
062	3615900.9640	544169.9278	-3.5587	TREES
063	3615860.9807	544186.6317	-3.2586	TREES
064	3615872.1079	544240.0107	-2.8909	BARE
065	3615900.3233	544234.6024	-2.8154	BARE
066	3615928.4816	544225.9695	-3.0215	BARE
067	3615962.2829	544209.1522	-2.8982	BARE
068	3615988.3937	544188.7738	-2.6847	BARE
069	3614731.5429	543602.7030	1.3217	wetland
070	3614738.3010	543596.1383	1.1356	wetland
071	3614749.6551	543652.0805	1.5081	wetland
072	3614730.9021	543667.9965	0.4436	wetland
073	3614715.7347	543680.4961	1.2994	wetland
074	3613232.5828	545165.1725	10.9146	LFVA31
075	3613232.5935	545165.1792	10.8964	LFVA31
076	3613232.5940	545165.1787	10.9042	LFVA31
077	3613232.6093	545165.1952	10.9171	LFVA31
078	3613232.5889	545165.1665	10.9043	LFVA31
079	3613232.6358	545165.1861	10.8979	LFVA31
080	3613232.6154	545165.1815	10.8789	LFVA31
081	3613232.5878	545165.1831	10.8863	LFVA31
082	3613232.6173	545165.1764	10.8918	LFVA31
083	3613232.6410	545165.1966	10.8914	LFVA31
084	3614305.8322	542856.6797	8.8605	LFVA32
085	3614305.8402	542856.6308	8.8640	LFVA32
086	3614305.9070	542856.5590	8.8946	LFVA32
087	3614305.9277	542856.5381	8.8894	LFVA32
088	3614305.9281	542856.5446	8.9089	LFVA32
089	3614305.9171	542856.5376	8.8888	LFVA32
090	3614305.8798	542856.5654	8.8983	LFVA32
091	3614305.9204	542856.5786	8.8704	LFVA32
092	3614305.9211	542856.5879	8.8664	LFVA32
093	3614305.9012	542856.5958	8.8729	LFVA32
094	3612324.4301	544721.4730	1.3246	wetland
095	3612346.5715	544731.6016	0.8801	wetland
096	3612288.9963	544639.4008	1.5757	wetland
097	3612293.9688	544640.2307	1.8934	wetland
098	3612289.9839	544633.9291	1.6982	wetland
099	3614365.6925	546441.5232	3.5946	BASECHEK
FVA05	3614365.3676	546441.4242	3.6845	

Point	Easting	Northing	Elev	Description
001	3586431.8061	543463.3441	37.4811	BASECHEK
002	3591212.4906	541957.8540	15.6054	LFVA33
003	3591212.4972	541957.8185	15.5872	LFVA33
004	3591212.5336	541957.8143	15.6214	LFVA33
005	3591212.5487	541957.8369	15.5791	LFVA33
006	3591212.5352	541957.8299	15.6047	LFVA33
007	3591212.5364	541957.7981	15.6004	LFVA33
008	3591212.5348	541957.8313	15.5756	LFVA33
009	3591212.5622	541957.8193	15.5827	LFVA33
010	3591212.5541	541957.8165	15.5930	LFVA33
011	3591212.5693	541957.8386	15.6229	LFVA33
012	3583466.1285	545174.3854	15.4776	LFVA34
013	3583466.1157	545174.4807	15.4478	LFVA34
014	3583466.2299	545174.5539	15.4569	LFVA34
015	3583466.2233	545174.4887	15.4660	LFVA34
016	3583466.2139	545174.4783	15.4840	LFVA34
017	3583466.1452	545174.4805	15.4730	LFVA34
018	3583466.1487	545174.4664	15.4862	LFVA34
019	3583466.1434	545174.4705	15.4770	LFVA34
020	3583466.1314	545174.5035	15.4906	LFVA34
021	3583466.1229	545174.4636	15.5019	LFVA34
022	3579104.7532	537148.7182	27.3351	LFVA35
023	3579104.7391	537148.7000	27.3445	LFVA35
024	3579104.7613	537148.6824	27.3406	LFVA35
025	3579104.6811	537148.6514	27.3558	LFVA35
026	3579104.7065	537148.6224	27.3969	LFVA35
027	3579104.7032	537148.5889	27.3521	LFVA35
028	3579104.6701	537148.6174	27.3608	LFVA35
029	3579104.6783	537148.6151	27.3489	LFVA35
030	3579104.6736	537148.5956	27.3457	LFVA35
031	3579104.7263	537148.5989	27.3727	LFVA35
032	3571155.2218	545656.7637	28.3376	LFVA36
033	3571155.2061	545656.8010	28.3678	LFVA36
034	3571155.2085	545656.7992	28.3344	LFVA36
035	3571155.2129	545656.7469	28.3420	LFVA36
036	3571155.2515	545656.7562	28.3368	LFVA36
037	3571155.2226	545656.7677	28.3670	LFVA36
038	3571155.2069	545656.7178	28.3855	LFVA36
039	3571155.2237	545656.6643	28.3811	LFVA36
040	3571155.2368	545656.7116	28.3397	LFVA36
041	3571155.2410	545656.6867	28.3965	LFVA36
042	3563271.9871	552520.3574	5.4352	BARE
043	3563258.3576	552530.9347	5.4546	BARE
044	3563240.0084	552541.9898	5.4375	BARE
045	3563219.4033	552549.0341	5.2836	BARE
046	3563201.0116	552555.4832	5.1645	BARE
047	3563468.4615	552634.9665	2.1223	wetland
048	3563500.9514	552671.4062	2.3759	wetland
049	3563528.5397	552700.7767	2.5340	wetland
050	3563539.4062	552712.7778	2.8578	wetland
051	3563548.2948	552726.2333	2.8196	wetland
052	3563412.3577	552618.9852	5.0108	HIGRASS
053	3563401.1579	552608.5872	5.1237	HIGRASS
054	3563390.6595	552585.2766	4.8825	HIGRASS
055	3563384.9655	552576.1524	5.0567	HIGRASS
056	3563374.2091	552558.7536	5.0263	HIGRASS
057	3561030.3586	554230.8593	6.7314	BARE
058	3561029.6867	554254.9126	7.3960	BARE

059	3561023.3911	554271.3933	7.9149	BARE
060	3561035.9835	554287.6705	7.8818	BARE
061	3561053.8817	554283.7141	7.4199	BARE
062	3561163.3455	554326.3200	4.9447	TREES
063	3559269.2697	547089.2292	15.6138	HIGRASS
064	3559263.3980	547099.8924	15.8259	HIGRASS
065	3559251.1890	547103.0172	15.5352	HIGRASS
066	3559243.5623	547101.9422	15.4521	HIGRASS
067	3559236.4335	547110.0374	15.3036	HIGRASS
068	3573430.8281	553170.9449	3.3794	TREES
069	3565507.6578	560101.1337	1.2553	wetland
070	3565508.9427	560096.0636	1.3874	wetland
071	3565517.7283	560111.9169	1.3715	wetland
072	3565518.9679	560121.0118	1.2380	wetland
073	3565513.9236	560094.0323	1.2393	wetland
074	3576197.5242	555694.7205	3.8883	CHEINERS
075	3576197.4061	555694.7312	3.9477	CHEINERS
076	3576181.5401	555679.7987	3.7424	CHEINERS
077	3576161.3586	555667.0550	4.0508	CHEINERS
078	3576140.5965	555652.0754	4.1181	CHEINERS
079	3576131.3303	555632.4792	3.9579	CHEINERS
080	3573360.9306	552446.3476	3.4185	EC
081	3573378.1842	552441.2786	3.6814	EC
082	3573348.4677	552471.6609	3.1916	EC
083	3573357.2901	552492.6916	3.0501	EC
084	3573366.3858	552488.3596	3.2899	EC
085	3587340.9733	542427.6603	2.4137	wetland
086	3587334.9023	542421.2852	1.7670	wetland
087	3587319.7044	542407.1395	1.5579	wetland
088	3587294.7197	542381.8871	2.7578	wetland
089	3587300.3296	542379.3030	3.0855	wetland
090	3588310.4671	542076.8330	1.1509	BARE
091	3588304.5394	542095.0872	1.1695	BARE
092	3588303.1111	542114.3289	1.2932	BARE
093	3588278.3930	542118.3638	1.1366	BARE
094	3588276.7041	542091.7088	1.1567	BARE
095	3571155.0656	545656.9267	28.4198	LFVA36
096	3571155.1105	545656.9158	28.4244	LFVA36
097	3571155.0661	545656.9120	28.4399	LFVA36
098	3571155.0811	545656.9391	28.4126	LFVA36
099	3571155.0879	545656.9149	28.4092	LFVA36
100	3571155.0601	545656.9154	28.4367	LFVA36
101	3571155.1098	545656.9470	28.4171	LFVA36
102	3571155.0917	545656.9660	28.4510	LFVA36
103	3571155.0702	545656.9179	28.3980	LFVA36
104	3571155.1006	545656.9714	28.4107	LFVA36
105	3579104.8490	537148.8105	27.2737	LFVA35
106	3579104.8328	537148.8274	27.2438	LFVA35
107	3579104.8280	537148.7914	27.2675	LFVA35
108	3579104.8193	537148.8086	27.2592	LFVA35
109	3579104.8608	537148.8120	27.2290	LFVA35
110	3579104.8413	537148.8181	27.2543	LFVA35
111	3579104.8314	537148.8269	27.2612	LFVA35
112	3579104.8288	537148.8140	27.2099	LFVA35
113	3579104.7908	537148.8168	27.2768	LFVA35
114	3579104.7718	537148.8287	27.2835	LFVA35
115	3583466.1334	545174.5647	15.4995	LFVA34
116	3583466.1142	545174.5532	15.4629	LFVA34
117	3583466.1179	545174.4974	15.4657	LFVA34

118	3583466.0631	545174.5144	15.4789	LFVA34
119	3583466.0501	545174.4878	15.4597	LFVA34
120	3583466.0676	545174.5042	15.4820	LFVA34
121	3583466.0907	545174.5493	15.5093	LFVA34
122	3583466.0901	545174.5319	15.5242	LFVA34
123	3583466.0995	545174.5531	15.5017	LFVA34
124	3583466.0769	545174.4828	15.5059	LFVA34
125	3591212.5632	541957.8141	15.5230	L_FVA33
126	3591212.5940	541957.7471	15.5073	L_FVA33
127	3591212.7336	541957.4716	15.5155	L_FVA33
128	3591212.4860	541957.9506	15.5975	L_FVA33
129	3591212.4841	541957.9769	15.5793	L_FVA33
130	3591212.4852	541957.9986	15.6022	L_FVA33
131	3591212.4555	541958.0015	15.5878	L_FVA33
132	3591212.4793	541957.9920	15.5667	L_FVA33
133	3591212.5192	541958.0295	15.5461	L_FVA33
134	3591212.4766	541958.0263	15.5335	L_FVA33
135	3584560.2414	535789.0134	1.0992	HIGRASS
136	3584562.5779	535773.8365	1.3791	HIGRASS
137	3584555.8632	535755.6938	0.9547	HIGRASS
138	3584538.2945	535775.5520	1.4959	HIGRASS
139	3584548.6722	535790.8641	1.1783	HIGRASS
140	3580645.6968	531276.1697	10.0958	HIGRASS
141	3580632.5401	531295.7058	10.1041	HIGRASS
142	3580619.2142	531297.4774	10.0351	HIGRASS
143	3580604.5538	531290.9832	10.1695	HIGRASS
144	3580605.0483	531278.2102	10.3494	HIGRASS
145	3579511.3640	534206.8119	7.4892	EC
146	3579524.4755	534219.5064	7.4751	EC
147	3579536.9586	534231.7547	7.5098	EC
148	3579502.6673	534198.3401	7.3133	EC
149	3579515.3324	534210.7416	7.5133	EC
150	3579366.1575	536371.1926	7.1684	HIGRASS
151	3579378.3631	536386.0166	7.1254	HIGRASS
152	3579389.4113	536400.7493	7.1981	HIGRASS
153	3579390.2068	536413.2767	7.4937	HIGRASS
154	3579397.4270	536426.3312	7.9031	HIGRASS
155	3579220.1307	538602.9622	5.6475	TREES
156	3586433.1717	543453.9738	15.6867	BASECHEK
LFVA06	3586432.8199	543454.3329	15.6661	

Point	Easting	Northing	Elev	Description
001	3664647.4511	452184.0265	6.7986	BASECHEK
002	3670316.3494	422183.0658	1.5887	CHEINERS
003	3670315.3617	422200.7390	1.7735	CHEINERS
004	3670293.8854	422218.0623	1.5474	CHEINERS
005	3670216.3420	423118.2221	4.2015	BARE
006	3670208.6893	423101.1801	4.2414	BARE
007	3670208.6288	423080.1638	4.3149	BARE
008	3670196.9490	423053.6851	4.4253	BARE
009	3670189.5284	423035.1057	4.2556	BARE
010	3670303.0203	422818.6342	0.7737	wetland
011	3670313.4905	422832.8149	0.6714	wetland
012	3670327.5150	422854.1862	0.7772	wetland
013	3670337.0444	422865.1383	0.7520	wetland
014	3670343.3697	422872.7016	0.6992	wetland
015	3669776.1416	424114.9473	2.5658	EP
016	3669806.5144	424116.0527	2.9852	EP
017	3669821.3566	424116.3429	3.3130	EP
018	3669836.8410	424116.5470	3.4175	EP
019	3669849.2202	424116.3938	3.4413	EP
020	3669436.4043	426636.9220	0.0123	BARE
021	3669436.3360	426616.5637	-0.1363	BARE
022	3669451.5229	426612.3706	-0.3420	BARE
023	3669471.4606	426619.3635	-0.2444	BARE
024	3669485.7300	426624.8324	0.1425	BARE
025	3669380.1358	427035.2278	1.7800	EP
026	3669394.8377	427034.6178	1.5994	EP
027	3669411.0855	427033.9809	1.4976	EP
028	3669421.5233	427033.5412	1.4590	EP
029	3669396.5278	427016.1961	1.6988	EP
030	3672084.6518	427920.2072	3.3410	CHEINERS
031	3672084.5854	427920.2902	3.3754	CHEINERS
032	3671636.2449	429403.4695	-0.5511	BARE
033	3671646.6466	429397.1095	-0.5503	BARE
034	3671656.4930	429420.6331	-0.5850	BARE
035	3671642.5690	429428.4383	-0.5857	BARE
036	3671639.9954	429566.8923	-0.2010	EC
037	3671624.7865	429567.2160	-0.3613	EC
038	3671609.7592	429576.1037	-0.3842	EC
039	3671610.0526	429596.7266	-0.3662	EC
040	3671632.7265	429583.3301	-0.3794	EC
041	3671632.5586	429582.8888	-0.2448	EC
042	3671268.5297	429880.1293	0.1910	HIGRASS
043	3671270.4459	429860.3713	-0.3184	HIGRASS
044	3671274.7527	429843.8035	-0.3389	HIGRASS
045	3671287.1853	429829.7003	-0.3496	HIGRASS
046	3671290.1648	429850.4023	-0.4607	HIGRASS
047	3672028.6048	431202.4165	-1.0002	TREES
048	3672076.9578	431215.0257	-1.4834	TREES
049	3672102.4856	431190.9256	-1.5800	TREES
050	3673099.8728	433330.2692	0.1622	BARE
051	3673103.2724	433344.2444	0.2393	BARE
052	3673106.4751	433355.3878	0.3239	BARE
053	3673109.3683	433366.0793	0.2233	BARE
054	3673112.2304	433377.5284	0.2679	BARE
055	3673220.4588	433409.3308	-1.0084	TREES
056	3673650.6061	433606.7437	-2.1757	EC
057	3673673.8834	433601.0793	-2.2668	EC
058	3673695.7394	433595.6185	-2.3000	EC

059	3673723.5890	433588.6449	-2.2812	EC
060	3673764.6013	433579.0180	-2.4667	EC
061	3664345.3942	446550.2687	0.5835	BARE
062	3664344.0444	446568.7497	0.5913	BARE
063	3664328.4785	446586.0968	0.6227	BARE
064	3664310.0945	446584.7209	0.3005	BARE
065	3664304.8359	446566.7977	0.3893	BARE
066	3663265.5529	450335.9411	6.3630	BARE
067	3663277.0725	450341.8541	6.2654	BARE
068	3663285.8621	450348.5980	6.2473	BARE
069	3663211.7071	450313.3264	5.6865	BARE
070	3663149.5597	450280.2542	4.7587	BARE
071	3663152.9452	450263.6887	1.3237	wetland
072	3663139.8979	450255.3361	0.9113	wetland
073	3663127.8593	450249.3169	1.0979	wetland
074	3663112.3580	450241.1479	1.8568	wetland
075	3663100.8498	450232.8890	1.1081	wetland
076	3662348.7196	451030.0878	1.8971	EC
077	3662327.9270	451019.6293	1.7058	EC
078	3662324.4635	451002.2740	1.6699	EP
079	3662330.9681	450994.3303	1.7222	EP
080	3662285.2890	451013.0142	1.3725	EP
081	3662347.4827	451061.9787	1.2936	TREES
082	3662348.2020	451065.3382	0.9523	TREES
083	3665899.5012	448318.9922	1.2089	HIGRASS
084	3665897.7069	448313.1354	1.5800	HIGRASS
085	3665900.2804	448304.7126	1.7027	HIGRASS
086	3665902.5931	448296.8620	1.3503	HIGRASS
087	3665910.1351	448286.1969	1.6027	HIGRASS
088	3665918.6393	448248.5185	1.6971	CHEINERS
089	3665932.5259	448255.2384	1.7783	CHEINERS
090	3665950.5711	448261.9851	1.6644	CHEINERS
091	3665961.5659	448270.6568	1.6014	CHEINERS
092	3665981.1985	448281.5682	1.5134	CHEINERS
093	3663869.6939	450806.9010	0.8412	BARE
094	3663845.2470	450804.3839	0.9857	BARE
095	3663809.0341	450784.5865	1.5646	BARE
096	3663795.7466	450788.4533	1.2796	BARE
097	3663782.6339	450800.7750	1.1945	BARE
098	3664693.9039	452159.9529	3.2057	CHEINERS
099	3661204.7737	453487.0270	4.0911	BARE
100	3661189.3929	453476.6698	3.5291	BARE
101	3661214.9607	453443.4219	3.3989	BARE
102	3661216.9142	453431.9166	2.9319	BARE
103	3661221.6587	453408.2579	2.2042	BARE
104	3662186.6844	453395.0857	3.5305	EP
105	3662179.5011	453410.2177	3.4277	EP
106	3662173.5764	453425.7414	3.1714	EP
107	3662170.3414	453435.1141	2.9515	EP
108	3662162.0530	453462.5326	2.7535	EP
109	3663080.5563	453729.9376	2.1959	TREES
110	3661147.7934	455866.3638	2.4126	BARE
111	3661136.3563	455869.4031	2.4772	BARE
112	3661122.8289	455868.6336	2.3077	BARE
113	3661106.2761	455861.7605	2.2029	BARE
114	3661093.3308	455855.8318	2.4295	BARE
115	3661282.5144	454496.2542	8.2056	CHEINERS
116	3661296.8468	454478.9192	8.0811	CHEINERS
117	3661321.1180	454485.2594	7.7463	CHEINERS

118	3661336.5334	454456.3440	7.4157	CHEINERS
119	3661322.8811	454436.8474	7.2061	CHEINERS
120	3661407.7241	454427.2940	1.4289	wetland
121	3661398.6788	454418.4534	1.8773	wetland
122	3661392.9882	454401.1078	2.1351	wetland
123	3661385.1285	454388.1113	2.4871	wetland
124	3661399.2668	454388.5244	1.3103	wetland
125	3661944.0276	457035.7591	3.0352	EP
126	3661938.1566	457047.1744	3.0253	EP
127	3661930.5725	457060.5070	2.9145	EP
128	3661923.5585	457072.6439	2.7708	EP
129	3661915.3282	457087.8941	2.7547	EP
130	3661984.2519	457000.9521	3.3368	BARE
131	3661991.6654	456985.6801	3.3331	BARE
132	3661999.4895	456970.8487	3.1910	BARE
133	3662005.4739	456959.9194	3.0752	BARE
134	3662017.5273	456939.7557	3.3203	BARE
135	3670983.9837	460580.9985	1.9052	BARE
136	3670970.1905	460592.9052	1.8004	BARE
137	3670951.6723	460606.1156	1.8393	BARE
138	3670943.8406	460623.6367	1.7615	BARE
139	3670931.0445	460638.6243	1.7865	BARE
140	3674243.0840	460831.8905	2.1851	EP
141	3674247.2219	460825.3214	2.2131	EP
142	3674262.6261	460807.7531	2.0080	EP
143	3674283.1447	460813.4742	2.1317	EP
144	3674297.9208	460817.6272	2.1974	EP
145	3675139.6671	460014.1854	1.0249	BARE
146	3675158.3299	459996.3095	0.8630	BARE
147	3675176.4401	459979.1749	0.7499	BARE
148	3675190.3940	459966.9290	0.8206	BARE
149	3675210.0664	459953.4368	0.7131	BARE
150	3675249.6045	459948.1736	0.4772	TREES
151	3677467.1241	462102.6266	1.2031	BARE
152	3677450.9965	462092.4748	1.3201	BARE
153	3677432.0922	462077.6157	1.4348	BARE
154	3677411.6760	462063.2688	1.2705	BARE
155	3677392.4210	462049.0776	1.4327	BARE
L FVA20	3664647.4020	452184.5470	6.8045	

Point	Easting	Northing	Elev	Description
001	3667033.3684	477464.6091	14.2399	BASECHEK
002	3664819.3759	489960.4063	13.7939	LFVA37
003	3664819.4227	489960.5086	13.8210	LFVA37
004	3664819.4427	489960.5315	13.7897	LFVA37
005	3664819.4309	489960.5173	13.8027	LFVA37
006	3664819.4382	489960.4525	13.7887	LFVA37
007	3664819.4667	489960.5256	13.8280	LFVA37
008	3664819.4762	489960.5056	13.8302	LFVA37
009	3664819.5035	489960.5701	13.8353	LFVA37
010	3664819.4817	489960.5501	13.8456	LFVA37
011	3664819.5157	489960.6117	13.8317	LFVA37
012	3677698.4353	478720.8946	12.4947	LFVA38
013	3677698.4657	478720.8775	12.5060	LFVA38
014	3677698.5061	478720.9212	12.4934	LFVA38
015	3677698.4795	478720.8734	12.4803	LFVA38
016	3677698.4834	478720.8770	12.5071	LFVA38
017	3677698.4822	478720.8866	12.4792	LFVA38
018	3677698.4973	478720.8922	12.5206	LFVA38
019	3677698.4247	478720.8696	12.4724	LFVA38
020	3677698.4326	478720.8475	12.5186	LFVA38
021	3677698.4479	478720.9188	12.5011	LFVA38
022	3681558.4734	476823.8393	13.4123	LFVA39
023	3681558.4372	476823.8381	13.3792	LFVA39
024	3681558.4195	476823.7997	13.3866	LFVA39
025	3681558.4341	476823.8126	13.4048	LFVA39
026	3681558.4069	476823.8611	13.3675	LFVA39
027	3681558.7608	476823.6764	13.4262	LFVA39
028	3681558.7449	476823.6688	13.4288	LFVA39
029	3681558.7078	476823.6424	13.4106	LFVA39
030	3681558.6666	476823.5803	13.4363	LFVA39
031	3681558.7204	476823.6543	13.4420	LFVA39
032	3687899.3338	475017.1617	-4.8889	BARE
033	3687907.8768	475037.3245	-4.9282	BARE
034	3687917.5155	475064.1080	-5.0440	BARE
035	3687913.1067	475080.9654	-5.1984	BARE
036	3687898.7078	475058.6446	-5.1331	BARE
037	3690321.1564	473939.0757	-2.5332	TREES
038	3690332.6116	473936.7647	-2.8766	TREES
039	3676461.9062	488226.6052	-5.1733	HIGRASS
040	3676446.6970	488227.0749	-5.2943	HIGRASS
041	3676374.4943	488228.3158	-4.7471	HIGRASS
042	3676359.8013	488225.9443	-5.0205	HIGRASS
043	3676324.7587	488227.7488	-5.1569	HIGRASS
044	3676862.9981	488267.5834	-3.0767	wetland
045	3676862.4129	488297.1335	-3.1565	wetland
046	3676858.9963	488331.0265	-3.2872	wetland
047	3676856.1900	488363.6076	-3.1744	wetland
048	3676856.3808	488384.2698	-3.2043	wetland
049	3677037.9110	488210.7559	-2.8522	TREES
050	3677064.6869	488213.7714	-3.4316	TREES
051	3673984.6054	480760.7746	-1.9213	TREES
052	3673981.7348	480725.7925	-1.6556	TREES
053	3673978.6602	480675.3357	-2.1204	TREES
054	3673970.5462	480588.6467	-1.7706	TREES
055	3673968.0794	480553.2421	-1.9683	TREES
056	3672615.0682	472581.3263	-3.0942	BARE
057	3672610.6205	472592.0288	-3.1902	BARE
058	3672606.5363	472611.4240	-3.4956	BARE

059	3672604.4778	472624.9469	-3.5907	BARE
060	3672602.3435	472638.1946	-3.8144	BARE
061	3677698.5733	478720.9841	12.8544	LFVA38
062	3677698.5708	478720.9888	12.8319	LFVA38
063	3677698.5472	478720.9786	12.7693	LFVA38
064	3677698.5636	478720.9920	12.8226	LFVA38
065	3677698.5625	478720.9823	12.7488	LFVA38
066	3677698.5499	478721.0584	12.7578	LFVA38
067	3677698.5365	478721.0215	12.6844	LFVA38
068	3677698.5187	478721.0073	12.6911	LFVA38
069	3677698.5055	478721.0348	12.7094	LFVA38
070	3677698.4474	478721.1078	12.6389	LFVA38
071	3672410.2545	466663.0315	2.3912	EP
072	3672397.4068	466666.0752	2.4912	EP
073	3672379.3049	466670.7235	2.4629	EP
074	3672341.0364	466679.8239	2.4733	EP
075	3672334.6804	466681.3409	2.3463	EP
076	3670245.9821	479715.1167	2.6847	wetland
077	3670269.9832	479731.5240	2.8129	wetland
078	3670283.4724	479738.5303	3.0442	wetland
079	3670242.7420	479712.7242	2.9651	wetland
080	3670234.9658	479701.1164	3.1330	wetland
081	3668202.7461	485110.2496	3.6929	BARE
082	3668206.9927	485092.6016	3.9540	BARE
083	3668213.3298	485073.8676	4.0590	BARE
084	3668219.0290	485057.1548	3.9832	BARE
085	3668225.2736	485039.8383	4.2128	BARE
086	3666117.8442	488940.2377	3.5736	EC
087	3666108.4869	488930.9048	3.3778	EC
088	3666100.6632	488943.9541	3.3361	EC
089	3666090.3953	488960.9852	3.3903	EC
090	3666101.1306	488963.7457	3.5112	EC
091	3670456.2254	484953.4093	4.8240	HIGRASS
092	3670469.3809	484950.1906	4.9726	HIGRASS
093	3670473.2199	484959.4175	4.9521	HIGRASS
094	3670466.2640	484978.6527	4.8004	HIGRASS
095	3670449.7477	484983.0649	4.6530	HIGRASS
096	3681558.6261	476823.8069	13.3044	LFVA39
097	3681558.6784	476823.7855	13.3058	LFVA39
098	3681558.7056	476823.7806	13.3014	LFVA39
099	3681558.6833	476823.7222	13.3217	LFVA39
100	3681558.7387	476823.7469	13.3195	LFVA39
101	3681558.6738	476823.7562	13.3227	LFVA39
102	3681558.6529	476823.7264	13.3667	LFVA39
103	3681558.5978	476823.6319	13.3811	LFVA39
104	3681558.6044	476823.6070	13.3818	LFVA39
105	3681558.6726	476823.6833	13.3403	LFVA39
106	3664819.3867	489960.4420	13.9661	LFVA37
107	3664819.4047	489960.3884	13.9423	LFVA37
108	3664819.4103	489960.3793	13.9573	LFVA37
109	3664819.4427	489960.3164	13.9589	LFVA37
110	3664819.4327	489960.3565	13.9859	LFVA37
111	3664819.4269	489960.3555	13.9430	LFVA37
112	3664819.4283	489960.3878	13.9238	LFVA37
113	3664819.4774	489960.4091	13.9261	LFVA37
114	3664819.4066	489960.4057	13.9195	LFVA37
115	3664819.4354	489960.4210	13.9299	LFVA37
116	3667033.1795	477464.9419	14.1470	BASECHEK
L FVA01	3667033.5413	477464.4671	14.2356	

Point	Easting	Northing	Elev	Description
001	3617549.7806	514342.1675	12.9890	BASECHEK
002	3619625.6990	514343.0656	1.0113	wetland
003	3619606.8754	514341.2204	0.8160	wetland
004	3619593.7082	514338.8481	0.9829	wetland
005	3619581.2318	514336.1979	1.0744	wetland
006	3619574.3251	514336.7693	1.0053	wetland
007	3619829.9348	514301.4894	13.7662	LFVA41
008	3619829.8893	514301.4019	13.7684	LFVA41
009	3619829.8792	514301.4155	13.7737	LFVA41
010	3619829.7645	514301.3120	13.7446	LFVA41
011	3619829.7802	514301.3391	13.7513	LFVA41
012	3619829.7312	514301.3990	13.7466	LFVA41
013	3619829.7442	514301.3682	13.7790	LFVA41
014	3619829.7449	514301.3550	13.7791	LFVA41
015	3619829.8104	514301.3446	13.8116	LFVA41
016	3619829.7607	514301.3999	13.8509	LFVA41
017	3630018.6041	500691.4730	14.1297	LFVA11
018	3630018.5862	500691.4748	14.1504	LFVA11
019	3630018.5833	500691.3804	14.1625	LFVA11
020	3630018.6043	500691.3820	14.1702	LFVA11
021	3630018.6198	500691.3676	14.1737	LFVA11
022	3630018.6870	500691.3562	14.1620	LFVA11
023	3630018.6799	500691.3528	14.1627	LFVA11
024	3630018.6726	500691.3549	14.1598	LFVA11
025	3630018.6618	500691.3239	14.1664	LFVA11
026	3630018.6106	500691.2284	14.1421	LFVA11
027	3618288.7912	515824.9876	5.1110	EP
028	3618300.3583	515824.2717	5.0914	EP
029	3618314.5189	515823.7345	4.9763	EP
030	3618331.2851	515822.0772	4.9575	EP
031	3618353.8604	515821.0760	4.8378	EP
032	3618217.9948	518385.5058	4.7341	
033	3618217.9982	518385.2681	4.7805	HIGRASS
034	3618200.7747	518375.2065	4.9410	HIGRASS
035	3618175.3096	518367.0380	4.9904	HIGRASS
036	3618169.6390	518348.4286	4.7291	HIGRASS
037	3618195.4064	518348.9954	4.7180	HIGRASS
038	3630294.6375	515197.9356	-0.9808	TREES
039	3630295.8841	515225.9816	-0.9407	TREES
040	3625956.7426	520839.4414	1.3360	BARE
041	3625947.1735	520832.7886	1.2880	BARE
042	3625933.1889	520822.6411	1.3289	BARE
043	3625923.0812	520815.7962	1.1323	BARE
044	3625910.0161	520812.6600	1.1375	BARE
045	3622603.2746	525843.9239	1.1913	TREES
046	3622612.8232	525858.9383	1.0428	TREES
047	3625313.6990	533483.9182	11.7285	HIGRASS
048	3625306.6034	533487.4481	11.7831	HIGRASS
049	3625305.8921	533496.5676	11.7912	HIGRASS
050	3625299.5109	533497.9107	11.5715	HIGRASS
051	3625322.3695	533487.9731	11.9002	HIGRASS
052	3630018.3586	500691.1816	14.0120	LFVA11
053	3630018.4000	500691.2555	14.0479	LFVA11
054	3630018.4186	500691.3148	14.0298	LFVA11
055	3630018.3842	500691.3332	14.0537	LFVA11
056	3630018.4383	500691.3876	14.0373	LFVA11
057	3630018.4030	500691.3006	14.0331	LFVA11
058	3630018.4019	500691.2494	14.0163	LFVA11

059	3630018.4088	500691.3943	14.0103	LFVA11
060	3630018.4330	500691.4055	14.0227	LFVA11
061	3630018.3885	500691.3687	14.0415	LFVA11
062	3630018.4368	500691.3642	14.0544	LFVA11
063	3619829.7627	514301.2027	13.7773	LFVA41
064	3619829.7833	514301.1689	13.7597	LFVA41
065	3619829.8146	514301.1113	13.7732	LFVA41
066	3619829.8327	514301.1405	13.7711	LFVA41
067	3619829.8590	514301.1971	13.7731	LFVA41
068	3619829.8696	514301.1824	13.7699	LFVA41
069	3619829.8596	514301.1378	13.7866	LFVA41
070	3619829.9065	514301.1698	13.7726	LFVA41
071	3619829.9020	514301.1396	13.7764	LFVA41
072	3619829.9053	514301.1421	13.7839	LFVA41
073	3617549.7526	514342.1748	13.0351	BASECHEK
LFVA08	3617550.1327	514342.3345	13.0578	

Point	Easting	Northing	Elev	Description
001	3650266.8367	502394.2545	13.0098	BASECHEK
002	3646374.6260	500051.3799	13.1211	LFVA07
003	3646374.5037	500051.2644	13.1883	LFVA07
004	3646374.4973	500051.2242	13.2086	LFVA07
005	3646374.5587	500051.3216	13.1859	LFVA07
006	3646374.5904	500051.3139	13.1891	LFVA07
007	3646374.5717	500051.3011	13.1501	LFVA07
008	3646374.6070	500051.3508	13.1692	LFVA07
009	3646374.5831	500051.2934	13.1455	LFVA07
010	3646374.5901	500051.2819	13.1791	LFVA07
011	3646374.5735	500051.3190	13.1577	LFVA07
012	3650138.0421	502630.8754	-7.8812	wetland
013	3650152.9103	502643.9670	-7.7442	wetland
014	3650171.3451	502655.9493	-7.4851	wetland
015	3650174.3461	502670.2158	-7.7084	wetland
016	3650179.7235	502683.9990	-8.0229	wetland
017	3651645.1254	509731.7134	-3.0290	LOTREES
018	3651630.1289	509713.8224	-3.0643	LOTREES
019	3651693.2445	509744.7949	-3.2515	LOTREES
020	3651705.2998	509778.4409	-2.2713	LOTREES
021	3651679.3457	509786.8974	-2.5076	LOTREES
022	3659565.1971	506199.3231	13.7166	LFVA40
023	3659565.2257	506199.3276	13.7110	LFVA40
024	3659565.2086	506199.3085	13.6665	LFVA40
025	3659565.2343	506199.3155	13.6896	LFVA40
026	3659565.1785	506199.4530	13.6778	LFVA40
027	3659565.1235	506199.4189	13.6767	LFVA40
028	3659565.1325	506199.4682	13.7147	LFVA40
029	3659565.1799	506199.4930	13.6853	LFVA40
030	3659565.1720	506199.5069	13.6990	LFVA40
031	3659565.1701	506199.4414	13.6952	LFVA40
032	3659517.3783	506053.8275	2.5020	HIGRASS
033	3659504.4050	506058.1476	2.3274	HIGRASS
034	3659493.8479	506058.9615	2.2768	HIGRASS
035	3659485.3362	506057.4692	2.3388	HIGRASS
036	3659480.7492	506055.4590	2.3316	HIGRASS
037	3660434.8870	501416.3250	-3.8005	CHEINERS
038	3660479.7541	501419.0083	-4.1655	CHEINERS
039	3660502.0627	501417.9707	-4.0874	CHEINERS
040	3660517.1536	501415.9421	-4.0592	CHEINERS
041	3660533.6468	501412.6859	-3.7933	CHEINERS
042	3664504.5320	503808.6494	1.8174	TREES
043	3664494.2628	503727.8538	1.8724	TREES
044	3664487.5922	503686.5466	1.4477	TREES
045	3664487.3139	503666.7771	1.6041	TREES
046	3664487.2930	503652.3474	1.4603	TREES
047	3654002.1001	507982.0123	-4.2429	CHEINERS
048	3654001.5160	507960.8881	-4.2172	CHEINERS
049	3654008.8589	507930.1880	-4.7606	CHEINERS
050	3654001.9322	507994.4662	-4.2461	CHEINERS
051	3653985.4690	508036.5112	-4.2334	CHEINERS
052	3651597.9846	512094.4247	-3.8364	EC
053	3651588.2916	512098.1593	-3.8513	EC
054	3651570.0198	512105.0340	-3.9282	EC
055	3651559.4099	512109.1654	-4.0348	EC
056	3651536.3120	512117.8213	-4.1739	EC
057	3647466.5247	510133.0451	-0.7188	HIGRASS
058	3647470.1644	510126.2086	-0.6350	HIGRASS

059	3647471.8798	510119.7270	-0.5774	HIGRASS
060	3647458.6942	510144.3868	-0.5131	HIGRASS
061	3647450.5296	510151.3005	-0.6442	HIGRASS
062	3648043.7615	510086.4890	-4.0934	TREES
063	3648021.8814	510098.6700	-4.1241	TREES
064	3642498.9634	514164.8150	2.4965	BARE
065	3642500.5648	514182.5481	2.6574	BARE
066	3642502.0055	514201.4900	2.4172	BARE
067	3642505.3041	514131.4389	1.9558	BARE
068	3642497.7411	514120.3083	1.7106	BARE
069	3645634.1587	508629.5505	-3.4414	TREES
070	3645597.9001	508625.9312	-4.3823	TREES
071	3645557.9420	508629.4124	-4.0438	TREES
072	3645505.3367	508623.3777	-4.6247	TREES
073	3645440.4478	508625.9327	-3.9225	TREES
074	3639735.7900	508499.5128	-7.6809	TREES
075	3648730.1658	515310.6777	0.2021	TREES
076	3648764.9860	515296.6343	0.0277	TREES
077	3648795.1670	515290.9616	0.4267	TREES
078	3648824.5599	515284.5922	0.3107	TREES
079	3648843.6680	515280.4177	0.2156	TREES
080	3654690.7502	511771.2467	-0.1851	TREES
081	3654653.2557	511777.3408	-1.0364	TREES
082	3654633.9914	511784.3304	-1.6286	TREES
083	3654618.8623	511779.0705	-2.1489	TREES
084	3654630.0037	511787.0716	-1.6713	TREES
085	3659564.9569	506199.5422	13.6848	LFVA40
086	3659565.0944	506199.5152	13.6920	LFVA40
087	3659565.0742	506199.5143	13.6776	LFVA40
088	3659565.0339	506199.5340	13.7034	LFVA40
089	3659565.0361	506199.4828	13.6655	LFVA40
090	3659565.0318	506199.4523	13.6826	LFVA40
091	3659565.0141	506199.4358	13.6622	LFVA40
092	3659565.0018	506199.3255	13.6683	LFVA40
093	3659564.9819	506199.4364	13.6753	LFVA40
094	3659565.0772	506199.5347	13.6764	LFVA40
095	3646374.7756	500051.4796	13.1272	LFVA07
096	3646374.7471	500051.5025	13.1209	LFVA07
097	3646374.7855	500051.5033	13.1174	LFVA07
098	3646374.7215	500051.5650	13.0943	LFVA07
099	3646374.8049	500051.5550	13.0751	LFVA07
100	3646374.7763	500051.5141	13.0991	LFVA07
101	3646374.8092	500051.5092	13.0767	LFVA07
102	3646374.8300	500051.5620	13.0884	LFVA07
103	3646374.7357	500051.5135	13.1143	LFVA07
104	3646374.7409	500051.5082	13.1092	LFVA07
105	3650266.7278	502393.3531	12.8243	BASECHEK
LFVA09	3650266.5409	502393.8064	12.8511	

Point	Easting	Northing	Elev	Description
001	3652364.3594	554734.4273	16.2807	BASECHEK
002	3647325.3632	555215.9994	16.3731	LFVA42
003	3647325.3803	555216.0359	16.4135	LFVA42
004	3647325.4040	555216.0348	16.3658	LFVA42
005	3647325.4102	555216.0562	16.4085	LFVA42
006	3647325.3965	555215.9916	16.4048	LFVA42
007	3647325.3778	555215.9759	16.3835	LFVA42
008	3647325.3726	555216.0063	16.3585	LFVA42
009	3647325.4119	555216.0478	16.3931	LFVA42
010	3647325.4228	555216.0640	16.3752	LFVA42
011	3647325.4405	555216.0643	16.3830	LFVA42
012	3629297.1987	560902.2041	16.5273	LFVA43
013	3629297.2109	560902.2858	16.5018	LFVA43
014	3629297.2142	560902.2374	16.5024	LFVA43
015	3629297.1018	560902.2750	16.5023	LFVA43
016	3629297.0349	560902.2246	16.5406	LFVA43
017	3629297.0507	560902.2356	16.5161	LFVA43
018	3629297.0512	560902.2836	16.5543	LFVA43
019	3629297.0699	560902.2707	16.5367	LFVA43
020	3629297.0616	560902.2557	16.5143	LFVA43
021	3629297.0164	560902.2560	16.5145	LFVA43
022	3627448.8219	554215.8430	-6.1598	BARE
023	3627437.8406	554217.0036	-6.1594	BARE
024	3627425.5788	554219.5017	-6.3728	BARE
025	3627416.1793	554219.0560	-5.9924	BARE
026	3628222.1298	554110.5910	-5.8615	HIGRASS
027	3628218.0739	554095.7347	-5.8930	HIGRASS
028	3628213.9513	554085.8036	-5.7980	HIGRASS
029	3628217.5100	554077.7688	-5.5817	HIGRASS
030	3628235.2163	554074.5403	-5.1702	HIGRASS
031	3628165.0735	554149.1154	-6.8211	EC
032	3628157.3847	554149.4949	-6.8054	EC
033	3628148.8979	554159.1780	-6.6789	EC
034	3628144.0357	554173.9356	-6.1515	EC
035	3628190.4924	554168.7812	-6.2731	EC
036	3636612.3003	538551.3341	0.5900	EC
037	3636609.3862	538560.9351	0.6389	EC
038	3636606.5524	538569.7656	0.6751	EC
039	3636603.9471	538578.1100	0.6665	EC
040	3636598.8212	538594.7764	0.7665	EC
041	3646031.6605	540927.2445	-1.8853	BARE
042	3646032.8871	540916.5782	-1.8864	BARE
043	3646036.3124	540902.3395	-1.6537	BARE
044	3646038.5290	540890.6100	-1.6803	BARE
045	3646041.6612	540875.5723	-1.5867	BARE
046	3629296.9583	560902.2311	16.5485	LFVA43
047	3629296.9174	560902.2311	16.5459	LFVA43
048	3629296.9335	560902.2191	16.5478	LFVA43
049	3629296.9588	560902.2369	16.5568	LFVA43
050	3629296.8644	560902.1995	16.5601	LFVA43
051	3629296.8669	560902.1597	16.5679	LFVA43
052	3629296.8794	560902.1994	16.5300	LFVA43
053	3629296.8861	560902.2283	16.5146	LFVA43
054	3629296.8580	560902.2888	16.5432	LFVA43
055	3629296.9491	560902.1633	16.5291	LFVA43
056	3647325.7478	555216.0915	16.3781	LFVA42
057	3647325.7199	555216.0324	16.3774	LFVA42
058	3647325.7978	555216.0502	16.3683	LFVA42

059	3647325.7651	555216.0284	16.3749	LFVA42
060	3647325.7806	555216.0363	16.3556	LFVA42
061	3647325.8090	555216.0415	16.3634	LFVA42
062	3647325.8625	555216.0731	16.3772	LFVA42
063	3647325.8765	555216.0791	16.3753	LFVA42
064	3647325.8591	555216.0104	16.3674	LFVA42
065	3647325.8362	555216.0098	16.3844	LFVA42
066	3652364.4057	554734.4352	16.2562	BASECHEK
LFVA17	3652364.7293	554734.2710	16.2238	

Point	Easting	Northing	Elev	Description
001	3721720.1113	550579.8076	15.0922	BASECHEK
002	3719659.7591	550097.8670	14.0317	LFVA45
003	3719659.7578	550097.7930	14.0348	LFVA45
004	3719659.7841	550097.7892	14.0386	LFVA45
005	3719659.7833	550097.7501	14.0251	LFVA45
006	3719659.7578	550097.7697	14.0189	LFVA45
007	3719659.7478	550097.7922	14.0236	LFVA45
008	3719659.7944	550097.7249	14.0065	LFVA45
009	3719659.7357	550097.7614	14.0258	LFVA45
010	3719659.7135	550097.8034	14.0204	LFVA45
011	3719659.5768	550098.0126	14.0098	LFVA45
012	3718091.4320	549730.0066	14.9770	LFVA46
013	3718091.4332	549729.9811	14.9977	LFVA46
014	3718091.4452	549729.9487	14.9899	LFVA46
015	3718091.4312	549729.9767	15.0183	LFVA46
016	3718091.5240	549730.2032	14.9965	LFVA46
017	3718091.4890	549730.1123	15.0071	LFVA46
018	3718091.4907	549730.0890	15.0291	LFVA46
019	3718091.4898	549730.0529	15.0336	LFVA46
020	3718091.4908	549729.9821	15.0057	LFVA46
021	3718091.5439	549730.0154	15.0282	LFVA46
022	3728070.6464	557358.6443	-2.7863	wetland
023	3728066.6615	557350.5233	-2.8922	wetland
024	3728056.7568	557340.0301	-3.0148	wetland
025	3728049.3029	557326.2769	-2.8533	wetland
026	3728045.1351	557321.7502	-2.8297	wetland
027	3732456.3303	561625.6585	4.4543	CHEINERS
028	3732454.0969	561599.7927	4.6279	CHEINERS
029	3732485.4522	561618.8962	5.6282	CHEINERS
030	3732488.6724	561599.6965	5.6351	CHEINERS
031	3732513.4812	561619.5493	5.2640	CHEINERS
032	3729402.5643	548020.9573	5.7563	HIGRASS
033	3729415.5749	548014.0483	5.9129	HIGRASS
034	3729426.1957	548012.5273	5.8994	HIGRASS
035	3729430.6858	548003.6583	6.0127	HIGRASS
036	3729434.8875	547993.5192	5.9649	HIGRASS
037	3719566.0837	539071.5488	3.7529	EP
038	3719559.9359	539056.2718	3.8524	EP
039	3719551.6930	539036.9571	3.8968	EP
040	3719547.1734	539025.3859	3.8495	EP
041	3719537.4555	539001.9000	3.8953	EP
042	3702717.0726	538482.7420	-5.4082	BARE
043	3702727.5806	538468.9257	-5.1041	BARE
044	3702735.4443	538456.8618	-4.8527	BARE
045	3702719.2323	538450.2643	-4.9744	BARE
046	3702704.4590	538449.5123	-5.0517	BARE
047	3702699.4631	538435.1419	-5.1829	BARE
048	3702691.3173	538425.4977	-5.2209	BARE
049	3707309.9060	553486.2496	-0.8852	BARE
050	3707297.0946	553482.5260	-0.9846	BARE
051	3707282.0081	553479.1855	-1.1511	BARE
052	3707271.3287	553469.8936	-1.0801	BARE
053	3707257.4661	553473.1866	-1.3273	BARE
LFVA13	3721720.3853	550579.8807	15.1477	

Point	Easting	Northing	Elev	Description
001	3721720.0727	550579.5620	15.0857	BASECHEK
002	3719659.4786	550097.8222	13.9856	LFVA45
003	3719659.4717	550097.8265	13.9950	LFVA45
004	3719659.5200	550097.8145	13.9772	LFVA45
005	3719659.5331	550097.7310	13.9770	LFVA45
006	3719659.5124	550097.7556	14.0078	LFVA45
007	3719659.5031	550097.7209	13.9907	LFVA45
008	3719659.5410	550097.6989	13.9850	LFVA45
009	3719659.5862	550097.6673	14.0105	LFVA45
010	3719659.5650	550097.6666	13.9882	LFVA45
011	3719659.5733	550097.6620	14.0122	LFVA45
012	3719659.5729	550097.6680	14.0218	LFVA45
013	3718091.2331	549730.1259	14.9755	LFVA46
014	3718091.2427	549730.1463	14.9779	LFVA46
015	3718091.2442	549730.1264	14.9705	LFVA46
016	3718091.2503	549730.0870	14.9848	LFVA46
017	3718091.2419	549730.0681	14.9734	LFVA46
018	3718091.2374	549730.1199	14.9672	LFVA46
019	3718091.2358	549730.0822	14.9621	LFVA46
020	3718091.2016	549730.1109	14.9714	LFVA46
021	3718091.1924	549730.0825	14.9565	LFVA46
022	3718091.1676	549730.0745	14.9568	LFVA46
LFVA13	3721720.3853	550579.8807	15.1477	

Point	Easting	Northing	Elev	Description
001	3747915.0425	576615.8589	18.8572	BASECHEK
002	3742333.6359	596879.4617	17.8818	LFVA44
003	3742333.8995	596879.3662	17.9139	LFVA44
004	3742333.9098	596879.3392	17.9243	LFVA44
005	3742333.9276	596879.3828	17.9285	LFVA44
006	3742333.8940	596879.3888	17.9194	LFVA44
007	3742333.8971	596879.3920	17.9458	LFVA44
008	3742333.8824	596879.3895	17.9272	LFVA44
009	3742333.8957	596879.3245	17.8976	LFVA44
010	3742333.8554	596879.3594	17.9363	LFVA44
011	3742333.8648	596879.3405	17.9254	LFVA44
012	3742381.3812	596861.5522	17.1458	EP
013	3742387.3246	596870.5885	17.1422	EP
014	3742394.6254	596880.7573	17.1095	EP
015	3742400.4254	596889.6220	17.1063	EP
016	3742409.2133	596902.5064	16.9959	EP
017	3742333.9062	596879.4556	17.9657	LFVA44
018	3742333.9078	596879.4236	17.9522	LFVA44
019	3742333.9825	596879.4694	17.9338	LFVA44
020	3742333.9374	596879.4405	17.9366	LFVA44
021	3742333.9371	596879.4425	17.9204	LFVA44
022	3742333.9514	596879.4708	17.9558	LFVA44
023	3742333.9396	596879.4432	17.9663	LFVA44
024	3742333.9493	596879.4391	17.9779	LFVA44
025	3742333.9510	596879.4397	17.9958	LFVA44
026	3742333.9418	596879.4340	17.9854	LFVA44
027	3742333.9624	596879.4247	17.9600	LFVA44
028	3742333.9500	596879.4476	17.9668	LFVA44
029	3736458.3081	588801.6168	0.5329	LOTREES
030	3736446.1908	588832.9963	1.5485	LOTREES
031	3736383.7030	588812.0801	2.9041	LOTREES
032	3736322.4709	588794.4616	3.4799	LOTREES
033	3736370.1495	588806.6032	2.6919	LOTREES
034	3730427.1717	580841.9172	1.8219	BARE
035	3730430.5165	580855.7292	1.7264	BARE
036	3730431.3299	580870.6698	1.7099	BARE
037	3730437.1106	580885.5403	1.6761	BARE
038	3730439.9221	580903.1673	1.6372	BARE
039	3744496.3481	591567.0504	1.5654	EC
040	3744498.2601	591557.6672	1.5857	EC
041	3744490.9737	591560.3506	1.5576	EC
042	3744485.5644	591576.1219	1.4824	EC
043	3744483.2292	591588.5648	1.4172	EC
044	3746283.2778	575684.1007	2.4081	BARE
045	3746272.8104	575690.0996	2.4180	BARE
046	3746260.9494	575694.2783	2.5407	BARE
047	3746250.8805	575682.7494	2.7692	BARE
048	3746255.9589	575701.5710	2.6118	BARE
049	3743907.1369	569892.3812	1.1779	CHEINERS
050	3743930.4595	569910.9242	0.8939	CHEINERS
051	3743947.1697	569921.5745	0.9509	CHEINERS
052	3743959.6885	569932.6811	0.9942	CHEINERS
053	3743969.9183	569940.8879	1.1344	CHEINERS
054	3759935.0750	572631.9723	3.9404	BARE
055	3759934.2998	572641.4916	4.2307	BARE
056	3759941.7491	572653.1722	4.3560	BARE
057	3759947.8865	572652.5498	4.5513	BARE
058	3759959.0337	572627.3420	3.7510	BARE

059	3742333.5661	596879.5265	17.9860	LFVA44
060	3742333.5305	596879.5503	18.0084	LFVA44
061	3742333.5134	596879.5685	18.0214	LFVA44
062	3742333.5194	596879.4424	17.9830	LFVA44
063	3742333.5470	596879.5253	18.0170	LFVA44
064	3742333.5591	596879.4688	17.9959	LFVA44
065	3742333.5980	596879.4865	18.0135	LFVA44
066	3742333.5644	596879.5282	17.9860	LFVA44
067	3742333.5930	596879.4593	17.9756	LFVA44
068	3742333.5406	596879.4717	17.9484	LFVA44
069	3747915.4925	576615.3314	18.7199	BASECHEK
LFVA15	3747915.0918	576615.4383	18.8354	

Point	Easting	Northing	Elev	Description
001	3675284.1411	543696.2710	5.7034	BASECHEK
002	3681668.5080	559409.6046	18.4348	LFVA47
003	3681668.5152	559409.6116	18.4699	LFVA47
004	3681668.5195	559409.6256	18.5000	LFVA47
005	3681668.5095	559409.6262	18.4983	LFVA47
006	3681668.5187	559409.6335	18.4934	LFVA47
007	3681668.5269	559409.6108	18.4894	LFVA47
008	3681668.5187	559409.6276	18.4826	LFVA47
009	3681668.5232	559409.6374	18.4777	LFVA47
010	3681668.5008	559409.6164	18.4842	LFVA47
011	3681668.5096	559409.6331	18.4987	LFVA47
012	3680030.7436	559087.1040	18.2352	LFVA48
013	3680030.7579	559087.1178	18.2435	LFVA48
014	3680030.7512	559087.1404	18.2603	LFVA48
015	3680030.7461	559087.1311	18.2367	LFVA48
016	3680030.7461	559087.1283	18.2491	LFVA48
017	3680030.7499	559087.1284	18.2408	LFVA48
018	3680030.7303	559087.0905	18.2424	LFVA48
019	3680030.7420	559087.1277	18.2082	LFVA48
020	3680030.7356	559087.1039	18.2123	LFVA48
021	3680030.7477	559087.1088	18.2258	LFVA48
022	3668494.4346	557267.0127	18.7859	LFVA49
023	3668494.4180	557266.9895	18.7841	LFVA49
024	3668494.4219	557266.9823	18.7728	LFVA49
025	3668494.4317	557267.0168	18.8239	LFVA49
026	3668494.4229	557266.9833	18.8039	LFVA49
027	3668494.4228	557266.9849	18.8003	LFVA49
028	3668494.4236	557267.0035	18.8089	LFVA49
029	3668494.4117	557266.9856	18.8143	LFVA49
030	3668494.4178	557266.9779	18.8059	LFVA49
031	3668494.4248	557266.9861	18.8053	LFVA49
032	3667899.5605	552084.2602	-7.4704	EC
033	3667879.8675	552086.0446	-7.3506	EC
034	3667869.5487	552086.8222	-7.3701	EC
035	3667868.3327	552074.5279	-7.1432	EC
036	3667867.4939	552063.8161	-7.0637	EC
037	3657628.4425	548019.1742	-1.6958	BARE
038	3657630.7363	548028.7599	-1.5227	BARE
039	3657631.5078	548038.7384	-1.6127	BARE
040	3668022.3075	541357.5925	1.5159	BARE
041	3668021.0211	541305.4584	1.1977	BARE
042	3668019.2982	541274.3374	0.9900	BARE
043	3668019.3501	541270.8547	0.8464	BARE
044	3668018.7459	541255.0200	0.7125	BARE
045	3668017.9087	541238.5040	0.6047	BARE
046	3668023.7859	541164.0995	0.5114	EC
047	3668023.9895	541171.8916	0.1154	EC
048	3668024.8663	541199.7506	0.0619	EC
049	3668025.8388	541226.7701	0.5218	EC
050	3668026.3544	541239.0205	0.6877	EC
051	3668027.6257	541266.6079	0.9821	EC
052	3668028.9545	541311.5458	1.1388	EC
053	3668030.1172	541338.8183	1.1445	EC
054	3668031.0074	541368.5003	1.4168	EC
055	3679288.9460	534990.8307	0.3946	HIGRASS
056	3679300.2072	534982.7708	0.3534	HIGRASS
057	3679309.5901	534975.5949	0.4947	HIGRASS
058	3679325.5760	534962.3264	0.6878	HIGRASS

059	3679337.7199	534954.7147	0.3336	HIGRASS
060	3679352.9099	534942.7661	0.2579	HIGRASS
061	3679368.2058	534928.3390	0.4519	HIGRASS
062	3678788.2690	530883.8483	0.9953	BARE
063	3678811.6339	530876.5020	0.8895	BARE
064	3678811.0268	530859.4111	0.9870	BARE
065	3678875.5572	530807.0086	1.0343	BARE
066	3678879.4491	530884.2237	0.1326	EC
067	3678851.9245	530896.1030	0.4294	EC
068	3678828.8827	530905.9139	0.6035	EC
069	3678803.7176	530916.7545	0.6908	EC
070	3678791.8502	530921.7937	0.6315	EC
071	3678763.6448	530934.1074	0.7092	EC
072	3688169.7909	536324.6992	2.3955	BARE
073	3688174.6341	536344.8200	2.4570	BARE
074	3681668.5257	559409.6795	18.4986	LFVA47
075	3681668.5204	559409.6609	18.5087	LFVA47
076	3681668.5365	559409.7004	18.5099	LFVA47
077	3681668.5246	559409.6609	18.4911	LFVA47
078	3681668.5312	559409.6683	18.5041	LFVA47
079	3681668.5246	559409.6693	18.5152	LFVA47
080	3681668.5506	559409.6823	18.5018	LFVA47
081	3681668.5526	559409.6861	18.5124	LFVA47
082	3681668.5213	559409.6734	18.5133	LFVA47
083	3681668.5334	559409.6839	18.5201	LFVA47
084	3680030.7401	559087.1806	18.2303	LFVA48
085	3680030.7391	559087.1618	18.1930	LFVA48
086	3680030.7577	559087.1909	18.1945	LFVA48
087	3680030.7585	559087.2009	18.2002	LFVA48
088	3680030.7515	559087.1778	18.1729	LFVA48
089	3680030.7542	559087.1758	18.1751	LFVA48
090	3680030.7693	559087.1830	18.2065	LFVA48
091	3680030.7552	559087.1835	18.2245	LFVA48
092	3680030.7924	559087.1799	18.2277	LFVA48
093	3680030.7498	559087.1800	18.2031	LFVA48
094	3668494.4509	557266.9811	18.9115	LFVA49
095	3668494.4570	557266.9708	18.9235	LFVA49
096	3668494.3904	557267.0856	18.8786	LFVA49
097	3668494.4078	557267.0426	18.8499	LFVA49
098	3668494.3771	557267.0458	18.8608	LFVA49
099	3668494.3681	557267.0431	18.8608	LFVA49
100	3668494.3806	557267.0408	18.8288	LFVA49
101	3668494.3717	557267.0329	18.8481	LFVA49
102	3668494.3338	557267.0430	18.8588	LFVA49
103	3668494.3155	557267.0556	18.8621	LFVA49
104	3668494.3610	557267.0583	18.8420	LFVA49
105	3668494.3757	557267.0440	18.8497	LFVA49
106	3675283.9720	543696.2682	5.7468	BASECHEK
A148	3675283.4392	543696.0743	5.7120	

Point	Easting	Northing	Elev	Description
001	3712188.3976	517906.5309	2.3004	BASECHEK
002	3712654.5831	518218.3345	19.5813	LFVA50
003	3712654.5900	518218.3698	19.5961	LFVA50
004	3712654.5834	518218.3705	19.6076	LFVA50
005	3712654.5617	518218.3558	19.5448	LFVA50
006	3712654.5709	518218.3517	19.5794	LFVA50
007	3712654.5662	518218.3520	19.5773	LFVA50
008	3712654.5437	518218.3495	19.5704	LFVA50
009	3712654.5610	518218.3698	19.5937	LFVA50
010	3712654.5728	518218.3548	19.5247	LFVA50
011	3712654.5803	518218.3588	19.5792	LFVA50
012	3696955.4620	520731.6118	-5.2317	STRIPE
013	3696990.3631	520730.1420	-4.9841	STRIPE
014	3697016.1147	520729.0307	-5.0181	STRIPE
015	3697049.4225	520727.3976	-5.1207	STRIPE
016	3697053.7446	520799.3880	-4.9415	STRIPE
017	3697019.8730	520800.8527	-4.8264	STRIPE
018	3696993.3919	520802.3983	-4.7921	STRIPE
019	3696957.4008	520803.8355	-5.0161	STRIPE
020	3696830.8695	520594.5386	-4.6586	BARE
021	3696807.3088	520576.2778	-4.6740	BARE
022	3696773.6036	520589.2408	-4.7179	BARE
023	3696757.2129	520612.4223	-4.8464	BARE
024	3696880.3051	520620.4050	-4.8188	LOTREES
025	3696904.8791	520615.0430	-5.1427	LOTREES
026	3696958.9832	520613.3543	-4.4669	LOTREES
027	3696991.0933	520610.8393	-4.7038	LOTREES
028	3697428.9007	510372.3084	-4.5413	LOTREES
029	3697440.4410	510367.0288	-4.1168	LOTREES
030	3697470.1249	510379.5621	-4.1058	LOTREES
031	3697476.0629	510369.7114	-3.7910	HIGRASS
032	3697487.3553	510349.3383	-3.1273	HIGRASS
033	3697498.1717	510334.9041	-2.9983	HIGRASS
034	3697504.1723	510312.6641	-3.2179	HIGRASS
035	3697511.7284	510287.3258	-3.3754	HIGRASS
036	3697496.6309	510260.7911	-3.4140	LOTREES
037	3697464.6518	510239.8544	-3.9556	LOTREES
038	3697438.1936	510295.7196	-3.6675	HIGRASS
039	3697407.5114	510301.2930	-3.8409	HIGRASS
040	3697385.3464	510295.7028	-3.8065	HIGRASS
041	3697375.7367	510281.6845	-3.9637	HIGRASS
042	3697373.4956	510264.9420	-3.9826	HIGRASS
043	3697260.8647	510280.1154	-4.2550	EC
044	3697260.1358	510267.5220	-4.3253	EC
045	3697259.4138	510250.3656	-4.2578	EC
046	3697258.7943	510237.2071	-4.0656	EC
047	3697256.9869	510197.8138	-4.1323	EC
048	3697255.8210	510169.3558	-4.1158	EC
049	3712654.5904	518218.3944	19.6540	LFVA50
050	3712654.5779	518218.3828	19.7063	LFVA50
051	3712654.5674	518218.3833	19.6843	LFVA50
052	3712654.5720	518218.4085	19.6230	LFVA50
053	3712654.5503	518218.4026	19.6263	LFVA50
054	3712654.5812	518218.3901	19.6522	LFVA50
055	3712654.5709	518218.3981	19.5940	LFVA50
056	3712654.5734	518218.3964	19.5718	LFVA50
057	3712654.5737	518218.3831	19.5979	LFVA50
058	3712654.5710	518218.3832	19.6010	LFVA50

V375	3712188.5681	517907.0252	2.2639

Appendix H: NATIONAL GEODETIC SURVEY (NGS) OPUS-RS

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:10 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA01.O00 OP1335485269281

FILE: QCFVA01.O00 OP1335485269281

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068s.12o TIME: 00:09:42 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.73 START: 2012/03/08 18:23:01
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 18:45:02
NAV FILE: brdc0680.12n OBS USED: 1287 / 1503 : 86%
ANT NAME: LEIAT502 NONE QUALITY IND. 8.67/ 14.83
ARP HEIGHT: 1.560 NORMALIZED RMS: 0.340

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18517)

X:	-41454.314(m)	0.003(m)	-41455.046(m)	0.003(m)
Y:	-5528181.529(m)	0.025(m)	-5528180.040(m)	0.025(m)
Z:	3170193.857(m)	0.017(m)	3170193.649(m)	0.017(m)

LAT:	29 59 53.63682	0.005(m)	29 59 53.65506	0.005(m)
E LON:	269 34 13.30589	0.003(m)	269 34 13.27817	0.003(m)
W LON:	90 25 46.69411	0.003(m)	90 25 46.72183	0.003(m)
EL HGT:	-20.382(m)	0.030(m)	-21.770(m)	0.030(m)
ORTHO HGT:	5.770(m)	0.032(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3321371.384	166414.295
Easting (X) [meters]	747951.824	1087188.440
Convergence [degrees]	1.28576947	0.45185951
Point Scale	1.00035859	0.99992575
Combined Factor	1.00036179	0.99992895

US NATIONAL GRID DESIGNATOR: 15RYP4795121371(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9596	DSTR DESTRAHAN H.S. CORS ARP	N295752.395	W0902256.007	5905.3

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 30695.9
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 48886.3
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 53225.9
AJ7833 HAMM HAMMOND CORS ARP N303047.051 W0902803.428 57189.9
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 61953.6
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 78750.5
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 85386.4
DH3836 MSSC STENNIS SPACE CTR CORS ARP N302230.794 W0893649.903 88985.8

NEAREST NGS PUBLISHED CONTROL POINT
BJ0710 G 95 N300002.352 W0902544.927 273.6

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

dstr	-36892.833	-5530079.499	3166960.829
nola	-11604.037	-5531876.850	3164070.915
eng6	5594.597	-5534921.906	3158759.190
houm	-70100.641	-5550262.328	3131144.906
hamm	-44885.215	-5499419.437	3219506.425
covg	-9174.163	-5501675.393	3215950.531
sjb1	-106395.195	-5505141.485	3208320.282
lmcn	-64275.993	-5568696.879	3098580.612
mssc	37114.973	-5507204.506	3206321.893
qcfv	-41455.046	-5528180.040	3170193.649

Covariance matrix of the stations:
1 2.3610E-07 9.6090E-07 -5.2370E-07 -1.5070E-08 -7.6280E-08 4.2300E-08
-1.5130E-08 -3.7490E-08 2.1520E-08 -1.5970E-08 -1.9730E-07 1.0700E-07 -
1.5290E-08 -1.5210E-07 8.3050E-08 -1.4960E-08 -7.2220E-08 3.9070E-08 -
1.7190E-08 -2.8020E-07 1.5290E-07 -1.5860E-08 -1.8190E-07 9.8610E-08 -
1.5490E-08 3.6510E-08 -2.0670E-08 1.4180E-08 -1.6780E-07 9.0360E-08
2 9.6090E-07 1.7760E-04 -9.4580E-05 -8.2220E-08 -2.2420E-05 1.1910E-05
-4.7400E-08 -2.2490E-05 1.1930E-05 -1.8720E-07 -2.1730E-05 1.1350E-05 -
1.5020E-07 -2.2310E-05 1.2090E-05 -7.8310E-08 -2.2440E-05 1.2170E-05 -
2.6510E-07 -2.2120E-05 1.1880E-05 -1.7010E-07 -2.1280E-05 1.0980E-05
1.9700E-08 -2.2640E-05 1.2270E-05 -3.0380E-08 -1.1620E-06 5.9340E-07
3 -5.2370E-07 -9.4580E-05 5.0730E-05 4.3230E-08 1.1910E-05 -6.3450E-06
2.2870E-08 1.1930E-05 -6.3500E-06 1.0250E-07 1.1320E-05 -5.9230E-06
8.5220E-08 1.2110E-05 -6.5970E-06 4.2310E-08 1.2190E-05 -6.6480E-06
1.5250E-07 1.1890E-05 -6.4180E-06 9.1250E-08 1.0920E-05 -5.6410E-06 -
1.6150E-08 1.2300E-05 -6.6980E-06 1.2600E-08 1.9230E-08 2.9530E-08
4 -1.5070E-08 -8.2220E-08 4.3230E-08 2.3290E-07 5.7120E-07 -3.1640E-07
-9.4060E-09 5.8920E-09 -4.9430E-09 -1.9780E-08 -1.2960E-07 5.8740E-08 -
1.6230E-08 -9.9810E-08 6.5870E-08 -1.1190E-08 -2.3430E-08 2.3980E-08 -
2.5920E-08 -2.2370E-07 1.2870E-07 -1.8710E-08 -9.7620E-08 3.4280E-08 -
5.4730E-09 7.9370E-08 -3.3590E-08 1.7490E-08 7.3710E-07 -3.9700E-07
5 -7.6280E-08 -2.2420E-05 1.1910E-05 5.7120E-07 1.7890E-04 -9.5330E-05
1.3200E-09 -2.2670E-05 1.2030E-05 -1.2750E-07 -2.1960E-05 1.1490E-05 -

9.3680E-08 -2.2490E-05 1.2180E-05 -2.7270E-08 -2.2610E-05 1.2250E-05 -
1.9960E-07 -2.2310E-05 1.1980E-05 -1.1150E-07 -2.1530E-05 1.1140E-05
6.3360E-08 -2.2800E-05 1.2350E-05 2.9860E-08 -2.5620E-06 1.3410E-06
   6   4.2300E-08 1.1910E-05 -6.3450E-06 -3.1640E-07 -9.5330E-05 5.1150E-05
-3.3580E-09 1.2030E-05 -6.4080E-06 7.0410E-08 1.1440E-05 -5.9990E-06
5.4810E-08 1.2210E-05 -6.6450E-06 1.4840E-08 1.2290E-05 -6.6950E-06
1.1720E-07 1.2000E-05 -6.4740E-06 5.9780E-08 1.1060E-05 -5.7290E-06 -
3.9680E-08 1.2390E-05 -6.7420E-06 -1.9870E-08 7.5650E-07 -3.6900E-07
   7 -1.5130E-08 -4.7400E-08 2.2870E-08 -9.4060E-09 1.3200E-09 -3.3580E-09
2.3570E-07 2.9300E-07 -1.6910E-07 -2.2570E-08 -8.1930E-08 2.4900E-08 -
1.7040E-08 -6.3010E-08 5.3560E-08 -8.7590E-09 1.0960E-08 1.3110E-08 -
3.2120E-08 -1.8400E-07 1.1160E-07 -2.0840E-08 -3.8480E-08 -1.0710E-08
1.2840E-09 1.0970E-07 -4.2950E-08 2.1610E-08 1.3590E-06 -7.3210E-07
   8 -3.7490E-08 -2.2490E-05 1.1930E-05 5.8920E-09 -2.2670E-05 1.2030E-05
2.9300E-07 1.7940E-04 -9.5510E-05 -8.6160E-08 -2.2030E-05 1.1520E-05 -
5.4300E-08 -2.2570E-05 1.2200E-05 9.2230E-09 -2.2680E-05 1.2270E-05 -
1.5530E-07 -2.2390E-05 1.2010E-05 -7.0730E-08 -2.1610E-05 1.1180E-05
9.6000E-08 -2.2870E-05 1.2370E-05 6.4950E-08 -3.1500E-06 1.6430E-06
   9   2.1520E-08 1.1930E-05 -6.3500E-06 -4.9430E-09 1.2030E-05 -6.4080E-06
-1.6910E-07 -9.5510E-05 5.1190E-05 4.9280E-08 1.1470E-05 -6.0050E-06
3.4000E-08 1.2240E-05 -6.6520E-06 -5.6290E-09 1.2320E-05 -6.7020E-06
9.5850E-08 1.2030E-05 -6.4810E-06 3.8700E-08 1.1080E-05 -5.7340E-06 -
5.9710E-08 1.2420E-05 -6.7490E-06 -4.0230E-08 8.3950E-07 -4.0590E-07
  10 -1.5970E-08 -1.8720E-07 1.0250E-07 -1.9780E-08 -1.2750E-07 7.0410E-08
-2.2570E-08 -8.6160E-08 4.9280E-08 2.5250E-07 1.3810E-06 -7.1850E-07 -
1.4730E-08 -2.1370E-07 1.0080E-07 -2.0050E-08 -1.2980E-07 5.4430E-08 -
7.2190E-09 -3.4580E-07 1.7860E-07 -1.2950E-08 -2.7700E-07 1.7050E-07 -
2.8130E-08 -1.3900E-08 -7.9440E-09 3.2470E-09 -1.2460E-06 6.6860E-07
  11 -1.9730E-07 -2.1730E-05 1.1320E-05 -1.2960E-07 -2.1960E-05 1.1440E-05
-8.1930E-08 -2.2030E-05 1.1470E-05 1.3810E-06 1.7440E-04 -9.1560E-05 -
2.2410E-07 -2.2010E-05 1.1790E-05 -1.2490E-07 -2.2180E-05 1.1900E-05 -
3.8270E-07 -2.1680E-05 1.1480E-05 -2.5000E-07 -2.0300E-05 1.0150E-05
9.4980E-09 -2.2420E-05 1.2010E-05 -5.0620E-08 3.8160E-06 -2.2980E-06
  12   1.0700E-07 1.1350E-05 -5.9230E-06 5.8740E-08 1.1490E-05 -5.9990E-06
2.4900E-08 1.1520E-05 -6.0050E-06 -7.1850E-07 -9.1560E-05 4.8450E-05
1.2770E-07 1.1760E-05 -6.3670E-06 5.6510E-08 1.1870E-05 -6.4370E-06
2.4100E-07 1.1450E-05 -6.1140E-06 1.4260E-07 1.0120E-05 -4.9920E-06 -
3.9650E-08 1.2010E-05 -6.5010E-06 5.5410E-09 -5.3040E-06 3.0020E-06
  13 -1.5290E-08 -1.5020E-07 8.5220E-08 -1.6230E-08 -9.3680E-08 5.4810E-08
-1.7040E-08 -5.4300E-08 3.4000E-08 -1.4730E-08 -2.2410E-07 1.2770E-07
2.3860E-07 1.1040E-06 -6.2320E-07 -1.6210E-08 -8.8290E-08 4.6370E-08 -
1.4260E-08 -3.0010E-07 1.6390E-07 -1.4960E-08 -2.1540E-07 1.2530E-07 -
1.8840E-08 2.2370E-08 -1.4070E-08 9.1920E-09 -4.6520E-07 2.5290E-07
  14 -1.5210E-07 -2.2310E-05 1.2110E-05 -9.9810E-08 -2.2490E-05 1.2210E-05
-6.3010E-08 -2.2570E-05 1.2240E-05 -2.1370E-07 -2.2010E-05 1.1760E-05
1.1040E-06 1.7790E-04 -9.6640E-05 -9.4260E-08 -2.2220E-05 1.2330E-05 -
2.9160E-07 -2.2050E-05 1.2120E-05 -1.9700E-07 -2.1690E-05 1.1440E-05
7.8280E-09 -2.2430E-05 1.2430E-05 -3.3340E-08 -7.1820E-07 6.1360E-07
  15   8.3050E-08 1.2090E-05 -6.5970E-06 6.5870E-08 1.2180E-05 -6.6450E-06
5.3560E-08 1.2200E-05 -6.6520E-06 1.0080E-07 1.1790E-05 -6.3670E-06 -
6.2320E-07 -9.6640E-05 5.2910E-05 6.5320E-08 1.2320E-05 -6.8220E-06
1.3100E-07 1.2130E-05 -6.6720E-06 9.3700E-08 1.1530E-05 -6.1810E-06
2.9770E-08 1.2400E-05 -6.8630E-06 3.8340E-08 3.4090E-06 -1.9440E-06
  16 -1.4960E-08 -7.8310E-08 4.2310E-08 -1.1190E-08 -2.7270E-08 1.4840E-08

-8.7590E-09 9.2230E-09 -5.6290E-09 -2.0050E-08 -1.2490E-07 5.6510E-08 -
1.6210E-08 -9.4260E-08 6.5320E-08 2.3220E-07 5.4210E-07 -2.9840E-07 -
2.6640E-08 -2.1840E-07 1.2780E-07 -1.8900E-08 -9.2090E-08 3.0870E-08 -
4.4130E-09 8.4040E-08 -3.3740E-08 1.8170E-08 8.2220E-07 -4.4140E-07
  17 -7.2220E-08 -2.2440E-05 1.2190E-05 -2.3430E-08 -2.2610E-05 1.2290E-05
1.0960E-08 -2.2680E-05 1.2320E-05 -1.2980E-07 -2.2180E-05 1.1870E-05 -
8.8290E-08 -2.2220E-05 1.2320E-05 5.4210E-07 1.7880E-04 -9.7250E-05 -
2.0230E-07 -2.2180E-05 1.2190E-05 -1.1420E-07 -2.1890E-05 1.1580E-05
7.7170E-08 -2.2510E-05 1.2480E-05 4.0200E-08 -1.7270E-06 1.1700E-06
  18   3.9070E-08 1.2170E-05 -6.6480E-06 2.3980E-08 1.2250E-05 -6.6950E-06
1.3110E-08 1.2270E-05 -6.7020E-06 5.4430E-08 1.1900E-05 -6.4370E-06
4.6370E-08 1.2330E-05 -6.8220E-06 -2.9840E-07 -9.7250E-05 5.3290E-05
8.1350E-08 1.2210E-05 -6.7180E-06 4.7950E-08 1.1660E-05 -6.2650E-06 -
7.9120E-09 1.2460E-05 -6.8960E-06 -1.8540E-09 4.0170E-06 -2.2780E-06
  19 -1.7190E-08 -2.6510E-07 1.5250E-07 -2.5920E-08 -1.9960E-07 1.1720E-07
-3.2120E-08 -1.5530E-07 9.5850E-08 -7.2190E-09 -3.8270E-07 2.4100E-07 -
1.4260E-08 -2.9160E-07 1.3100E-07 -2.6640E-08 -2.0230E-07 8.1350E-08
2.8820E-07 1.9870E-06 -1.1110E-06 -9.7320E-09 -4.1310E-07 2.7680E-07 -
4.4100E-08 -7.7570E-08 1.5770E-08 -7.0330E-09 -2.5960E-06 1.4010E-06
  20 -2.8020E-07 -2.2120E-05 1.1890E-05 -2.2370E-07 -2.2310E-05 1.2000E-05
-1.8400E-07 -2.2390E-05 1.2030E-05 -3.4580E-07 -2.1680E-05 1.1450E-05 -
3.0010E-07 -2.2050E-05 1.2130E-05 -2.1840E-07 -2.2180E-05 1.2210E-05
1.9870E-06 1.7650E-04 -9.5110E-05 -3.2730E-07 -2.1270E-05 1.1080E-05 -
1.0740E-07 -2.2400E-05 1.2320E-05 -1.5390E-07 5.5110E-07 -1.8190E-07
  21   1.5290E-07 1.1880E-05 -6.4180E-06 1.2870E-07 1.1980E-05 -6.4740E-06
1.1160E-07 1.2010E-05 -6.4810E-06 1.7860E-07 1.1480E-05 -6.1140E-06
1.6390E-07 1.2120E-05 -6.6720E-06 1.2780E-07 1.2190E-05 -6.7180E-06 -
1.1110E-06 -9.5110E-05 5.1630E-05 1.6910E-07 1.1150E-05 -5.8740E-06
7.8490E-08 1.2290E-05 -6.7660E-06 9.5440E-08 1.4070E-06 -8.0400E-07
  22 -1.5860E-08 -1.7010E-07 9.1250E-08 -1.8710E-08 -1.1150E-07 5.9780E-08
-2.0840E-08 -7.0730E-08 3.8700E-08 -1.2950E-08 -2.5000E-07 1.4260E-07 -
1.4960E-08 -1.9700E-07 9.3700E-08 -1.8900E-08 -1.1420E-07 4.7950E-08 -
9.7320E-09 -3.2730E-07 1.6910E-07 2.4820E-07 1.2410E-06 -6.2910E-07 -
2.5130E-08 -5.4580E-12 -1.3810E-08 5.1280E-09 -9.7990E-07 5.2410E-07
  23 -1.8190E-07 -2.1280E-05 1.0920E-05 -9.7620E-08 -2.1530E-05 1.1060E-05
-3.8480E-08 -2.1610E-05 1.1080E-05 -2.7700E-07 -2.0300E-05 1.0120E-05 -
2.1540E-07 -2.1690E-05 1.1530E-05 -9.2090E-08 -2.1890E-05 1.1660E-05 -
4.1310E-07 -2.1270E-05 1.1150E-05 1.2410E-06 1.7180E-04 -8.9310E-05
7.4660E-08 -2.2160E-05 1.1780E-05 -5.0180E-09 8.4950E-06 -4.9590E-06
  24   9.8610E-08 1.0980E-05 -5.6410E-06 3.4280E-08 1.1140E-05 -5.7290E-06
-1.0710E-08 1.1180E-05 -5.7340E-06 1.7050E-07 1.0150E-05 -4.9920E-06
1.2530E-07 1.1440E-05 -6.1810E-06 3.0870E-08 1.1580E-05 -6.2650E-06
2.7680E-07 1.1080E-05 -5.8740E-06 -6.2910E-07 -8.9310E-05 4.6870E-05 -
9.6350E-08 1.1750E-05 -6.3390E-06 -3.2270E-08 -9.8060E-06 5.4990E-06
  25 -1.5490E-08 1.9700E-08 -1.6150E-08 -5.4730E-09 6.3360E-08 -3.9680E-08
1.2840E-09 9.6000E-08 -5.9710E-08 -2.8130E-08 9.4980E-09 -3.9650E-08 -
1.8840E-08 7.8280E-09 2.9770E-08 -4.4130E-09 7.7170E-08 -7.9120E-09 -
4.4100E-08 -1.0740E-07 7.8490E-08 -2.5130E-08 7.4660E-08 -9.6350E-08
2.5140E-07 -2.4060E-07 1.5100E-07 2.9140E-08 2.5370E-06 -1.3660E-06
  26   3.6510E-08 -2.2640E-05 1.2300E-05 7.9370E-08 -2.2800E-05 1.2390E-05
1.0970E-07 -2.2870E-05 1.2420E-05 -1.3900E-08 -2.2420E-05 1.2010E-05
2.2370E-08 -2.2430E-05 1.2400E-05 8.4040E-08 -2.2510E-05 1.2460E-05 -
7.7570E-08 -2.2400E-05 1.2290E-05 -5.4580E-12 -2.2160E-05 1.1750E-05 -
2.4060E-07 1.8040E-04 -9.8010E-05 1.3820E-07 -3.4310E-06 2.0780E-06

27 -2.0670E-08 1.2270E-05 -6.6980E-06 -3.3590E-08 1.2350E-05 -6.7420E-06
-4.2950E-08 1.2370E-05 -6.7490E-06 -7.9440E-09 1.2010E-05 -6.5010E-06 -
1.4070E-08 1.2430E-05 -6.8630E-06 -3.3740E-08 1.2480E-05 -6.8960E-06
1.5770E-08 1.2320E-05 -6.7660E-06 -1.3810E-08 1.1780E-05 -6.3390E-06
1.5100E-07 -9.8010E-05 5.3670E-05 -5.7680E-08 4.6600E-06 -2.6180E-06
28 1.4180E-08 -3.0380E-08 1.2600E-08 1.7490E-08 2.9860E-08 -1.9870E-08
2.1610E-08 6.4950E-08 -4.0230E-08 3.2470E-09 -5.0620E-08 5.5410E-09
9.1920E-09 -3.3340E-08 3.8340E-08 1.8170E-08 4.0200E-08 -1.8540E-09 -
7.0330E-09 -1.5390E-07 9.5440E-08 5.1280E-09 -5.0180E-09 -3.2270E-08
2.9140E-08 1.3820E-07 -5.7680E-08 2.2300E-06 1.2780E-06 -7.9560E-07
29 -1.6780E-07 -1.1620E-06 1.9230E-08 7.3710E-07 -2.5620E-06 7.5650E-07
1.3590E-06 -3.1500E-06 8.3950E-07 -1.2460E-06 3.8160E-06 -5.3040E-06 -
4.6520E-07 -7.1820E-07 3.4090E-06 8.2220E-07 -1.7270E-06 4.0170E-06 -
2.5960E-06 5.5110E-07 1.4070E-06 -9.7990E-07 8.4950E-06 -9.8060E-06
2.5370E-06 -3.4310E-06 4.6600E-06 1.2780E-06 6.9430E-04 -3.6580E-04
30 9.0360E-08 5.9340E-07 2.9530E-08 -3.9700E-07 1.3410E-06 -3.6900E-07
-7.3210E-07 1.6430E-06 -4.0590E-07 6.6860E-07 -2.2980E-06 3.0020E-06
2.5290E-07 6.1360E-07 -1.9440E-06 -4.4140E-07 1.1700E-06 -2.2780E-06
1.4010E-06 -1.8190E-07 -8.0400E-07 5.2410E-07 -4.9590E-06 5.4990E-06 -
1.3660E-06 2.0780E-06 -2.6180E-06 -7.9560E-07 -3.6580E-04 1.9610E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000022300 0.0000012780 -0.0000007956
0.0000012780 0.0006943000 -0.0003658000
-0.0000007956 -0.0003658000 0.0001961000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000022497 -0.0000002565 0.0000043620
-0.0000002565 0.0000036717 -0.0000302300
0.0000043620 -0.0000302300 0.0008867085

Horizontal network accuracy = 0.00424 meters.
Vertical network accuracy = 0.05839 meters.

Vectors

To	From	X	Y	Z
dstr	qcfv	4562.213	-1899.459	-3232.820
nola	qcfv	29851.009	-3696.810	-6122.734
eng6	qcfv	47049.644	-6741.866	-11434.459
houm	qcfv	-28645.594	-22082.288	-39048.743
hamm	qcfv	-3430.169	28760.603	49312.776
covg	qcfv	32280.884	26504.647	45756.882
sjb1	qcfv	-64940.149	23038.556	38126.633
lmcn	qcfv	-22820.947	-40516.839	-71613.037
mssc	qcfv	78570.019	20975.535	36128.244

Covariance matrix of the 9 vectors
1 2.4377E-06 2.4371E-06 -1.4223E-06 2.1833E-06 1.3397E-06 -8.2379E-07
2.1791E-06 1.3434E-06 -8.2421E-07 2.1966E-06 1.2991E-06 -7.8450E-07
2.1913E-06 1.3270E-06 -8.4125E-07 2.1827E-06 1.3334E-06 -8.4504E-07
2.2057E-06 1.3195E-06 -8.2850E-07 2.1948E-06 1.2689E-06 -7.5508E-07
2.1712E-06 1.3441E-06 -8.4895E-07
2 2.4371E-06 8.7422E-04 -4.6099E-04 4.8906E-07 6.7560E-04 -3.5524E-04

-9.8020E-08 6.7612E-04 -3.5530E-04 2.3672E-06 6.6992E-04 -3.4974E-04
1.6234E-06 6.7387E-04 -3.5771E-04 4.0787E-07 6.7475E-04 -3.5824E-04
3.6393E-06 6.7279E-04 -3.5592E-04 2.1182E-06 6.6569E-04 -3.4561E-04 -
1.2089E-06 6.7625E-04 -3.5878E-04
  3 -1.4223E-06 -4.6099E-04 2.4677E-04 -3.6797E-07 -3.5525E-04 1.9009E-04
-5.3230E-08 -3.5553E-04 1.9013E-04 -1.3743E-06 -3.5220E-04 1.8715E-04 -
9.7588E-07 -3.5432E-04 1.9142E-04 -3.2449E-07 -3.5480E-04 1.9170E-04 -
2.0567E-06 -3.5375E-04 1.9046E-04 -1.2410E-06 -3.4994E-04 1.8493E-04
5.4165E-07 -3.5560E-04 1.9199E-04
  4 2.1833E-06 4.8906E-07 -3.6797E-07 2.4279E-06 1.0822E-06 -6.9513E-07
2.1815E-06 4.8184E-07 -3.6331E-07 2.1895E-06 4.6192E-07 -3.4540E-07
2.1871E-06 4.7443E-07 -3.7107E-07 2.1832E-06 4.7727E-07 -3.7277E-07
2.1936E-06 4.7110E-07 -3.6534E-07 2.1887E-06 4.4830E-07 -3.3205E-07
2.1779E-06 4.8207E-07 -3.7451E-07
  5 1.3397E-06 6.7560E-04 -3.5525E-04 1.0822E-06 8.7832E-04 -4.6323E-04
-1.0954E-07 6.7734E-04 -3.5595E-04 2.3666E-06 6.7109E-04 -3.5035E-04
1.6197E-06 6.7509E-04 -3.5837E-04 3.9867E-07 6.7598E-04 -3.5891E-04
3.6445E-06 6.7400E-04 -3.5657E-04 2.1165E-06 6.6684E-04 -3.4619E-04 -
1.2255E-06 6.7749E-04 -3.5945E-04
  6 -8.2379E-07 -3.5524E-04 1.9009E-04 -6.9513E-07 -4.6323E-04 2.4799E-04
-4.6988E-08 -3.5617E-04 1.9047E-04 -1.3739E-06 -3.5282E-04 1.8747E-04 -
9.7382E-07 -3.5496E-04 1.9177E-04 -3.1949E-07 -3.5544E-04 1.9205E-04 -
2.0595E-06 -3.5437E-04 1.9080E-04 -1.2400E-06 -3.5054E-04 1.8524E-04
5.5059E-07 -3.5624E-04 1.9234E-04
  7 2.1791E-06 -9.8020E-08 -5.3230E-08 2.1815E-06 -1.0954E-07 -4.6988E-08
2.4225E-06 1.4705E-07 -1.9237E-07 2.1826E-06 -1.1231E-07 -4.4141E-08
2.1822E-06 -1.1067E-07 -4.8280E-08 2.1815E-06 -1.1024E-07 -4.8536E-08
2.1833E-06 -1.1110E-07 -4.7340E-08 2.1824E-06 -1.1446E-07 -4.1940E-08
2.1805E-06 -1.0950E-07 -4.8770E-08
  8 1.3434E-06 6.7612E-04 -3.5553E-04 4.8184E-07 6.7734E-04 -3.5617E-04
1.4705E-07 8.8000E-04 -4.6379E-04 2.3729E-06 6.7160E-04 -3.5062E-04
1.6240E-06 6.7560E-04 -3.5865E-04 4.0007E-07 6.7650E-04 -3.5919E-04
3.6537E-06 6.7451E-04 -3.5684E-04 2.1222E-06 6.6734E-04 -3.4646E-04 -
1.2280E-06 6.7801E-04 -3.5973E-04
  9 -8.2421E-07 -3.5530E-04 1.9013E-04 -3.6331E-07 -3.5595E-04 1.9047E-04
-1.9237E-07 -4.6379E-04 2.4810E-04 -1.3747E-06 -3.5287E-04 1.8750E-04 -
9.7427E-07 -3.5501E-04 1.9180E-04 -3.1960E-07 -3.5549E-04 1.9208E-04 -
2.0605E-06 -3.5443E-04 1.9083E-04 -1.2408E-06 -3.5060E-04 1.8527E-04
5.5092E-07 -3.5630E-04 1.9237E-04
  10 2.1966E-06 2.3672E-06 -1.3743E-06 2.1895E-06 2.3666E-06 -1.3739E-06
2.1826E-06 2.3729E-06 -1.3747E-06 2.4760E-06 3.9556E-06 -2.1882E-06
2.2028E-06 2.3436E-06 -1.4017E-06 2.1885E-06 2.3540E-06 -1.4079E-06
2.2266E-06 2.3321E-06 -1.3810E-06 2.2087E-06 2.2520E-06 -1.2614E-06
2.1695E-06 2.3719E-06 -1.4145E-06
  11 1.2991E-06 6.6992E-04 -3.5220E-04 4.6192E-07 6.7109E-04 -3.5282E-04
-1.1231E-07 6.7160E-04 -3.5287E-04 3.9556E-06 8.6107E-04 -4.4976E-04
1.5697E-06 6.6919E-04 -3.5512E-04 3.8152E-07 6.7003E-04 -3.5562E-04
3.5419E-06 6.6825E-04 -3.5343E-04 2.0585E-06 6.6169E-04 -3.4355E-04 -
1.1989E-06 6.7150E-04 -3.5615E-04
  12 -7.8450E-07 -3.4974E-04 1.8715E-04 -3.4540E-07 -3.5035E-04 1.8747E-04
-4.4141E-08 -3.5062E-04 1.8750E-04 -2.1882E-06 -4.4976E-04 2.3855E-04 -
9.2634E-07 -3.4935E-04 1.8867E-04 -3.0323E-07 -3.4980E-04 1.8894E-04 -
1.9611E-06 -3.4886E-04 1.8779E-04 -1.1826E-06 -3.4542E-04 1.8261E-04
5.2521E-07 -3.5056E-04 1.8922E-04

13 2.1913E-06 1.6234E-06 -9.7588E-07 2.1871E-06 1.6197E-06 -9.7382E-07
2.1822E-06 1.6240E-06 -9.7427E-07 2.2028E-06 1.5697E-06 -9.2634E-07
2.4502E-06 2.8805E-06 -1.7100E-06 2.1864E-06 1.6147E-06 -1.0003E-06
2.2136E-06 1.5970E-06 -9.8004E-07 2.2007E-06 1.5328E-06 -8.9093E-07
2.1728E-06 1.6274E-06 -1.0049E-06
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2.1815E-06 4.0007E-07 -3.1960E-07 2.1885E-06 3.8152E-07 -3.0323E-07
2.1864E-06 3.9488E-07 -3.2722E-07 2.4259E-06 9.5770E-07 -6.5075E-07
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5.0632E-07 -3.4632E-04 1.8688E-04
  25   2.1712E-06 -1.2089E-06 5.4165E-07 2.1779E-06 -1.2255E-06 5.5059E-07
2.1805E-06 -1.2280E-06 5.5092E-07 2.1695E-06 -1.1989E-06 5.2521E-07
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2.4231E-06 -1.6378E-06 7.7908E-07
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-1.0950E-07 6.7801E-04 -3.5630E-04 2.3719E-06 6.7150E-04 -3.5056E-04
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1.6378E-06 8.8156E-04 -4.7055E-04
  27 -8.4895E-07 -3.5878E-04 1.9199E-04 -3.7451E-07 -3.5945E-04 1.9234E-04
-4.8770E-08 -3.5973E-04 1.9237E-04 -1.4145E-06 -3.5615E-04 1.8921E-04 -
1.0049E-06 -3.5864E-04 1.9380E-04 -3.3026E-07 -3.5915E-04 1.9410E-04 -
2.1232E-06 -3.5796E-04 1.9276E-04 -1.2758E-06 -3.5372E-04 1.8688E-04
7.7908E-07 -4.7055E-04 2.5501E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 5.2792E-02 -5.7988E-02 8.9742E-01 2.8952E-02 -3.3505E-02
8.9670E-01 2.9004E-02 -3.3514E-02 8.9409E-01 2.8355E-02 -3.2532E-02
8.9663E-01 2.8756E-02 -3.3881E-02 8.9756E-01 2.8845E-02 -3.3963E-02
8.8775E-01 2.8657E-02 -3.3605E-02 8.9483E-01 2.7891E-02 -3.1753E-02
8.9334E-01 2.8994E-02 -3.4050E-02
   2   5.2792E-02 1.0000E+00 -9.9251E-01 1.0615E-02 7.7100E-01 -7.6295E-01
-2.1300E-03 7.7085E-01 -7.6291E-01 5.0880E-02 7.7213E-01 -7.6586E-01
3.5076E-02 7.7108E-01 -7.6076E-01 8.8568E-03 7.7080E-01 -7.6031E-01
7.7348E-02 7.7159E-01 -7.6234E-01 4.5602E-02 7.7264E-01 -7.6746E-01 -
2.6266E-02 7.7032E-01 -7.5988E-01
   3 -5.7988E-02 -9.9251E-01 1.0000E+00 -1.5033E-02 -7.6306E-01 7.6844E-01
-2.1771E-03 -7.6294E-01 7.6839E-01 -5.5598E-02 -7.6406E-01 7.7134E-01 -
3.9687E-02 -7.6311E-01 7.6623E-01 -1.3262E-02 -7.6286E-01 7.6578E-01 -
8.2275E-02 -7.6359E-01 7.6781E-01 -5.0289E-02 -7.6448E-01 7.7294E-01
2.2151E-02 -7.6240E-01 7.6535E-01
   4   8.9742E-01 1.0615E-02 -1.5033E-02 1.0000E+00 2.3436E-02 -2.8329E-02
8.9951E-01 1.0424E-02 -1.4803E-02 8.9299E-01 1.0103E-02 -1.4352E-02
8.9670E-01 1.0301E-02 -1.4975E-02 8.9957E-01 1.0346E-02 -1.5012E-02
8.8469E-01 1.0252E-02 -1.4849E-02 8.9412E-01 9.8734E-03 -1.3992E-02
8.9791E-01 1.0420E-02 -1.5051E-02
   5   2.8952E-02 7.7100E-01 -7.6306E-01 2.3436E-02 1.0000E+00 -9.9255E-01
-2.3747E-03 7.7044E-01 -7.6251E-01 5.0749E-02 7.7167E-01 -7.6539E-01
3.4914E-02 7.7067E-01 -7.6038E-01 8.6368E-03 7.7040E-01 -7.5995E-01
7.7279E-02 7.7117E-01 -7.6194E-01 4.5460E-02 7.7217E-01 -7.6697E-01 -
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8.2186E-02 -7.6307E-01 7.6730E-01 -5.0125E-02 -7.6390E-01 7.7233E-01
2.2461E-02 -7.6191E-01 7.6487E-01
   7   8.9670E-01 -2.1300E-03 -2.1771E-03 8.9951E-01 -2.3747E-03 -1.9171E-03

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8.8151E-01 -2.4205E-03 -1.9262E-03 8.9257E-01 -2.5238E-03 -1.7692E-03
9.0001E-01 -2.3695E-03 -1.9622E-03
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25 8.9334E-01 -2.6266E-02 2.2151E-02 8.9791E-01 -2.6564E-02 2.2461E-02
9.0001E-01 -2.6592E-02 2.2469E-02 8.8571E-01 -2.6246E-02 2.1845E-02
8.9173E-01 -2.6469E-02 2.2696E-02 8.9845E-01 -2.6516E-02 2.2750E-02
8.7352E-01 -2.6413E-02 2.2516E-02 8.8762E-01 -2.5999E-02 2.1356E-02
1.0000E+00 -3.5436E-02 3.1341E-02
26 2.8994E-02 7.7032E-01 -7.6240E-01 1.0420E-02 7.6993E-01 -7.6191E-01
-2.3695E-03 7.6978E-01 -7.6185E-01 5.0768E-02 7.7072E-01 -7.6446E-01
3.5015E-02 7.7031E-01 -7.6008E-01 8.6852E-03 7.7009E-01 -7.5967E-01
7.7427E-02 7.7064E-01 -7.6145E-01 4.5444E-02 7.7102E-01 -7.6584E-01 -
3.5436E-02 1.0000E+00 -9.9244E-01
27 -3.4050E-02 -7.5988E-01 7.6535E-01 -1.5051E-02 -7.5952E-01 7.6487E-01
-1.9622E-03 -7.5939E-01 7.6482E-01 -5.6291E-02 -7.6005E-01 7.6717E-01 -
4.0201E-02 -7.5984E-01 7.6314E-01 -1.3278E-02 -7.5965E-01 7.6275E-01 -
8.3551E-02 -7.6010E-01 7.6443E-01 -5.0857E-02 -7.6016E-01 7.6837E-01
3.1341E-02 -9.9244E-01 1.0000E+00

G-FILE for the vectors

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B20120308180020120308180 0 9 rsgps 1.37IGS
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C00100002 298510092 15 -36968099 296 -61227337 157
C00100003 470496435 15 -67418657 296 -114344586 157
C00100004 -286455944 15 -220822875 293 -390487429 154
C00100005 -34301685 15 287606032 295 493127759 159
C00100006 322808837 15 265046474 296 457568819 159
C00100007 -649401486 15 230385555 294 381266332 157
C00100008 -228209470 15 -405168389 291 -716130367 152
C00100009 785700192 15 209755345 296 361282441 159
D 1 2 527915 1 3 -579880 1 4 8974175 1 5 289516 1 6 -335048
D 1 7 8967045 1 8 290039 1 9 -335142 1 10 8940916 1 11 283554
D 1 12 -325322 1 13 8966304 1 14 287557 1 15 -338811 1 16 8975641
D 1 17 288450 1 18 -339633 1 19 8877502 1 20 286570 1 21 -336050
D 1 22 8948287 1 23 278906 1 24 -317527 1 25 8933397 1 26 289944
D 1 27 -340496 2 3 -9925116 2 4 106153 2 5 7709983 2 6 -7629481
D 2 7 -21299 2 8 7708544 2 9 -7629084 2 10 508796 2 11 7721297
D 2 12 -7658560 2 13 350757 2 14 7710801 2 15 -7607639 2 16 88568
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D 2 22 456019 2 23 7726391 2 24 -7674567 2 25 -262662 2 26 7703204
D 2 27 -7598813 3 4 -150330 3 5 -7630622 3 6 7684350 3 7 -21771
D 3 8 -7629404 3 9 7683876 3 10 -555979 3 11 -7640559 3 12 7713406 D
3 13 -396869 3 14 -7631093 3 15 7662347 3 16 -132623 3 17 -7628625 D 3
18 7657825 3 19 -822752 3 20 -7635930 3 21 7678112 3 22 -502891
D 3 23 -7644778 3 24 7729362 3 25 221505 3 26 -7624035 3 27 7653453
D 4 5 234357 4 6 -283291 4 7 8995115 4 8 104242 4 9 -148029
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D 4 15 -149749 4 16 8995670 4 17 103456 4 18 -150123 4 19 8846880
D 4 20 102520 4 21 -148486 4 22 8941200 4 23 98734 4 24 -139916
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D 6 27 7648748 7 8 31848 7 9 -78467 7 10 8911746 7 11 -24590
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D 7 17 -23923 7 18 -19568 7 19 8815140 7 20 -24204 7 21 -19262
D 7 22 8925673 7 23 -25237 7 24 -17692 7 25 9000057 7 26 -23695
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9 10 -554643 9 11 -7634540 9 12 7707218 9 13 -395150 9 14 -7625425 D 9
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D 9 25 224691 9 26 -7618533 9 27 7648182 10 11 856682 10 12 -900395
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D 10 18 -561474 10 19 8892118 10 20 502559 10 21 -555822 10 22 8934871

D 10 23 491149 10 24 -526343 10 25 8857128 10 26 507684 10 27 -562912
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D 11 22 446548 11 23 7738436 11 24 -7686849 11 25 -262464 11 26 7707217
D 11 27 -7600487 12 13 -383162 12 14 -7652596 12 15 7681669 12 16 -126053 D
12 17 -7649612 12 18 7676528 12 19 -797936 12 20 -7659246 12 21 7699943
D 12 22 -487415 12 23 -7674951 12 24 7762713 12 25 218453 12 26 -7644600
D 12 27 7671747 13 14 622596 13 15 -686959 13 16 8968093 13 17 348419
D 13 18 -401002 13 19 8886660 13 20 345954 13 21 -396503 13 22 8949421
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D 14 20 7714169 14 21 -7621228 14 22 451017 14 23 7719076 14 24 -7667378
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D 16 27 -132784 17 18 -9924432 17 19 770800 17 20 7711386 17 21 -7618938
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D 19 25 8735214 19 26 774265 19 27 -835508 20 21 -9924086 20 22 449935
D 20 23 7726652 20 24 -7675024 20 25 -264125 20 26 7706399 20 27 -7601036
D 21 22 -502308 21 23 -7630484 21 24 7714441 21 25 225162 21 26 -7614501
D 21 27 7644313 22 23 765427 22 24 -800995 22 25 8876159 22 26 454442
D 22 27 -508569 23 24 -9921864 23 25 -259993 23 26 7710222 23 27 -7601576
D 24 25 213559 24 26 -7658361 24 27 7683690 25 26 -354361 25 27 313414
D 26 27 -9924355

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
dstr	-41455.052	-5528180.086	3170193.681
nola	-41455.043	-5528180.014	3170193.640
eng6	-41455.047	-5528180.045	3170193.648
houm	-41455.049	-5528180.047	3170193.657
hamm	-41455.045	-5528180.051	3170193.653
covg	-41455.048	-5528180.001	3170193.622
sjb1	-41455.048	-5528180.021	3170193.629
lmcn	-41455.045	-5528180.040	3170193.651
mssc	-41455.044	-5528180.053	3170193.651

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
dstr	-0.006	-0.046	0.032	-0.005	0.005	0.056
nola	0.003	0.026	-0.009	0.003	0.006	-0.027
eng6	-0.000	-0.004	-0.001	-0.000	-0.003	0.003
houm	-0.003	-0.007	0.008	-0.003	0.004	0.010

hamm	0.001	-0.010	0.004	0.001	-
0.002	0.011				
covg	-0.002	0.040	-0.027	-0.002	-
0.004	-0.048				
sjb1	-0.002	0.020	-0.020	-0.002	-
0.008	-0.027				
lmcn	0.002	0.001	0.002	0.002	
0.002	0.001				
mssc	0.003	-0.013	0.002	0.003	-
0.004	0.012				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 545977.565
Easting (X) [feet] 3566884.074
Convergence [degrees] 0.45185951
Point Scale 0.99992575
Combined Factor 0.99992895

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 5.662 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.340
scatter (mean square distance from rover) is 3857.611
average edop for rover is 1.150
average ndop for rover is 1.080
average hdop for rover is 1.578
average vdop for rover is 4.560
average gdop for rover is 5.950

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:11 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA02.O00 OP1335485307359

FILE: QCFVA02.O00 OP1335485307359

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068t.12o TIME: 00:10:21 UTC

SOFTWARE: rsgps 1.37 RS40.prl 1.73 START: 2012/03/08 19:31:55
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 19:53:54
NAV FILE: brdc0680.12n OBS USED: 1350 / 1935 : 70%
ANT NAME: LEIAT502 NONE QUALITY IND. 15.06/ 8.59
ARP HEIGHT: 1.572 NORMALIZED RMS: 0.347

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18530)

X:	-39757.271(m)	0.003(m)	-39758.003(m)	0.003(m)
Y:	-5527124.222(m)	0.028(m)	-5527122.733(m)	0.028(m)
Z:	3172038.126(m)	0.014(m)	3172037.918(m)	0.014(m)

LAT:	30 1 2.87681	0.007(m)	30 1 2.89506	0.007(m)
E LON:	269 35 16.33797	0.003(m)	269 35 16.31025	0.003(m)
W LON:	90 24 43.66203	0.003(m)	90 24 43.68975	0.003(m)
EL HGT:	-24.381(m)	0.031(m)	-25.770(m)	0.031(m)
ORTHO HGT:	1.808(m)	0.033(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3323541.741	168559.583
Easting (X) [meters]	749593.211	1088860.522
Convergence [degrees]	1.29528937	0.46061418
Point Scale	1.00036866	0.99992579
Combined Factor	1.00037249	0.99992962

US NATIONAL GRID DESIGNATOR: 15RYP4959323541(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9596	DSTR DESTRAHAN H.S. CORS ARP	N295752.395	W0902256.007	6536.7

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 29643.2
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 47895.8
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 55931.7
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 59255.9
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 78994.3
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 87894.9
DH3836 MSSC STENNIS SPACE CTR CORS ARP N302230.794 W0893649.903 86496.1
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 107866.7

NEAREST NGS PUBLISHED CONTROL POINT
DN4170 PBM TREPAGNIER N300124.120 W0902401.561 1304.6

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

dstr	-36892.835	-5530079.563	3166960.860
nola	-11604.035	-5531876.836	3164070.914
eng6	5594.597	-5534921.907	3158759.195
houm	-70100.646	-5550262.355	3131144.930
covg	-9174.168	-5501675.374	3215950.520
sjb1	-106395.195	-5505141.425	3208320.254
lmcn	-64275.988	-5568696.893	3098580.620
mssc	37114.975	-5507204.495	3206321.885
fshs	-145211.072	-5537098.003	3151657.529
qcfv	-39758.003	-5527122.733	3172037.918

Covariance matrix of the stations:
1 4.4590E-07 9.6660E-07 -5.9520E-07 -3.8550E-08 -1.1310E-07 7.0640E-08
-3.6920E-08 -1.0900E-07 6.8380E-08 -4.4270E-08 -1.3120E-07 7.7710E-08 -
3.8220E-08 -1.0720E-07 7.0270E-08 -4.7600E-08 -1.3180E-07 8.1730E-08 -
4.3770E-08 -1.3310E-07 7.6940E-08 -3.3890E-08 -9.5350E-08 6.3950E-08 -
5.1580E-08 -1.4590E-07 8.5620E-08 2.3660E-08 7.1140E-08 -3.9100E-08
2 9.6660E-07 1.9310E-05 -9.6040E-06 -1.1350E-07 -2.4170E-06 1.2120E-06
-1.0940E-07 -2.4300E-06 1.2200E-06 -1.2800E-07 -2.4240E-06 1.2030E-06 -
1.1140E-07 -2.3650E-06 1.1970E-06 -1.3330E-07 -2.3370E-06 1.1700E-06 -
1.2770E-07 -2.4600E-06 1.2140E-06 -1.0030E-07 -2.3940E-06 1.2150E-06 -
1.4320E-07 -2.3720E-06 1.1740E-06 -2.0980E-08 -2.6940E-08 3.2810E-08
3 -5.9520E-07 -9.6040E-06 5.2520E-06 7.0920E-08 1.2120E-06 -6.4990E-07
6.8880E-08 1.2190E-06 -6.5390E-07 7.7160E-08 1.1980E-06 -6.3520E-07
7.0860E-08 1.2030E-06 -6.5240E-07 8.1260E-08 1.1740E-06 -6.3010E-07
7.6330E-08 1.2060E-06 -6.3550E-07 6.5220E-08 1.2210E-06 -6.6350E-07
8.4630E-08 1.1710E-06 -6.1990E-07 1.3000E-08 5.8070E-08 -2.1150E-08
4 -3.8550E-08 -1.1350E-07 7.0920E-08 4.3960E-07 9.0070E-07 -5.5870E-07
-2.8780E-08 -1.1840E-07 7.4560E-08 -4.6860E-08 -1.2620E-07 6.8010E-08 -
3.1320E-08 -9.5660E-08 7.3740E-08 -5.3500E-08 -9.5520E-08 6.5470E-08 -
4.6050E-08 -1.3890E-07 6.8050E-08 -2.0450E-08 -9.9300E-08 7.6920E-08 -
6.3010E-08 -1.1310E-07 6.1000E-08 4.9890E-08 4.1960E-07 -2.2680E-07
5 -1.1310E-07 -2.4170E-06 1.2120E-06 9.0070E-07 1.9530E-05 -9.7380E-06
-1.1770E-07 -2.4140E-06 1.2100E-06 -1.1010E-07 -2.4440E-06 1.2330E-06 -

1.1670E-07 -2.4010E-06 1.1940E-06 -1.0740E-07 -2.4330E-06 1.2160E-06 -
1.1060E-07 -2.4540E-06 1.2430E-06 -1.2160E-07 -2.3910E-06 1.1890E-06 -
1.0370E-07 -2.4610E-06 1.2410E-06 -8.0470E-08 -1.0680E-06 5.8650E-07
   6   7.0640E-08 1.2120E-06 -6.4990E-07 -5.5870E-07 -9.7380E-06 5.3350E-06
7.4920E-08 1.2080E-06 -6.4790E-07 6.6600E-08 1.2100E-06 -6.5410E-07
7.4990E-08 1.2250E-06 -6.5060E-07 6.5580E-08 1.2350E-06 -6.5930E-07
6.6240E-08 1.2010E-06 -6.5310E-07 7.9460E-08 1.2190E-06 -6.4680E-07
6.0380E-08 1.2270E-06 -6.6220E-07 5.2680E-08 6.8710E-07 -3.6110E-07
   7 -3.6920E-08 -1.0940E-07 6.8880E-08 -2.8780E-08 -1.1770E-07 7.4920E-08
4.3910E-07 8.4220E-07 -5.2600E-07 -4.8630E-08 -1.2250E-07 6.1100E-08 -
2.6540E-08 -8.7450E-08 7.5920E-08 -5.7550E-08 -7.0240E-08 5.4020E-08 -
4.7610E-08 -1.4270E-07 6.1690E-08 -1.1170E-08 -1.0180E-07 8.5660E-08 -
7.0880E-08 -9.0200E-08 4.3780E-08 7.1310E-08 6.5730E-07 -3.5550E-07
   8 -1.0900E-07 -2.4300E-06 1.2190E-06 -1.1840E-07 -2.4140E-06 1.2080E-06
8.4220E-07 1.9700E-05 -9.8370E-06 -9.6630E-08 -2.4570E-06 1.2530E-06 -
1.2130E-07 -2.4250E-06 1.1900E-06 -8.7540E-08 -2.5060E-06 1.2500E-06 -
9.7660E-08 -2.4460E-06 1.2620E-06 -1.3860E-07 -2.3860E-06 1.1660E-06 -
7.3330E-08 -2.5270E-06 1.2900E-06 -1.3120E-07 -1.7270E-06 9.4360E-07
   9   6.8380E-08 1.2200E-06 -6.5390E-07 7.4560E-08 1.2100E-06 -6.4790E-07
-5.2600E-07 -9.8370E-06 5.3910E-06 5.9260E-08 1.2170E-06 -6.6540E-07
7.7410E-08 1.2390E-06 -6.4820E-07 5.4830E-08 1.2740E-06 -6.7730E-07
5.9220E-08 1.1970E-06 -6.6360E-07 8.8610E-08 1.2160E-06 -6.3460E-07
4.3950E-08 1.2630E-06 -6.8900E-07 7.9950E-08 1.0420E-06 -5.5340E-07
  10 -4.4270E-08 -1.2800E-07 7.7160E-08 -4.6860E-08 -1.1010E-07 6.6600E-08
-4.8630E-08 -9.6630E-08 5.9260E-08 4.6710E-07 1.0550E-06 -6.2830E-07 -
4.8160E-08 -1.2500E-07 6.5070E-08 -3.9150E-08 -1.8500E-07 1.0490E-07 -
4.0500E-08 -1.2570E-07 8.9440E-08 -5.3220E-08 -9.0890E-08 4.5120E-08 -
3.5170E-08 -1.9410E-07 1.2070E-07 -2.5690E-08 -4.1950E-07 2.2630E-07
  11 -1.3120E-07 -2.4240E-06 1.1980E-06 -1.2620E-07 -2.4440E-06 1.2100E-06
-1.2250E-07 -2.4570E-06 1.2170E-06 1.0550E-06 1.9510E-05 -9.5920E-06 -
1.2440E-07 -2.3950E-06 1.1950E-06 -1.4440E-07 -2.3680E-06 1.1700E-06 -
1.3920E-07 -2.4850E-06 1.2130E-06 -1.1420E-07 -2.4220E-06 1.2120E-06 -
1.5340E-07 -2.4020E-06 1.1750E-06 -3.1840E-08 -2.9010E-07 1.4700E-07
  12   7.7710E-08 1.2030E-06 -6.3520E-07 6.8010E-08 1.2330E-06 -6.5410E-07
6.1100E-08 1.2530E-06 -6.6540E-07 -6.2830E-07 -9.5920E-06 5.1920E-06
6.5650E-08 1.1950E-06 -6.5840E-07 1.0230E-07 1.1140E-06 -5.9510E-07
8.9910E-08 1.2320E-06 -6.1550E-07 4.6580E-08 1.2450E-06 -6.8920E-07
1.1700E-07 1.1170E-06 -5.6750E-07 -4.3970E-08 -5.4380E-07 3.1580E-07
  13 -3.8220E-08 -1.1140E-07 7.0860E-08 -3.1320E-08 -1.1670E-07 7.4990E-08
-2.6540E-08 -1.2130E-07 7.7410E-08 -4.8160E-08 -1.2440E-07 6.5650E-08
4.4220E-07 9.0030E-07 -5.5150E-07 -5.5880E-08 -8.3330E-08 6.0920E-08 -
4.7250E-08 -1.4070E-07 6.5970E-08 -1.6450E-08 -1.0030E-07 8.1980E-08 -
6.7240E-08 -1.0210E-07 5.3730E-08 5.9660E-08 5.3280E-07 -2.8710E-07
  14 -1.0720E-07 -2.3650E-06 1.2030E-06 -9.5660E-08 -2.4010E-06 1.2250E-06
-8.7450E-08 -2.4250E-06 1.2390E-06 -1.2500E-07 -2.3950E-06 1.1950E-06
9.0030E-07 1.9070E-05 -9.6080E-06 -1.3610E-07 -2.2530E-06 1.1510E-06 -
1.2420E-07 -2.4500E-06 1.2080E-06 -6.8950E-08 -2.3780E-06 1.2460E-06 -
1.5580E-07 -2.2960E-06 1.1400E-06 4.5740E-08 3.9870E-07 -1.8930E-07
  15   7.0270E-08 1.1970E-06 -6.5240E-07 7.3740E-08 1.1940E-06 -6.5060E-07
7.5920E-08 1.1900E-06 -6.4820E-07 6.5070E-08 1.1950E-06 -6.5840E-07 -
5.5150E-07 -9.6080E-06 5.3590E-06 6.3230E-08 1.2280E-06 -6.6520E-07
6.4800E-08 1.1840E-06 -6.5730E-07 8.1710E-08 1.2010E-06 -6.4530E-07
5.6760E-08 1.2190E-06 -6.7030E-07 5.9460E-08 7.5870E-07 -4.1030E-07
  16 -4.7600E-08 -1.3330E-07 8.1260E-08 -5.3500E-08 -1.0740E-07 6.5580E-08

-5.7550E-08 -8.7540E-08 5.4830E-08 -3.9150E-08 -1.4440E-07 1.0230E-07 -
5.5880E-08 -1.3610E-07 6.3230E-08 4.9680E-07 1.0420E-06 -6.4690E-07 -
3.9380E-08 -1.2020E-07 9.9610E-08 -6.7240E-08 -8.7010E-08 3.4100E-08 -
2.5220E-08 -2.2590E-07 1.4610E-07 -5.6750E-08 -7.5280E-07 4.0820E-07
  17 -1.3180E-07 -2.3370E-06 1.1740E-06 -9.5520E-08 -2.4330E-06 1.2350E-06
-7.0240E-08 -2.5060E-06 1.2740E-06 -1.8500E-07 -2.3680E-06 1.1140E-06 -
8.3330E-08 -2.2530E-06 1.2280E-06 1.0420E-06 1.9000E-05 -9.4410E-06 -
1.8200E-07 -2.5020E-06 1.1330E-06 -1.3580E-08 -2.4210E-06 1.3310E-06 -
2.7960E-07 -2.0670E-06 9.5080E-07 2.2900E-07 2.8720E-06 -1.5440E-06
  18   8.1730E-08 1.1700E-06 -6.3010E-07 6.5470E-08 1.2160E-06 -6.5930E-07
5.4020E-08 1.2500E-06 -6.7730E-07 1.0490E-07 1.1700E-06 -5.9510E-07
6.0920E-08 1.1510E-06 -6.6520E-07 -6.4690E-07 -9.4410E-06 5.1710E-06
1.0280E-07 1.2210E-06 -5.9850E-07 2.9320E-08 1.2300E-06 -7.1410E-07
1.4750E-07 1.0330E-06 -5.2040E-07 -9.4600E-08 -1.2150E-06 6.6790E-07
  19 -4.3770E-08 -1.2770E-07 7.6330E-08 -4.6050E-08 -1.1060E-07 6.6240E-08
-4.7610E-08 -9.7660E-08 5.9220E-08 -4.0500E-08 -1.3920E-07 8.9910E-08 -
4.7250E-08 -1.2420E-07 6.4800E-08 -3.9380E-08 -1.8200E-07 1.0280E-07
4.6320E-07 1.0640E-06 -6.2310E-07 -5.1730E-08 -9.1460E-08 4.5700E-08 -
3.5880E-08 -1.9130E-07 1.1790E-07 -2.2620E-08 -3.8870E-07 2.0890E-07
  20 -1.3310E-07 -2.4600E-06 1.2060E-06 -1.3890E-07 -2.4540E-06 1.2010E-06
-1.4270E-07 -2.4460E-06 1.1970E-06 -1.2570E-07 -2.4850E-06 1.2320E-06 -
1.4070E-07 -2.4500E-06 1.1840E-06 -1.2020E-07 -2.5020E-06 1.2210E-06
1.0640E-06 1.9860E-05 -9.6630E-06 -1.5120E-07 -2.4280E-06 1.1710E-06 -
1.1160E-07 -2.5250E-06 1.2520E-06 -1.2430E-07 -1.3920E-06 7.3260E-07
  21   7.6940E-08 1.2140E-06 -6.3550E-07 6.8050E-08 1.2430E-06 -6.5310E-07
6.1690E-08 1.2620E-06 -6.6360E-07 8.9440E-08 1.2130E-06 -6.1550E-07
6.5970E-08 1.2080E-06 -6.5730E-07 9.9610E-08 1.1330E-06 -5.9850E-07 -
6.2310E-07 -9.6630E-06 5.1930E-06 4.8430E-08 1.2540E-06 -6.8590E-07
1.1300E-07 1.1350E-06 -5.7270E-07 -3.8170E-08 -4.5620E-07 2.7430E-07
  22 -3.3890E-08 -1.0030E-07 6.5220E-08 -2.0450E-08 -1.2160E-07 7.9460E-08
-1.1170E-08 -1.3860E-07 8.8610E-08 -5.3220E-08 -1.1420E-07 4.6580E-08 -
1.6450E-08 -6.8950E-08 8.1710E-08 -6.7240E-08 -1.3580E-08 2.9320E-08 -
5.1730E-08 -1.5120E-07 4.8430E-08 4.5430E-07 7.4760E-07 -4.4560E-07 -
8.9140E-08 -3.8960E-08 6.2030E-09 1.1860E-07 1.1890E-06 -6.4230E-07
  23 -9.5350E-08 -2.3940E-06 1.2210E-06 -9.9300E-08 -2.3910E-06 1.2190E-06
-1.0180E-07 -2.3860E-06 1.2160E-06 -9.0890E-08 -2.4220E-06 1.2450E-06 -
1.0030E-07 -2.3780E-06 1.2010E-06 -8.7010E-08 -2.4210E-06 1.2300E-06 -
9.1460E-08 -2.4280E-06 1.2540E-06 7.4760E-07 1.9380E-05 -9.8440E-06 -
8.1750E-08 -2.4490E-06 1.2580E-06 -7.2350E-08 -1.1580E-06 6.5710E-07
  24   6.3950E-08 1.2150E-06 -6.6350E-07 7.6920E-08 1.1890E-06 -6.4680E-07
8.5660E-08 1.1660E-06 -6.3460E-07 4.5120E-08 1.2120E-06 -6.8920E-07
8.1980E-08 1.2460E-06 -6.4530E-07 3.4100E-08 1.3310E-06 -7.1410E-07
4.5700E-08 1.1710E-06 -6.8590E-07 -4.4560E-07 -9.8440E-06 5.5330E-06
1.2320E-08 1.3130E-06 -7.4270E-07 1.3270E-07 1.7120E-06 -9.2860E-07
  25 -5.1580E-08 -1.4320E-07 8.4630E-08 -6.3010E-08 -1.0370E-07 6.0380E-08
-7.0880E-08 -7.3330E-08 4.3950E-08 -3.5170E-08 -1.5340E-07 1.1700E-07 -
6.7240E-08 -1.5580E-07 5.6760E-08 -2.5220E-08 -2.7960E-07 1.4750E-07 -
3.5880E-08 -1.1160E-07 1.1300E-07 -8.9140E-08 -8.1750E-08 1.2320E-08
5.4940E-07 1.1020E-06 -6.3540E-07 -1.0700E-07 -1.3090E-06 7.0740E-07
  26 -1.4590E-07 -2.3720E-06 1.1710E-06 -1.1310E-07 -2.4610E-06 1.2270E-06
-9.0200E-08 -2.5270E-06 1.2630E-06 -1.9410E-07 -2.4020E-06 1.1170E-06 -
1.0210E-07 -2.2960E-06 1.2190E-06 -2.2590E-07 -2.0670E-06 1.0330E-06 -
1.9130E-07 -2.5250E-06 1.1350E-06 -3.8960E-08 -2.4490E-06 1.3130E-06
1.1020E-06 1.9210E-05 -9.4790E-06 1.8650E-07 2.5020E-06 -1.3660E-06

27 8.5620E-08 1.1740E-06 -6.1990E-07 6.1000E-08 1.2410E-06 -6.6220E-07
4.3780E-08 1.2900E-06 -6.8900E-07 1.2070E-07 1.1750E-06 -5.6750E-07
5.3730E-08 1.1400E-06 -6.7030E-07 1.4610E-07 9.5080E-07 -5.2040E-07
1.1790E-07 1.2520E-06 -5.7270E-07 6.2030E-09 1.2580E-06 -7.4270E-07 -
6.3540E-07 -9.4790E-06 5.1560E-06 -1.6110E-07 -2.0420E-06 1.1280E-06
28 2.3660E-08 -2.0980E-08 1.3000E-08 4.9890E-08 -8.0470E-08 5.2680E-08
7.1310E-08 -1.3120E-07 7.9950E-08 -2.5690E-08 -3.1840E-08 -4.3970E-08
5.9660E-08 4.5740E-08 5.9460E-08 -5.6750E-08 2.2900E-07 -9.4600E-08 -
2.2620E-08 -1.2430E-07 -3.8170E-08 1.1860E-07 -7.2350E-08 1.3270E-07 -
1.0700E-07 1.8650E-07 -1.6110E-07 4.6120E-06 1.1740E-05 -7.0870E-06
29 7.1140E-08 -2.6940E-08 5.8070E-08 4.1960E-07 -1.0680E-06 6.8710E-07
6.5730E-07 -1.7270E-06 1.0420E-06 -4.1950E-07 -2.9010E-07 -5.4380E-07
5.3280E-07 3.9870E-07 7.5870E-07 -7.5280E-07 2.8720E-06 -1.2150E-06 -
3.8870E-07 -1.3920E-06 -4.5620E-07 1.1890E-06 -1.1580E-06 1.7120E-06 -
1.3090E-06 2.5020E-06 -2.0420E-06 1.1740E-05 2.1480E-04 -1.0760E-04
30 -3.9100E-08 3.2810E-08 -2.1150E-08 -2.2680E-07 5.8650E-07 -3.6110E-07
-3.5550E-07 9.4360E-07 -5.5340E-07 2.2630E-07 1.4700E-07 3.1580E-07 -
2.8710E-07 -1.8930E-07 -4.1030E-07 4.0820E-07 -1.5440E-06 6.6790E-07
2.0890E-07 7.3260E-07 2.7430E-07 -6.4230E-07 6.5710E-07 -9.2860E-07
7.0740E-07 -1.3660E-06 1.1280E-06 -7.0870E-06 -1.0760E-04 5.8650E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000046120 0.0000117400 -0.0000070870
0.0000117400 0.0002148000 -0.0001076000
-0.0000070870 -0.0001076000 0.0000586500

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000044540 -0.0000003848 -0.0000120122
-0.0000003848 0.0000044307 -0.0000131712
-0.0000120122 -0.0000131712 0.0002691774

Horizontal network accuracy = 0.00516 meters.
Vertical network accuracy = 0.03217 meters.

Vectors

To	From	X	Y	Z
dstr	qcfv	2865.168	-2956.830	-5077.058
nola	qcfv	28153.968	-4754.104	-7967.004
eng6	qcfv	45352.601	-7799.174	-13278.723
houm	qcfv	-30342.643	-23139.622	-40892.988
covg	qcfv	30583.835	25447.359	43912.603
sjb1	qcfv	-66637.191	21981.308	36282.336
lmcn	qcfv	-24517.985	-41574.160	-73457.297
mssc	qcfv	76872.978	19918.238	34283.967
fshs	qcfv	-105453.069	-9975.270	-20380.388

Covariance matrix of the 9 vectors
1 5.0106E-06 1.2656E-05 -7.6561E-06 4.4999E-06 1.1636E-05 -7.0299E-06
4.4801E-06 1.1691E-05 -7.0595E-06 4.5698E-06 1.1569E-05 -6.9262E-06
4.4905E-06 1.1516E-05 -7.0371E-06 4.5975E-06 1.1308E-05 -6.8716E-06
4.5672E-06 1.1660E-05 -6.9328E-06 4.4359E-06 1.1646E-05 -7.1166E-06
4.6438E-06 1.1336E-05 -6.8012E-06
2 1.2656E-05 2.3416E-04 -1.1729E-04 1.1228E-05 2.1348E-04 -1.0711E-04

1.0994E-05 2.1412E-04 -1.0745E-04 1.2052E-05 2.1269E-04 -1.0589E-04
1.1117E-05 2.1206E-04 -1.0719E-04 1.2380E-05 2.0962E-04 -1.0525E-04
1.2022E-05 2.1376E-04 -1.0596E-04 1.0472E-05 2.1359E-04 -1.0813E-04
1.2927E-05 2.0995E-04 -1.0442E-04
   3 -7.6561E-06 -1.1729E-04 6.3944E-05 -6.8023E-06 -1.0703E-04 5.8382E-05
-6.6756E-06 -1.0738E-04 5.8571E-05 -7.2491E-06 -1.0661E-04 5.7720E-05 -
6.7420E-06 -1.0627E-04 5.8429E-05 -7.4269E-06 -1.0494E-04 5.7373E-05 -
7.2326E-06 -1.0718E-04 5.7761E-05 -6.3925E-06 -1.0709E-04 5.8936E-05 -
7.7228E-06 -1.0512E-04 5.6923E-05
   4   4.4999E-06 1.1228E-05 -6.8023E-06 4.9518E-06 1.2302E-05 -7.4716E-06
4.4620E-06 1.1333E-05 -6.8656E-06 4.5409E-06 1.1226E-05 -6.7482E-06
4.4711E-06 1.1179E-05 -6.8459E-06 4.5654E-06 1.0996E-05 -6.7001E-06
4.5387E-06 1.1306E-05 -6.7540E-06 4.4231E-06 1.1293E-05 -6.9160E-06
4.6061E-06 1.1021E-05 -6.6381E-06
   5   1.1636E-05 2.1348E-04 -1.0703E-04 1.2302E-05 2.3647E-04 -1.1861E-04
1.1045E-05 2.1518E-04 -1.0802E-04 1.2130E-05 2.1371E-04 -1.0641E-04
1.1171E-05 2.1307E-04 -1.0775E-04 1.2466E-05 2.1056E-04 -1.0576E-04
1.2099E-05 2.1481E-04 -1.0649E-04 1.0510E-05 2.1463E-04 -1.0871E-04
1.3026E-05 2.1091E-04 -1.0490E-04
   6 -7.0299E-06 -1.0711E-04 5.8382E-05 -7.4716E-06 -1.1861E-04 6.4707E-05
-6.7093E-06 -1.0802E-04 5.8917E-05 -7.2994E-06 -1.0722E-04 5.8041E-05 -
6.7776E-06 -1.0687E-04 5.8771E-05 -7.4823E-06 -1.0551E-04 5.7684E-05 -
7.2823E-06 -1.0782E-04 5.8084E-05 -6.4179E-06 -1.0773E-04 5.9293E-05 -
7.7867E-06 -1.0569E-04 5.7221E-05
   7   4.4801E-06 1.0994E-05 -6.6756E-06 4.4620E-06 1.1045E-05 -6.7093E-06
4.9085E-06 1.2056E-05 -7.3375E-06 4.5178E-06 1.0992E-05 -6.6264E-06
4.4545E-06 1.0950E-05 -6.7150E-06 4.5399E-06 1.0783E-05 -6.5829E-06
4.5157E-06 1.1064E-05 -6.6316E-06 4.4109E-06 1.1053E-05 -6.7785E-06
4.5768E-06 1.0806E-05 -6.5266E-06
   8   1.1691E-05 2.1412E-04 -1.0738E-04 1.1333E-05 2.1518E-04 -1.0802E-04
1.2056E-05 2.3795E-04 -1.1942E-04 1.2194E-05 2.1436E-04 -1.0675E-04
1.1217E-05 2.1370E-04 -1.0811E-04 1.2536E-05 2.1115E-04 -1.0608E-04
1.2162E-05 2.1547E-04 -1.0683E-04 1.0544E-05 2.1530E-04 -1.0909E-04
1.3107E-05 2.1150E-04 -1.0521E-04
   9 -7.0595E-06 -1.0745E-04 5.8571E-05 -6.8656E-06 -1.0802E-04 5.8917E-05
-7.3375E-06 -1.1942E-04 6.5148E-05 -7.3340E-06 -1.0757E-04 5.8222E-05 -
6.8024E-06 -1.0721E-04 5.8966E-05 -7.5203E-06 -1.0582E-04 5.7858E-05 -
7.3166E-06 -1.0818E-04 5.8265E-05 -6.4360E-06 -1.0808E-04 5.9497E-05 -
7.8304E-06 -1.0601E-04 5.7386E-05
   10   4.5698E-06 1.2052E-05 -7.2491E-06 4.5409E-06 1.2130E-05 -7.2994E-06
4.5178E-06 1.2194E-05 -7.3340E-06 5.1305E-06 1.3246E-05 -7.8976E-06
4.5299E-06 1.1989E-05 -7.3077E-06 4.6553E-06 1.1745E-05 -7.1138E-06
4.6198E-06 1.2158E-05 -7.1857E-06 4.4659E-06 1.2141E-05 -7.4009E-06
4.7095E-06 1.1779E-05 -7.0315E-06
   11   1.1569E-05 2.1269E-04 -1.0661E-04 1.1226E-05 2.1371E-04 -1.0722E-04
1.0992E-05 2.1436E-04 -1.0757E-04 1.3246E-05 2.3489E-04 -1.1680E-04
1.1115E-05 2.1230E-04 -1.0731E-04 1.2380E-05 2.0985E-04 -1.0536E-04
1.2021E-05 2.1400E-04 -1.0608E-04 1.0469E-05 2.1383E-04 -1.0825E-04
1.2927E-05 2.1019E-04 -1.0453E-04
   12 -6.9262E-06 -1.0589E-04 5.7720E-05 -6.7482E-06 -1.0641E-04 5.8041E-05
-6.6264E-06 -1.0675E-04 5.8222E-05 -7.8976E-06 -1.1680E-04 6.3210E-05 -
6.6903E-06 -1.0567E-04 5.8086E-05 -7.3489E-06 -1.0440E-04 5.7071E-05 -
7.1620E-06 -1.0656E-04 5.7444E-05 -6.3541E-06 -1.0647E-04 5.8574E-05 -
7.6334E-06 -1.0457E-04 5.6639E-05

13 4.4905E-06 1.1117E-05 -6.7420E-06 4.4711E-06 1.1171E-05 -6.7776E-06
4.4545E-06 1.1217E-05 -6.8024E-06 4.5299E-06 1.1115E-05 -6.6903E-06
4.9349E-06 1.2062E-05 -7.4109E-06 4.5532E-06 1.0895E-05 -6.6444E-06
4.5277E-06 1.1191E-05 -6.6958E-06 4.4173E-06 1.1179E-05 -6.8506E-06
4.5921E-06 1.0919E-05 -6.5851E-06
14 1.1516E-05 2.1206E-04 -1.0627E-04 1.1179E-05 2.1307E-04 -1.0687E-04
1.0950E-05 2.1370E-04 -1.0721E-04 1.1989E-05 2.1230E-04 -1.0567E-04
1.2062E-05 2.3307E-04 -1.1778E-04 1.2311E-05 2.0928E-04 -1.0504E-04
1.1959E-05 2.1334E-04 -1.0575E-04 1.0436E-05 2.1318E-04 -1.0788E-04
1.2847E-05 2.0960E-04 -1.0423E-04
15 -7.0371E-06 -1.0719E-04 5.8429E-05 -6.8459E-06 -1.0775E-04 5.8771E-05
-6.7150E-06 -1.0811E-04 5.8966E-05 -7.3077E-06 -1.0731E-04 5.8086E-05 -
7.4109E-06 -1.1778E-04 6.4830E-05 -7.4914E-06 -1.0559E-04 5.7727E-05 -
7.2906E-06 -1.0791E-04 5.8129E-05 -6.4224E-06 -1.0781E-04 5.9344E-05 -
7.7971E-06 -1.0577E-04 5.7262E-05
16 4.5975E-06 1.2380E-05 -7.4269E-06 4.5654E-06 1.2466E-05 -7.4823E-06
4.5399E-06 1.2536E-05 -7.5203E-06 4.6553E-06 1.2380E-05 -7.3489E-06
4.5532E-06 1.2311E-05 -7.4914E-06 5.2223E-06 1.3306E-05 -8.0475E-06
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1.3040E-05 2.1101E-04 -1.0496E-04
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7.9148E-06 -1.0663E-04 5.7708E-05
  25   4.6438E-06 1.2927E-05 -7.7228E-06 4.6061E-06 1.3026E-05 -7.7867E-06
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5.3754E-06 1.3964E-05 -8.2687E-06
  26   1.1336E-05 2.0995E-04 -1.0512E-04 1.1021E-05 2.1091E-04 -1.0569E-04
1.0806E-05 2.1150E-04 -1.0601E-04 1.1779E-05 2.1019E-04 -1.0457E-04
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1.1751E-05 2.1117E-04 -1.0464E-04 1.0326E-05 2.1101E-04 -1.0663E-04
1.3964E-05 2.2901E-04 -1.1367E-04
  27 -6.8012E-06 -1.0442E-04 5.6923E-05 -6.6381E-06 -1.0490E-04 5.7221E-05
-6.5266E-06 -1.0521E-04 5.7386E-05 -7.0315E-06 -1.0453E-04 5.6639E-05 -
6.5851E-06 -1.0423E-04 5.7262E-05 -7.1880E-06 -1.0306E-04 5.6334E-05 -
7.0169E-06 -1.0504E-04 5.6675E-05 -6.2774E-06 -1.0496E-04 5.7708E-05 -
8.2687E-06 -1.1367E-04 6.1550E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 3.6949E-01 -4.2772E-01 9.0339E-01 3.3805E-01 -3.9042E-01
9.0338E-01 3.3858E-01 -3.9073E-01 9.0130E-01 3.3724E-01 -3.8919E-01
9.0304E-01 3.3698E-01 -3.9045E-01 8.9876E-01 3.3452E-01 -3.8835E-01
9.0168E-01 3.3805E-01 -3.8930E-01 9.0178E-01 3.3831E-01 -3.9123E-01
8.9479E-01 3.3466E-01 -3.8728E-01
   2   3.6949E-01 1.0000E+00 -9.5856E-01 3.2973E-01 9.0721E-01 -8.7013E-01
3.2429E-01 9.0711E-01 -8.6999E-01 3.4773E-01 9.0690E-01 -8.7033E-01
3.2702E-01 9.0774E-01 -8.7001E-01 3.5404E-01 9.0708E-01 -8.7009E-01
3.4719E-01 9.0653E-01 -8.7038E-01 3.1140E-01 9.0763E-01 -8.6952E-01
3.6436E-01 9.0665E-01 -8.6975E-01
   3 -4.2772E-01 -9.5856E-01 1.0000E+00 -3.8227E-01 -8.7042E-01 9.0762E-01
-3.7681E-01 -8.7054E-01 9.0746E-01 -4.0023E-01 -8.6987E-01 9.0789E-01 -
3.7954E-01 -8.7046E-01 9.0749E-01 -4.0642E-01 -8.6900E-01 9.0765E-01 -
3.9970E-01 -8.6986E-01 9.0793E-01 -3.6378E-01 -8.7087E-01 9.0694E-01 -
4.1655E-01 -8.6869E-01 9.0735E-01
   4   9.0339E-01 3.2973E-01 -3.8227E-01 1.0000E+00 3.5950E-01 -4.1740E-01
9.0506E-01 3.3016E-01 -3.8225E-01 9.0092E-01 3.2916E-01 -3.8143E-01
9.0448E-01 3.2906E-01 -3.8209E-01 8.9776E-01 3.2721E-01 -3.8090E-01
9.0135E-01 3.2971E-01 -3.8150E-01 9.0450E-01 3.3001E-01 -3.8244E-01
8.9278E-01 3.2727E-01 -3.8023E-01
   5   3.3805E-01 9.0721E-01 -8.7042E-01 3.5950E-01 1.0000E+00 -9.5888E-01
3.2421E-01 9.0714E-01 -8.7029E-01 3.4825E-01 9.0681E-01 -8.7037E-01
3.2702E-01 9.0759E-01 -8.7026E-01 3.5474E-01 9.0673E-01 -8.7002E-01
3.4769E-01 9.0653E-01 -8.7042E-01 3.1101E-01 9.0762E-01 -8.6992E-01
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   6 -3.9042E-01 -8.7013E-01 9.0762E-01 -4.1740E-01 -9.5888E-01 1.0000E+00
-3.7647E-01 -8.7055E-01 9.0743E-01 -4.0062E-01 -8.6973E-01 9.0754E-01 -
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4.1751E-01 -8.6826E-01 9.0670E-01
   7   9.0338E-01 3.2429E-01 -3.7681E-01 9.0506E-01 3.2421E-01 -3.7647E-01

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9.0508E-01 3.2372E-01 -3.7643E-01 8.9669E-01 3.2230E-01 -3.7588E-01
9.0074E-01 3.2409E-01 -3.7624E-01 9.0599E-01 3.2442E-01 -3.7649E-01
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9.0026E-01 3.4670E-01 -4.0070E-01 8.9937E-01 3.4338E-01 -3.9731E-01
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4.5459E-01 -9.5744E-01 1.0000E+00

G-FILE for the vectors

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C00100008 768729782 21 199182378 153 342839671 81
C00100009-1054530690 23 -99752704 151 -203803883 78
D 1 2 3694941 1 3 -4277230 1 4 9033924 1 5 3380523 1 6 -3904193 D
1 7 9033814 1 8 3385816 1 9 -3907313 1 10 9013021 1 11 3372392 D 1
12 -3891867 1 13 9030432 1 14 3369838 1 15 -3904473 1 16 8987644 D 1
17 3345209 1 18 -3883500 1 19 9016779 1 20 3380462 1 21 -3892973 D 1
22 9017782 1 23 3383106 1 24 -3912257 1 25 8947884 1 26 3346647 D 1
27 -3872810 2 3 -9585575 2 4 3297276 2 5 9072118 2 6 -8701322 D 2
7 3242898 2 8 9071075 2 9 -8699935 2 10 3477262 2 11 9069030 D 2 12
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9070844 2 18 -8700907 2 19 3471861 2 20 9065332 2 21 -8703822 D 2 22
3114033 2 23 9076344 2 24 -8695234 2 25 3643552 2 26 9066477 D 2 27 -
8697540 3 4 -3822708 3 5 -8704236 3 6 9076206 3 7 -3768054 D 3 8 -
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3795352 3 14 -8704560 3 15 9074887 3 16 -4064228 3 17 -8689998 D 3 18
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3108312 11 23 9072278 11 24 -8691189 11 25 3638100 11 26 9062501 D 11 27 -
8693496 12 13 -3788015 12 14 -8706019 12 15 9073843 12 16 -4044817 D 12 17 -
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9069605 20 24 -8694363 20 25 3656063 20 26 9055614 20 27 -8688689 D 21 22 -
3636734 21 23 -8708558 21 24 9066655 21 25 -4143705 21 26 -8691670 D 21 27
9080188 22 23 3364741 22 24 -3932650 22 25 8854404 22 26 3104961 D 22 27 -
3641098 23 24 -9587121 23 25 3657185 23 26 9066956 23 27 -8699331 D 24 25 -
4200773 24 26 -8670896 24 27 9051426 25 26 3980123 25 27 -4545878 D 26 27 -
9574414

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
dstr	-39758.004	-5527122.708	3172037.912
nola	-39757.999	-5527122.759	3172037.931
eng6	-39758.004	-5527122.737	3172037.914
houm	-39757.999	-5527122.709	3172037.903
covg	-39758.000	-5527122.714	3172037.906
sjb1	-39758.006	-5527122.773	3172037.931
lmcn	-39758.006	-5527122.684	3172037.897
mssc	-39758.007	-5527122.735	3172037.916
fshs	-39758.008	-5527122.744	3172037.938

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
dstr	-0.000	0.025	-0.005	-0.001	0.008	-0.024
nola	0.005	-0.026	0.014	0.005	-0.001	0.029
eng6	-0.000	-0.004	-0.004	-0.000	-0.006	0.002
houm	0.004	0.023	-0.014	0.004	-0.001	-0.027

covg	0.003	0.019	-0.012	0.003	-0.001	-0.023
sjb1	-0.002	-0.040	0.014	-0.002	0.008	0.042
lmcn	-0.003	0.049	-0.021	-0.003	0.006	-0.053
mssc	-0.004	-0.002	-0.001	-0.004	0.002	0.001
fshs	-0.005	-0.011	0.020	-0.005	0.012	0.020

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 553015.898
Easting (X) [feet] 3572369.895
Convergence [degrees] 0.46061418
Point Scale 0.99992579
Combined Factor 0.99992962

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.696 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.337
scatter (mean square distance from rover) is 4770.626
average edop for rover is 1.200
average ndop for rover is 1.070
average hdop for rover is 1.608
average vdop for rover is 2.590
average gdop for rover is 3.680

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:14 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA04.O00 OP1335485366906

FILE: QCFVA04.O00 OP1335485366906

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068w.12o TIME: 00:13:19 UTC

SOFTWARE: rsgps 1.37 RS10.prl 1.73 START: 2012/03/08 22:00:22
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 22:22:51
NAV FILE: brdc0680.12n OBS USED: 2430 / 2889 : 84%
ANT NAME: LEIAT502 NONE QUALITY IND. 12.47/ 9.69
ARP HEIGHT: 1.575 NORMALIZED RMS: 0.408

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18559)

X:	-37945.013(m)	0.006(m)	-37945.745(m)	0.006(m)
Y:	-5529089.891(m)	0.033(m)	-5529088.401(m)	0.033(m)
Z:	3168657.164(m)	0.021(m)	3168656.956(m)	0.021(m)

LAT:	29 58 56.07724	0.004(m)	29 58 56.09549	0.004(m)
E LON:	269 36 24.46905	0.006(m)	269 36 24.44136	0.006(m)
W LON:	90 23 35.53095	0.006(m)	90 23 35.55864	0.006(m)
EL HGT:	-23.605(m)	0.038(m)	-24.995(m)	0.038(m)
ORTHO HGT:	2.502(m)	0.040(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3319678.249	164670.375
Easting (X) [meters]	751508.029	1090718.069
Convergence [degrees]	1.30338379	0.47007708
Point Scale	1.00038051	0.99992580
Combined Factor	1.00038422	0.99992950

US NATIONAL GRID DESIGNATOR: 15RYP5150819678(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9603	LWES LAKEWOOD ELMENTRY CORS ARP	N295401.295	W0902057.833	10013.7

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 26882.9
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 45030.6
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 53753.4
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 58364.2
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 61431.2
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 82655.7
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 89964.7
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 108899.0

NEAREST NGS PUBLISHED CONTROL POINT
AU2899 HAHNVILLE MUN TANK N295850.283 W0902426.172 1368.2

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

lwes	-33746.214	-5533652.918	3160795.428
nola	-11604.036	-5531876.844	3164070.916
eng6	5594.599	-5534921.930	3158759.205
houm	-70100.639	-5550262.334	3131144.917
awes	-94742.051	-5521868.813	3179990.052
gvms	-86907.679	-5510048.202	3200500.207
sjb1	-106395.187	-5505141.470	3208320.275
gris	4149.694	-5568493.946	3099600.310
fshs	-145211.081	-5537098.015	3151657.543
qcfv	-37945.745	-5529088.401	3168656.956

Covariance matrix of the stations:
1 2.1940E-07 -1.9070E-07 1.5600E-07 -5.2770E-09 2.6010E-08 -2.0610E-08
-2.5020E-09 2.6920E-08 -2.2330E-08 -1.4330E-08 5.0590E-09 -1.4620E-08 -
1.8790E-08 2.6350E-08 -1.7050E-08 -1.7690E-08 3.9070E-08 -2.0560E-08 -
2.0820E-08 4.4080E-08 -2.1880E-08 -1.9350E-09 1.2850E-08 -2.5940E-08 -
2.6990E-08 1.0410E-08 -1.3100E-08 1.7780E-08 1.4480E-07 -8.4180E-08
2 -1.9070E-07 1.4680E-05 -8.4370E-06 2.0000E-08 -1.8270E-06 1.0590E-06
1.9010E-08 -1.8370E-06 1.0660E-06 2.3960E-08 -1.8450E-06 1.0730E-06
2.5780E-08 -1.7940E-06 1.0360E-06 2.5270E-08 -1.7790E-06 1.0240E-06
2.6860E-08 -1.7710E-06 1.0180E-06 2.0250E-08 -1.9030E-06 1.1120E-06
2.9290E-08 -1.8110E-06 1.0490E-06 -1.5800E-09 -2.6230E-07 1.6060E-07
3 1.5600E-07 -8.4370E-06 5.0400E-06 -1.7800E-08 1.0600E-06 -6.1970E-07
-1.7320E-08 1.0640E-06 -6.2240E-07 -1.9520E-08 1.0580E-06 -6.1970E-07 -
2.0460E-08 1.0470E-06 -6.1010E-07 -2.0250E-08 1.0450E-06 -6.0770E-07 -
2.0960E-08 1.0420E-06 -6.0540E-07 -1.7430E-08 1.0770E-06 -6.3290E-07 -
2.2140E-08 1.0450E-06 -6.1090E-07 1.6170E-09 1.4850E-07 -7.1460E-08
4 -5.2770E-09 2.0000E-08 -1.7800E-08 2.3120E-07 -2.6820E-07 2.0160E-07
6.7560E-09 1.6480E-08 -1.7190E-08 -1.5740E-08 4.1050E-10 -1.7170E-08 -
2.4300E-08 5.0050E-08 -2.7220E-08 -2.2340E-08 7.2020E-08 -3.2660E-08 -
2.8170E-08 8.7430E-08 -3.8660E-08 8.1730E-09 -1.3480E-08 -2.2490E-08 -
3.9210E-08 3.5430E-08 -2.8600E-08 1.6190E-08 2.8340E-07 -1.6640E-07
5 2.6010E-08 -1.8270E-06 1.0600E-06 -2.6820E-07 1.4850E-05 -8.5480E-06
1.7300E-08 -1.8350E-06 1.0670E-06 3.3880E-08 -1.8520E-06 1.0840E-06

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  6 -2.0610E-08 1.0590E-06 -6.1970E-07 2.0160E-07 -8.5480E-06 5.1100E-06
-1.5120E-08 1.0620E-06 -6.2230E-07 -2.5440E-08 1.0610E-06 -6.2640E-07 -
2.9470E-08 1.0720E-06 -6.2280E-07 -2.8600E-08 1.0770E-06 -6.2180E-07 -
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  8 2.6920E-08 -1.8370E-06 1.0640E-06 1.6480E-08 -1.8350E-06 1.0620E-06
-3.4710E-07 1.5120E-05 -8.6770E-06 4.3300E-08 -1.8560E-06 1.0930E-06
5.6790E-08 -1.8910E-06 1.0810E-06 5.3850E-08 -1.9030E-06 1.0750E-06
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7.9300E-08 -1.9130E-06 1.1100E-06 1.3750E-08 -8.2450E-07 4.8950E-07
  9 -2.2330E-08 1.0660E-06 -6.2240E-07 -1.7190E-08 1.0670E-06 -6.2230E-07
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9.9800E-09 -2.1290E-08 3.3140E-09 -1.7710E-08 5.3250E-08 -3.1310E-08 -
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 12 -1.4620E-08 1.0730E-06 -6.1970E-07 -1.7170E-08 1.0840E-06 -6.2640E-07
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3.1080E-09 1.0370E-06 -5.9780E-07 3.0890E-09 1.3540E-07 -6.0010E-08
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-2.8950E-08 5.6790E-08 -3.7190E-08 -1.0760E-08 1.8900E-08 -8.0200E-09
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 14 2.6350E-08 -1.7940E-06 1.0470E-06 5.0050E-08 -1.8330E-06 1.0720E-06
6.9940E-08 -1.8910E-06 1.0980E-06 -9.1540E-09 -1.8510E-06 1.0430E-06 -
3.9510E-08 1.3990E-05 -8.0770E-06 -3.3600E-08 -1.4680E-06 9.0720E-07 -
5.3250E-08 -1.3740E-06 8.6150E-07 7.8430E-08 -2.0980E-06 1.1390E-06 -
8.8940E-08 -1.5680E-06 9.0900E-07 -4.4780E-09 6.6370E-07 -3.7350E-07
 15 -1.7050E-08 1.0360E-06 -6.1010E-07 -2.7220E-08 1.0560E-06 -6.2280E-07
-3.5700E-08 1.0810E-06 -6.3390E-07 -1.8900E-09 1.0530E-06 -6.0450E-07
6.3460E-08 -8.0770E-06 4.8610E-06 8.4490E-09 9.0160E-07 -5.5350E-07
1.6830E-08 8.6130E-07 -5.3400E-07 -3.8990E-08 1.1560E-06 -6.4400E-07
3.1960E-08 9.3190E-07 -5.4700E-07 4.6050E-09 -2.2970E-07 1.4150E-07
 16 -1.7690E-08 2.5270E-08 -2.0250E-08 -2.2340E-08 3.8680E-08 -2.8600E-08

-2.6270E-08 5.3850E-08 -3.5760E-08 -1.0970E-08 1.7580E-08 -8.7040E-09 -
5.0130E-09 -3.3600E-08 8.4490E-09 2.1970E-07 -6.3750E-08 7.3910E-08 -
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3.8640E-09 -5.2630E-08 2.5810E-08 9.5520E-09 -1.8460E-07 1.0800E-07
  17   3.9070E-08 -1.7790E-06 1.0450E-06 7.2020E-08 -1.8280E-06 1.0770E-06
9.9630E-08 -1.9030E-06 1.1100E-06 -1.0490E-08 -1.8490E-06 1.0350E-06 -
5.3190E-08 -1.4680E-06 9.0160E-07 -6.3750E-08 1.3800E-05 -7.9830E-06 -
7.2120E-08 -1.2200E-06 8.0410E-07 1.1100E-07 -2.1660E-06 1.1510E-06 -
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-4.2790E-08 1.0750E-06 -6.3460E-07 -2.4660E-09 1.0460E-06 -6.0170E-07
1.3130E-08 9.0720E-07 -5.5350E-07 7.3910E-08 -7.9830E-06 4.8300E-06
2.0050E-08 8.1670E-07 -5.1790E-07 -4.6820E-08 1.1660E-06 -6.4680E-07
3.8100E-08 9.0350E-07 -5.3470E-07 2.0820E-09 -3.2550E-07 1.9290E-07
  19 -2.0820E-08 2.6860E-08 -2.0960E-08 -2.8170E-08 4.3200E-08 -3.1350E-08
-3.4350E-08 6.3110E-08 -4.0310E-08 -9.9800E-09 2.2000E-08 -6.7750E-09 -
5.4560E-10 -5.3250E-08 1.6830E-08 -2.3480E-09 -7.2120E-08 2.0050E-08
2.2990E-07 -5.9950E-08 6.2450E-08 -3.6690E-08 1.0340E-07 -3.8450E-08
1.4040E-08 -7.3340E-08 3.8700E-08 7.8000E-09 -2.9650E-07 1.7370E-07
  20   4.4080E-08 -1.7710E-06 1.0420E-06 8.7430E-08 -1.8310E-06 1.0820E-06
1.2370E-07 -1.9260E-06 1.1230E-06 -2.1290E-08 -1.8530E-06 1.0220E-06 -
7.7450E-08 -1.3740E-06 8.6130E-07 -6.6090E-08 -1.2200E-06 8.1670E-07 -
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1.6800E-07 -1.3770E-06 8.0290E-07 3.2040E-09 1.5180E-06 -8.6430E-07
  21 -2.1880E-08 1.0180E-06 -6.0540E-07 -3.8660E-08 1.0450E-06 -6.2320E-07
-5.2670E-08 1.0830E-06 -6.3950E-07 3.3140E-09 1.0450E-06 -5.9520E-07
2.4960E-08 8.6150E-07 -5.3400E-07 2.0600E-08 8.0410E-07 -5.1790E-07
6.2450E-08 -7.9120E-06 4.7850E-06 -5.8080E-08 1.2000E-06 -6.5100E-07
5.9760E-08 8.5610E-07 -5.0760E-07 3.1630E-09 -5.2900E-07 3.1060E-07
  22 -1.9350E-09 2.0250E-08 -1.7430E-08 8.1730E-09 1.7620E-08 -1.4600E-08
1.6490E-08 6.6230E-09 -1.1740E-08 -1.7710E-08 -3.4800E-09 -1.9910E-08 -
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3.6690E-08 1.3800E-07 -5.8080E-08 2.5460E-07 -4.3310E-07 2.5330E-07 -
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  23   1.2850E-08 -1.9030E-06 1.0770E-06 -1.3480E-08 -1.8840E-06 1.0620E-06
-3.5350E-08 -1.8440E-06 1.0490E-06 5.3250E-08 -1.8930E-06 1.1140E-06
8.7680E-08 -2.0980E-06 1.1560E-06 8.0630E-08 -2.1660E-06 1.1660E-06
1.0340E-07 -2.2460E-06 1.2000E-06 -4.3310E-07 1.6260E-05 -9.0300E-06
1.4360E-07 -2.1180E-06 1.2060E-06 8.0520E-09 -1.5830E-06 9.0690E-07
  24 -2.5940E-08 1.1120E-06 -6.3290E-07 -2.2490E-08 1.1140E-06 -6.3410E-07
-1.9530E-08 1.1090E-06 -6.3290E-07 -3.1310E-08 1.1060E-06 -6.3590E-07 -
3.6210E-08 1.1390E-06 -6.4400E-07 -3.5340E-08 1.1510E-06 -6.4680E-07 -
3.8450E-08 1.1620E-06 -6.5100E-07 2.5330E-07 -9.0300E-06 5.2360E-06 -
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  25 -2.6990E-08 2.9290E-08 -2.2140E-08 -3.9210E-08 5.0890E-08 -3.6210E-08
-4.9430E-08 7.9300E-08 -4.8400E-08 -8.7050E-09 2.9370E-08 -3.1080E-09
6.9890E-09 -8.8940E-08 3.1960E-08 3.8640E-09 -1.2190E-07 3.8100E-08
1.4040E-08 -1.6800E-07 5.9760E-08 -5.3060E-08 1.4360E-07 -4.3780E-08
2.6370E-07 4.6170E-08 2.4100E-08 4.1720E-09 -4.9940E-07 2.9280E-07
  26   1.0410E-08 -1.8110E-06 1.0450E-06 3.5430E-08 -1.8530E-06 1.0730E-06
5.6360E-08 -1.9130E-06 1.1000E-06 -2.7170E-08 -1.8620E-06 1.0370E-06 -
5.9210E-08 -1.5680E-06 9.3190E-07 -5.2630E-08 -1.4760E-06 9.0350E-07 -
7.3340E-08 -1.3770E-06 8.5610E-07 6.4800E-08 -2.1180E-06 1.1350E-06
4.6170E-08 1.4090E-05 -8.0820E-06 -2.1150E-08 6.9650E-07 -4.0360E-07

27 -1.3100E-08 1.0490E-06 -6.1090E-07 -2.8600E-08 1.0760E-06 -6.2830E-07
-4.1480E-08 1.1100E-06 -6.4300E-07 1.0250E-08 1.0680E-06 -5.9780E-07
2.9930E-08 9.0900E-07 -5.4700E-07 2.5810E-08 8.6030E-07 -5.3470E-07
3.8700E-08 8.0290E-07 -5.0760E-07 -4.5950E-08 1.2060E-06 -6.4690E-07
2.4100E-08 -8.0820E-06 4.8270E-06 1.1350E-08 -4.3780E-07 2.7020E-07
28 1.7780E-08 -1.5800E-09 1.6170E-09 1.6190E-08 9.9190E-09 -5.8010E-09
1.7610E-08 1.3750E-08 -8.6500E-09 1.1290E-08 -1.1170E-08 3.0890E-09
8.9000E-09 -4.4780E-09 4.6050E-09 9.5520E-09 3.5160E-09 2.0820E-09
7.8000E-09 3.2040E-09 3.1630E-09 1.7780E-08 8.0520E-09 -1.1520E-08
4.1720E-09 -2.1150E-08 1.1350E-08 2.0340E-06 -7.4660E-07 9.0180E-07
29 1.4480E-07 -2.6230E-07 1.4850E-07 2.8340E-07 -5.7580E-07 3.5080E-07
3.9330E-07 -8.2450E-07 4.4940E-07 -5.0690E-08 -5.9290E-07 1.3540E-07 -
2.2040E-07 6.6370E-07 -2.2970E-07 -1.8460E-07 1.0710E-06 -3.2550E-07 -
2.9650E-07 1.5180E-06 -5.2900E-07 4.3000E-07 -1.5830E-06 4.3760E-07 -
4.9940E-07 6.9650E-07 -4.3780E-07 -7.4660E-07 1.2040E-04 -6.9600E-05
30 -8.4180E-08 1.6060E-07 -7.1460E-08 -1.6640E-07 3.4630E-07 -1.9440E-07
-2.3090E-07 4.8950E-07 -2.5060E-07 2.9650E-08 3.4300E-07 -6.0010E-08
1.2910E-07 -3.7350E-07 1.4150E-07 1.0800E-07 -6.0510E-07 1.9290E-07
1.7370E-07 -8.6430E-07 3.1060E-07 -2.5180E-07 9.0690E-07 -2.2750E-07
2.9280E-07 -4.0360E-07 2.7020E-07 9.0180E-07 -6.9600E-05 4.2020E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000020340 -0.0000007466 0.0000009018
-0.0000007466 0.0001204000 -0.0000696000
0.0000009018 -0.0000696000 0.0000420200

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000020498 0.0000004218 0.0000020384
0.0000004218 0.0000013497 0.0000013765
0.0000020384 0.0000013765 0.0001610545

Horizontal network accuracy = 0.00324 meters.
Vertical network accuracy = 0.02488 meters.

Vectors

To	From	X	Y	Z
lwes	qcfv	4199.532	-4564.516	-7861.528
nola	qcfv	26341.709	-2788.443	-4586.040
eng6	qcfv	43540.345	-5833.529	-9897.750
houm	qcfv	-32154.894	-21173.933	-37512.039
awes	qcfv	-56796.306	7219.589	11333.096
gvms	qcfv	-48961.934	19040.200	31843.252
sjb1	qcfv	-68449.441	23946.932	39663.320
gris	qcfv	42095.439	-39405.544	-69056.646
fshs	qcfv	-107265.336	-8009.613	-16999.413

Covariance matrix of the 9 vectors
1 2.2178E-06 -1.0805E-06 1.1404E-06 1.9948E-06 -8.7531E-07 9.7117E-07
1.9961E-06 -8.7823E-07 9.7230E-07 1.9906E-06 -8.7517E-07 9.6827E-07
1.9885E-06 -8.6057E-07 9.6433E-07 1.9890E-06 -8.5585E-07 9.6334E-07
1.9876E-06 -8.5052E-07 9.6094E-07 1.9965E-06 -8.8660E-07 9.7156E-07
1.9851E-06 -8.5984E-07 9.6153E-07
2 -1.0805E-06 1.3560E-04 -7.8346E-05 -1.0084E-06 1.1941E-04 -6.9052E-05

-1.1193E-06 1.1965E-04 -6.9144E-05 -6.7037E-07 1.1941E-04 -6.8823E-05 -
4.9884E-07 1.1820E-04 -6.8495E-05 -5.3515E-07 1.1781E-04 -6.8411E-05 -
4.2166E-07 1.1737E-04 -6.8214E-05 -1.1548E-06 1.2034E-04 -6.9086E-05 -
2.1633E-07 1.1815E-04 -6.8274E-05
   3 1.1404E-06 -7.8346E-05 4.7203E-05 1.0488E-06 -6.9035E-05 4.1666E-05
1.1138E-06 -6.9174E-05 4.1720E-05 8.5101E-07 -6.9033E-05 4.1532E-05
7.5062E-07 -6.8328E-05 4.1340E-05 7.7193E-07 -6.8098E-05 4.1291E-05
7.0552E-07 -6.7842E-05 4.1175E-05 1.1346E-06 -6.9578E-05 4.1686E-05
5.8524E-07 -6.8300E-05 4.1210E-05
   4 1.9948E-06 -1.0084E-06 1.0488E-06 2.2328E-06 -1.3081E-06 1.2756E-06
2.0070E-06 -1.0273E-06 1.0597E-06 1.9908E-06 -1.0184E-06 1.0479E-06
1.9846E-06 -9.7547E-07 1.0364E-06 1.9859E-06 -9.6150E-07 1.0335E-06
1.9818E-06 -9.4577E-07 1.0264E-06 2.0082E-06 -1.0515E-06 1.0572E-06
1.9744E-06 -9.7342E-07 1.0283E-06
   5 -8.7531E-07 1.1941E-04 -6.9035E-05 -1.3081E-06 1.3640E-04 -7.8845E-05
-1.1325E-06 1.1997E-04 -6.9329E-05 -6.7195E-07 1.1972E-04 -6.8998E-05 -
4.9599E-07 1.1848E-04 -6.8661E-05 -5.3324E-07 1.1808E-04 -6.8575E-05 -
4.1682E-07 1.1763E-04 -6.8372E-05 -1.1689E-06 1.2067E-04 -6.9270E-05 -
2.0623E-07 1.1843E-04 -6.8432E-05
   6 9.7117E-07 -6.9052E-05 4.1666E-05 1.2756E-06 -7.8845E-05 4.7519E-05
1.1234E-06 -6.9378E-05 4.1843E-05 8.5251E-07 -6.9233E-05 4.1648E-05
7.4903E-07 -6.8505E-05 4.1450E-05 7.7100E-07 -6.8269E-05 4.1400E-05
7.0255E-07 -6.8005E-05 4.1281E-05 1.1448E-06 -6.9796E-05 4.1808E-05
5.7859E-07 -6.8474E-05 4.1316E-05
   7 1.9961E-06 -1.1193E-06 1.1138E-06 2.0070E-06 -1.1325E-06 1.1234E-06
2.2451E-06 -1.5007E-06 1.3849E-06 1.9881E-06 -1.1321E-06 1.1104E-06
1.9785E-06 -1.0655E-06 1.0924E-06 1.9806E-06 -1.0438E-06 1.0878E-06
1.9742E-06 -1.0194E-06 1.0769E-06 2.0151E-06 -1.1833E-06 1.1247E-06
1.9628E-06 -1.0624E-06 1.0799E-06
   8 -8.7823E-07 1.1965E-04 -6.9174E-05 -1.0273E-06 1.1997E-04 -6.9378E-05
-1.5007E-06 1.3717E-04 -7.9216E-05 -6.6636E-07 1.1996E-04 -6.9132E-05 -
4.8316E-07 1.1867E-04 -6.8779E-05 -5.2190E-07 1.1825E-04 -6.8689E-05 -
4.0074E-07 1.1778E-04 -6.8477E-05 -1.1837E-06 1.2096E-04 -6.9418E-05 -
1.8165E-07 1.1862E-04 -6.8542E-05
   9 9.7230E-07 -6.9144E-05 4.1720E-05 1.0597E-06 -6.9329E-05 4.1843E-05
1.3849E-06 -7.9216E-05 4.7692E-05 8.5040E-07 -6.9326E-05 4.1700E-05
7.4416E-07 -6.8578E-05 4.1495E-05 7.6669E-07 -6.8334E-05 4.1443E-05
6.9644E-07 -6.8062E-05 4.1320E-05 1.1505E-06 -6.9907E-05 4.1865E-05
5.6925E-07 -6.8546E-05 4.1357E-05
  10 1.9906E-06 -6.7037E-07 8.5101E-07 1.9908E-06 -6.7195E-07 8.5251E-07
1.9881E-06 -6.6636E-07 8.5040E-07 2.2277E-06 -7.7107E-07 9.6654E-07
2.0030E-06 -7.0059E-07 8.6565E-07 2.0022E-06 -7.0992E-07 8.6760E-07
2.0049E-06 -7.2040E-07 8.7230E-07 1.9872E-06 -6.5071E-07 8.5236E-07
2.0098E-06 -7.0193E-07 8.7105E-07
  11 -8.7517E-07 1.1941E-04 -6.9033E-05 -1.0184E-06 1.1972E-04 -6.9233E-05
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4.9613E-07 1.1848E-04 -6.8660E-05 -5.3325E-07 1.1807E-04 -6.8571E-05 -
4.1693E-07 1.1762E-04 -6.8369E-05 -1.1689E-06 1.2068E-04 -6.9275E-05 -
2.0666E-07 1.1843E-04 -6.8437E-05
  12 9.6827E-07 -6.8823E-05 4.1532E-05 1.0479E-06 -6.8998E-05 4.1648E-05
1.1104E-06 -6.9132E-05 4.1700E-05 9.6654E-07 -7.8580E-05 4.7163E-05
7.6159E-07 -6.8319E-05 4.1334E-05 7.8201E-07 -6.8095E-05 4.1285E-05
7.1824E-07 -6.7849E-05 4.1174E-05 1.1306E-06 -6.9528E-05 4.1672E-05
6.0280E-07 -6.8295E-05 4.1212E-05

13 1.9885E-06 -4.9884E-07 7.5062E-07 1.9846E-06 -4.9599E-07 7.4903E-07
1.9785E-06 -4.8316E-07 7.4416E-07 2.0030E-06 -4.9613E-07 7.6159E-07
2.2395E-06 -5.6123E-07 8.3156E-07 2.0105E-06 -5.8291E-07 7.8375E-07
2.0168E-06 -6.0685E-07 7.9450E-07 1.9765E-06 -4.4657E-07 7.4801E-07
2.0279E-06 -5.6426E-07 7.9128E-07
14 -8.6057E-07 1.1820E-04 -6.8328E-05 -9.7547E-07 1.1848E-04 -6.8505E-05
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4.9887E-07 1.1684E-04 -6.7836E-05 -1.0937E-06 1.1922E-04 -6.8525E-05 -
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15 9.6433E-07 -6.8495E-05 4.1340E-05 1.0364E-06 -6.8661E-05 4.1450E-05
1.0924E-06 -6.8779E-05 4.1495E-05 8.6565E-07 -6.8660E-05 4.1334E-05
8.3156E-07 -7.7074E-05 4.6598E-05 7.9764E-07 -6.7864E-05 4.1132E-05
7.4032E-07 -6.7645E-05 4.1034E-05 1.1100E-06 -6.9121E-05 4.1462E-05
6.3635E-07 -6.8035E-05 4.1061E-05
16 1.9890E-06 -5.3515E-07 7.7193E-07 1.9859E-06 -5.3324E-07 7.7100E-07
1.9806E-06 -5.2190E-07 7.6669E-07 2.0022E-06 -5.3325E-07 7.8201E-07
2.0105E-06 -5.9112E-07 7.9764E-07 2.2346E-06 -6.2927E-07 8.6563E-07
2.0143E-06 -6.3129E-07 8.1124E-07 1.9788E-06 -4.8942E-07 7.6998E-07
2.0241E-06 -5.9348E-07 8.0826E-07
17 -8.5585E-07 1.1781E-04 -6.8098E-05 -9.6150E-07 1.1808E-04 -6.8269E-05
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18 9.6334E-07 -6.8411E-05 4.1291E-05 1.0335E-06 -6.8575E-05 4.1400E-05
1.0878E-06 -6.8689E-05 4.1443E-05 8.6760E-07 -6.8571E-05 4.1285E-05
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7.4607E-07 -6.7593E-05 4.0999E-05 1.1047E-06 -6.9015E-05 4.1408E-05
6.4502E-07 -6.7967E-05 4.1022E-05
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2.0361E-06 -5.0229E-07 7.5545E-07
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7.9450E-07 -6.7836E-05 4.1034E-05 8.1124E-07 -6.7662E-05 4.0999E-05
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1.1165E-07 1.1917E-04 -6.8863E-05
  24   9.7156E-07 -6.9086E-05 4.1686E-05 1.0572E-06 -6.9270E-05 4.1808E-05
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1.9628E-06 -1.8165E-07 5.6925E-07 2.0098E-06 -2.0666E-07 6.0280E-07
2.0279E-06 -3.3166E-07 6.3635E-07 2.0241E-06 -3.7262E-07 6.4502E-07
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1.0799E-06 -6.8542E-05 4.1357E-05 8.7105E-07 -6.8437E-05 4.1212E-05
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Correlation matrix of the 9 vectors
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8.9010E-01 -4.9884E-02 9.4948E-02 8.9314E-01 -5.0347E-02 9.4449E-02
8.8095E-01 -5.0046E-02 9.4880E-02
   2 -6.2306E-02 1.0000E+00 -9.7925E-01 -5.7953E-02 8.7801E-01 -8.6022E-01
-6.4150E-02 8.7730E-01 -8.5979E-01 -3.8570E-02 8.7750E-01 -8.6059E-01 -
2.8625E-02 8.7997E-01 -8.6166E-01 -3.0742E-02 8.8038E-01 -8.6185E-01 -
2.4149E-02 8.8039E-01 -8.6196E-01 -6.6065E-02 8.7395E-01 -8.5890E-01 -
1.2278E-02 8.7949E-01 -8.6158E-01
   3   1.1145E-01 -9.7925E-01 1.0000E+00 1.0216E-01 -8.6035E-01 8.7976E-01
1.0819E-01 -8.5967E-01 8.7929E-01 8.2989E-02 -8.5985E-01 8.8023E-01
7.3007E-02 -8.6216E-01 8.8146E-01 7.5162E-02 -8.6252E-01 8.8168E-01
6.8486E-02 -8.6250E-01 8.8188E-01 1.1002E-01 -8.5644E-01 8.7841E-01
5.6298E-02 -8.6169E-01 8.8146E-01
   4   8.9639E-01 -5.7953E-02 1.0216E-01 1.0000E+00 -7.4957E-02 1.2384E-01
8.9639E-01 -5.8699E-02 1.0269E-01 8.9262E-01 -5.8324E-02 1.0212E-01
8.8751E-01 -5.6593E-02 1.0160E-01 8.8907E-01 -5.5994E-02 1.0146E-01
8.8453E-01 -5.5284E-02 1.0107E-01 8.9536E-01 -5.9512E-02 1.0243E-01
8.7329E-01 -5.6466E-02 1.0112E-01
   5 -5.0325E-02 8.7801E-01 -8.6035E-01 -7.4957E-02 1.0000E+00 -9.7934E-01
-6.4717E-02 8.7704E-01 -8.5957E-01 -3.8548E-02 8.7718E-01 -8.6025E-01 -
2.8378E-02 8.7944E-01 -8.6122E-01 -3.0543E-02 8.7978E-01 -8.6138E-01 -
2.3802E-02 8.7971E-01 -8.6144E-01 -6.6678E-02 8.7380E-01 -8.5867E-01 -
1.1670E-02 8.7893E-01 -8.6106E-01
   6   9.4601E-02 -8.6022E-01 8.7976E-01 1.2384E-01 -9.7934E-01 1.0000E+00
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5.5473E-02 -8.6101E-01 8.8077E-01
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  10   8.9555E-01 -3.8570E-02 8.2989E-02 8.9262E-01 -3.8548E-02 8.2858E-02
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8.9586E-01 -4.2159E-02 8.5999E-02 8.8702E-01 -3.6869E-02 8.2677E-02
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  13   8.9226E-01 -2.8625E-02 7.3007E-02 8.8751E-01 -2.8378E-02 7.2609E-02
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G-FILE for the vectors

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C00100007 -684494413   14  239469315  114  396633195   67
C00100008  420954391   15 -394055443  118 -690566457   69
C00100009-1072653358   15  -80096134  115 -169994131   68
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D  1  7  8945467  1  8  -503518  1  9   945391  1 10  8955474  1 11  -502889
D  1 12   946740  1 13  8922601  1 14  -500949  1 15   948581  1 16  8934399
D  1 17  -500089  1 18   948974  1 19  8900958  1 20  -498842  1 21   949478
D  1 22  8931426  1 23  -503465  1 24   944485  1 25  8809503  1 26  -500458
D  1 27   948803  2  3 -9792548  2  4  -579531  2  5  8780065  2  6 -8602186
D  2  7  -641500  2  8  8772972  2  9 -8597924  2 10  -385697  2 11  8775040 D
2 12 -8605885  2 13  -286251  2 14  8799726  2 15 -8616628  2 16  -307424 D  2
17  8803818  2 18 -8618469  2 19  -241489  2 20  8803874  2 21 -8619636 D  2
22  -660653  2 23  8739510  2 24 -8589044  2 25  -122778  2 26  8794882 D  2
27 -8615796  3  4  1021584  3  5 -8603475  3  6  8797642  3  7  1081913
D  3  8 -8596674  3  9  8792910  3 10   829891  3 11 -8598454  3 12  8802280
D  3 13   730065  3 14 -8621568  3 15  8814565  3 16   751615  3 17 -8625218
D  3 18  8816785  3 19   684856  3 20 -8624962  3 21  8818793  3 22  1100160
D  3 23 -8564382  3 24  8784097  3 25   562982  3 26 -8616908  3 27  8814557
D  4  5  -749567  4  6  1238383  4  7  8963860  4  8  -586988  4  9  1026871 D
4 10  8926189  4 11  -583236  4 12  1021196  4 13  8875090  4 14  -565926 D  4
15  1016029  4 16  8890679  4 17  -559935  4 18  1014627  4 19  8845341 D  4
20  -552843  4 21  1010730  4 22  8953571  4 23  -595116  4 24  1024314 D  4
25  8732885  4 26  -564662  4 27  1011231  5  6 -9793371  5  7  -647172 D  5
8  8770370  5  9 -8595668  5 10  -385475  5 11  8771824  5 12 -8602488 D  5 13
-283783  5 14  8794355  5 15 -8612202  5 16  -305430  5 17  8797767 D  5 18 -
8613815  5 19  -238018  5 20  8797074  5 21 -8614411  5 22  -666780 D  5 23
8738017  5 24 -8586685  5 25  -116703  5 26  8789300  5 27 -8610556
D  6  7  1087623  6  8 -8593358  6  9  8789482  6 10   828584  6 11 -8594568
D  6 12  8797529  6 13   726091  6 14 -8615161  6 15  8808647  6 16   748208
D  6 17 -8618001  6 18  8810594  6 19   679701  6 20 -8616812  6 21  8811877
D  6 22  1106401  6 23 -8562527  6 24  8780420  6 25   554730  6 26 -8610137
D  6 27  8807710  7  8  -855193  7  9  1338426  7 10  8889845  7 11  -646558 D
7 12  1079064  7 13  8823753  7 14  -616456  7 15  1068021  7 16  8842485 D  7
17  -606196  7 18  1065087  7 19  8787329  7 20  -594254  7 21  1057551 D  7
22  8959757  7 23  -667860  7 24  1086694  7 25  8657665  7 26  -614587 D  7
27  1059093  8  9 -9794013  8 10  -381198  8 11  8765132  8 12 -8595075 D  8
13  -275668  8 14  8783836  8 15 -8602862  8 16  -298098  8 17  8786029 D  8
18 -8603991  8 19  -228195  8 20  8783894  8 21 -8603498  8 22  -673347 D  8
23  8734386  8 24 -8580952  8 25  -102506  8 26  8778645  8 27 -8600138
D  9 10   825029  9 11 -8590528  9 12  8792401  9 13   720057  9 14 -8608599
D  9 15  8802186  9 16   742671  9 17 -8610586  9 18  8803782  9 19   672562
D  9 20 -8608418  9 21  8804345  9 22  1109895  9 23 -8560613  9 24  8776477
D  9 25   544781  9 26 -8603457  9 27  8800515 10 11  -442087 10 12   942951
D 10 13  8967800 10 14  -406914 10 15   849632 10 16  8973772 10 17  -413898
D 10 18   852768 10 19  8958633 10 20  -421587 10 21   859985 10 22  8870154
```

D 10 23 -368692 10 24   826767 10 25 8899651 10 26 -407642 10 27   857612
D 11 12 -9791705 11 13 -283703 11 14 8789321 11 15 -8607300 11 16 -305264 D
11 17 8792508 11 18 -8608536 11 19 -237947 11 20 8791740 11 21 -8609131 D
11 22 -666410 11 23 8733668 11 24 -8582418 11 25 -116881 11 26 8784937
D 11 27 -8606284 12 13   741046 12 14 -8624065 12 15 8817045 12 16   761746
D 12 17 -8628473 12 18 8819349 12 19   697492 12 20 -8629487 12 21 8822255
D 12 22 1096791 12 23 -8561834 12 24 8784766 12 25   580120 12 26 -8619909
D 12 27 8818638 13 14 -325116 13 15   814013 13 16 8987452 13 17 -338953
D 13 18   768319 13 19 8987736 13 20 -354201 13 21   781217 13 22 8799204
D 13 23 -252360 13 24   723640 13 25 8956080 13 26 -326828 13 27   777021
D 14 15 -9788026 14 16 -342806 14 17 8841119 14 18 -8647330 14 19 -288425 D
14 20 8847513 14 21 -8653412 14 22 -631658 14 23 8740411 14 24 -8600276
D 14 25 -190025 14 26 8827169 14 27 -8647497 15 16   781674 15 17 -8651091
D 15 18 8839709 15 19   723288 15 20 -8655494 15 21 8845335 15 22 1083320
D 15 23 -8563152 15 24 8793410 15 25   616111 15 26 -8638997 15 27 8839498
D 16 17 -366313 16 18   849517 16 19 8986643 16 20 -368870 16 21   798552
D 16 22 8818873 16 23 -276878 16 24   745711 16 25 8949203 16 26 -344129
D 16 27   794566 17 18 -9785525 17 19 -305111 17 20 8861849 17 21 -8663958
D 17 22 -619809 17 23 8738616 17 24 -8602237 17 25 -214300 17 26 8836899
D 17 27 -8656938 18 19   729948 18 20 -8661386 18 21 8850442 18 22 1079692
D 18 23 -8562346 18 24 8794550 18 25   625397 18 26 -8642856 18 27 8843786
D 19 20 -298983 19 21   772709 19 22 8760640 19 23 -200080 19 24   676997
D 19 25 8974463 19 26 -290364 19 27   740384 20 21 -9783364 20 22 -606238
D 20 23 8732428 20 24 -8600298 20 25 -241535 20 26 8843659 20 27 -8663470
D 21 22 1070866 21 23 -8558745 21 24 8795239 21 25   647306 21 26 -8649143
D 21 27 8851002 22 23 -911451 22 24 1368078 22 25 8625626 22 26 -629820
D 22 27 1073305 23 24 -9791479 23 25   -62404 23 26 8735411 23 27 -8557977
D 24 25   551841 24 26 -8595889 24 27 8793037 25 26 -103048 25 27   603861
D 26 27 -9787801

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
lwes	-37945.750	-5529088.381	3168656.946
nola	-37945.740	-5529088.411	3168656.963
eng6	-37945.745	-5529088.359	3168656.925
houm	-37945.748	-5529088.381	3168656.947
awes	-37945.744	-5529088.409	3168656.960
gvms	-37945.734	-5529088.428	3168656.968
sjb1	-37945.753	-5529088.354	3168656.922
gris	-37945.749	-5529088.352	3168656.930
fshs	-37945.744	-5529088.418	3168656.971

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
lwes	-0.005	0.020	-0.010	-0.005	0.001	-0.022
nola	0.005	-0.010	0.008	0.005	0.002	0.013
eng6	0.001	0.042	-0.030	0.000	-0.005	-0.052
houm	-0.002	0.021	-0.009	-0.002	0.003	-0.022

awes 0.001 -0.008 0.005 0.001
0.000 0.009
gvms 0.011 -0.026 0.012 0.011 -
0.002 0.029
sjb1 -0.007 0.047 -0.034 -0.008 -
0.006 -0.058
gris -0.004 0.050 -0.026 -0.004
0.002 -0.056
fshs 0.001 -0.017 0.016 0.001
0.005 0.022

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 540256.056
Easting (X) [feet] 3578464.198
Convergence [degrees] 0.47007708
Point Scale 0.99992580
Combined Factor 0.99992950

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 2.388 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.398
scatter (mean square distance from rover) is 4411.473
average edop for rover is 0.660
average ndop for rover is 0.670
average hdop for rover is 0.940
average vdop for rover is 1.720
average gdop for rover is 2.250

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:14 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA06.O00 OP1335485439890

FILE: QCFVA06.O00 OP1335485439890

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069o.12o TIME: 00:13:15 UTC

SOFTWARE: rsgps 1.37 RS11.prl 1.73 START: 2012/03/09 14:48:24
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 15:12:41
NAV FILE: brdc0690.12n OBS USED: 1908 / 2007 : 95%
ANT NAME: LEIAT502 NONE QUALITY IND. 3.53/ 1.81
ARP HEIGHT: 1.486 NORMALIZED RMS: 0.474

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18750)

X:	-36081.268(m)	0.008(m)	-36082.000(m)	0.008(m)
Y:	-5530952.309(m)	0.046(m)	-5530950.819(m)	0.046(m)
Z:	3165452.435(m)	0.030(m)	3165452.227(m)	0.030(m)

LAT:	29 56 55.90582	0.011(m)	29 56 55.92404	0.011(m)
E LON:	269 37 34.44687	0.008(m)	269 37 34.41921	0.008(m)
W LON:	90 22 25.55313	0.008(m)	90 22 25.58079	0.008(m)
EL HGT:	-21.682(m)	0.054(m)	-23.073(m)	0.054(m)
ORTHO HGT:	4.342(m)	0.055(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3316020.272	160985.986
Easting (X) [meters]	753468.914	1092624.711
Convergence [degrees]	1.31178739	0.47979646
Point Scale	1.00039274	0.99992615
Combined Factor	1.00039614	0.99992956

US NATIONAL GRID DESIGNATOR: 15RYP5346816020(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9596	DSTR DESTRAHAN H.S. CORS ARP	N295752.395	W0902256.007	1921.6

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 24534.4
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 42397.0
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 64274.1
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 61113.3
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 85817.0
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 81801.5
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 115656.5
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 149870.8

NEAREST NGS PUBLISHED CONTROL POINT
AU2894 LULING N295650.709 W0902334.155 1845.1

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

dstr	-36892.838	-5530079.530	3166960.850
nola	-11604.031	-5531876.841	3164070.912
eng6	5594.596	-5534921.898	3158759.192
covg	-9174.166	-5501675.360	3215950.522
awes	-94742.052	-5521868.806	3179990.051
gris	4149.676	-5568493.970	3099600.329
lmcn	-64275.985	-5568696.880	3098580.591
bvhs	57650.153	-5564331.440	3106490.827
mspk	82001.472	-5483970.057	3244889.901
qcfv	-36082.000	-5530950.819	3165452.227

Covariance matrix of the stations:
1 2.5280E-07 7.1540E-07 -7.0000E-07 -1.5250E-08 -9.3500E-08 8.7960E-08
-1.9110E-08 -8.0390E-08 8.2710E-08 -1.4290E-08 -8.4200E-08 6.6380E-08
1.2420E-09 -1.5910E-07 1.1870E-07 -2.0570E-08 -9.2550E-08 1.0850E-07 -
6.6090E-09 -1.4850E-07 1.3720E-07 -3.2740E-08 -4.8440E-08 8.3990E-08 -
3.4350E-08 -8.7870E-09 1.4750E-08 -7.6910E-10 -3.5640E-07 2.5860E-07
2 7.1540E-07 1.6030E-05 -1.1170E-05 -9.6670E-08 -1.9850E-06 1.3980E-06
-8.4320E-08 -2.0130E-06 1.4080E-06 -9.7720E-08 -2.0310E-06 1.4750E-06 -
1.5130E-07 -1.8300E-06 1.3280E-06 -8.2080E-08 -1.9560E-06 1.3180E-06 -
1.2810E-07 -1.8240E-06 1.2500E-06 -4.3060E-08 -2.0580E-06 1.3770E-06 -
3.1990E-08 -2.2220E-06 1.6140E-06 1.5690E-08 6.9710E-07 -4.9300E-07
3 -7.0000E-07 -1.1170E-05 8.6940E-06 9.0660E-08 1.3960E-06 -1.0740E-06
8.5370E-08 1.4060E-06 -1.0780E-06 9.0790E-08 1.4440E-06 -1.1240E-06
1.1420E-07 1.3320E-06 -1.0430E-06 8.4940E-08 1.3490E-06 -1.0210E-06
1.0430E-07 1.2910E-06 -9.8930E-07 6.8400E-08 1.3980E-06 -1.0500E-06
6.1250E-08 1.5540E-06 -1.2030E-06 -3.1780E-09 -2.5030E-07 1.9590E-07
4 -1.5250E-08 -9.6670E-08 9.0660E-08 2.4490E-07 6.6190E-07 -6.6470E-07
-1.6890E-08 -7.7380E-08 8.0090E-08 -1.5750E-08 -8.3550E-08 7.9950E-08 -
1.3690E-08 -1.2180E-07 1.0460E-07 -1.7440E-08 -7.9310E-08 8.5150E-08 -
1.5150E-08 -1.1030E-07 1.0240E-07 -1.9910E-08 -5.3410E-08 7.0340E-08 -
1.9740E-08 -3.9390E-08 5.1530E-08 9.2150E-09 -7.4180E-08 5.4130E-08
5 -9.3500E-08 -1.9850E-06 1.3960E-06 6.6190E-07 1.6290E-05 -1.1320E-05
-7.9350E-08 -2.0400E-06 1.4240E-06 -8.5260E-08 -2.0520E-06 1.4580E-06 -

1.1150E-07 -1.9310E-06 1.3700E-06 -7.8970E-08 -2.0040E-06 1.3760E-06 -
1.0130E-07 -1.9260E-06 1.3330E-06 -5.9690E-08 -2.0660E-06 1.4140E-06 -
5.2310E-08 -2.1750E-06 1.5470E-06 -6.0280E-09 -6.2360E-08 5.7650E-08
   6   8.7960E-08 1.3980E-06 -1.0740E-06 -6.6470E-07 -1.1320E-05 8.7800E-06
8.1620E-08 1.4220E-06 -1.0870E-06 8.3990E-08 1.4590E-06 -1.1210E-06
9.6250E-08 1.3800E-06 -1.0650E-06 8.1940E-08 1.3740E-06 -1.0480E-06
9.1610E-08 1.3390E-06 -1.0270E-06 7.3470E-08 1.4060E-06 -1.0680E-06
6.7870E-08 1.5390E-06 -1.1780E-06 7.3460E-09 1.2910E-07 -8.3930E-08
   7 -1.9110E-08 -8.4320E-08 8.5370E-08 -1.6890E-08 -7.9350E-08 8.1620E-08
2.4510E-07 6.1230E-07 -6.3530E-07 -1.6860E-08 -8.2970E-08 8.9610E-08 -
2.4450E-08 -9.4980E-08 9.4390E-08 -1.5260E-08 -6.9690E-08 6.8410E-08 -
2.1340E-08 -8.2870E-08 7.7470E-08 -1.0780E-08 -5.6860E-08 6.0520E-08 -
9.3480E-09 -6.1220E-08 7.7830E-08 1.8090E-08 1.3490E-07 -9.8140E-08
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6.1230E-07 1.6430E-05 -1.1370E-05 -7.6680E-08 -2.0610E-06 1.4430E-06 -
8.7070E-08 -1.9840E-06 1.3890E-06 -7.5790E-08 -2.0270E-06 1.4050E-06 -
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6.2760E-08 -2.1440E-06 1.5020E-06 -1.3410E-08 -4.1760E-07 3.1030E-07
   9   8.2710E-08 1.4080E-06 -1.0780E-06 8.0090E-08 1.4240E-06 -1.0870E-06
-6.3530E-07 -1.1370E-05 8.8010E-06 7.9650E-08 1.4640E-06 -1.1190E-06
8.8710E-08 1.3950E-06 -1.0710E-06 7.8670E-08 1.3820E-06 -1.0550E-06
8.5570E-08 1.3540E-06 -1.0380E-06 7.2530E-08 1.4090E-06 -1.0720E-06
6.7400E-08 1.5360E-06 -1.1700E-06 5.9730E-09 2.0810E-07 -1.3750E-07
  10 -1.4290E-08 -9.7720E-08 9.0790E-08 -1.5750E-08 -8.5260E-08 8.3990E-08
-1.6860E-08 -7.6680E-08 7.9650E-08 2.4320E-07 6.6530E-07 -6.7080E-07 -
1.1520E-08 -1.2540E-07 1.0550E-07 -1.7540E-08 -7.9970E-08 8.7370E-08 -
1.3800E-08 -1.1410E-07 1.0610E-07 -2.1220E-08 -5.1800E-08 7.1370E-08 -
2.1250E-08 -3.4390E-08 4.6100E-08 7.8800E-09 -1.0720E-07 7.8660E-08
  11 -8.4200E-08 -2.0310E-06 1.4440E-06 -8.3550E-08 -2.0520E-06 1.4590E-06
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8.5650E-08 -2.0120E-06 1.4300E-06 -8.4240E-08 -2.0440E-06 1.4530E-06 -
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7.7170E-08 -2.1350E-06 1.5170E-06 -2.7610E-08 -5.5200E-07 4.4360E-07
  12   6.6380E-08 1.4750E-06 -1.1240E-06 7.9950E-08 1.4580E-06 -1.1210E-06
8.9610E-08 1.4430E-06 -1.1190E-06 -6.7080E-07 -1.1670E-05 9.1610E-06
3.6740E-08 1.5360E-06 -1.1420E-06 9.3580E-08 1.4360E-06 -1.1620E-06
5.7310E-08 1.5000E-06 -1.1860E-06 1.2330E-07 1.3960E-06 -1.1430E-06
1.2450E-07 1.4260E-06 -1.0530E-06 5.6010E-08 1.2680E-06 -9.3140E-07
  13   1.2420E-09 -1.5130E-07 1.1420E-07 -1.3690E-08 -1.1150E-07 9.6250E-08
-2.4450E-08 -8.7070E-08 8.8710E-08 -1.1520E-08 -8.5650E-08 3.6740E-08
3.0400E-07 7.6880E-07 -7.5780E-07 -2.7920E-08 -1.2180E-07 1.6000E-07
1.1750E-08 -2.3250E-07 2.1390E-07 -6.1440E-08 -3.7630E-08 1.1430E-07 -
6.6950E-08 5.8470E-08 -6.5920E-08 -3.1250E-08 -1.0090E-06 7.3540E-07
  14 -1.5910E-07 -1.8300E-06 1.3320E-06 -1.2180E-07 -1.9310E-06 1.3800E-06
-9.4980E-08 -1.9840E-06 1.3950E-06 -1.2540E-07 -2.0120E-06 1.5360E-06
7.6880E-07 1.5800E-05 -1.1040E-05 -8.8560E-08 -1.8800E-06 1.2090E-06 -
1.8860E-07 -1.6280E-06 1.0850E-06 -4.6050E-09 -2.0700E-06 1.3150E-06
1.4850E-08 -2.3540E-06 1.7880E-06 4.4430E-08 1.9280E-06 -1.3700E-06
  15   1.1870E-07 1.3280E-06 -1.0430E-06 1.0460E-07 1.3700E-06 -1.0650E-06
9.4390E-08 1.3890E-06 -1.0710E-06 1.0550E-07 1.4300E-06 -1.1420E-06 -
7.5780E-07 -1.1040E-05 8.6300E-06 9.2580E-08 1.3160E-06 -9.8170E-07
1.3010E-07 1.2160E-06 -9.2970E-07 6.0870E-08 1.3960E-06 -1.0280E-06
5.0800E-08 1.5940E-06 -1.2610E-06 -2.8050E-09 -6.1080E-07 4.3970E-07
  16 -2.0570E-08 -8.2080E-08 8.4940E-08 -1.7440E-08 -7.8970E-08 8.1940E-08

-1.5260E-08 -7.5790E-08 7.8670E-08 -1.7540E-08 -8.4240E-08 9.3580E-08 -
2.7920E-08 -8.8560E-08 9.2580E-08 2.4860E-07 6.1390E-07 -6.4830E-07 -
2.3470E-08 -7.6160E-08 7.1250E-08 -8.4580E-09 -5.9110E-08 5.8650E-08 -
6.6830E-09 -6.9010E-08 8.6640E-08 2.0420E-08 1.9170E-07 -1.3990E-07
  17 -9.2550E-08 -1.9560E-06 1.3490E-06 -7.9310E-08 -2.0040E-06 1.3740E-06
-6.9690E-08 -2.0270E-06 1.3820E-06 -7.9970E-08 -2.0440E-06 1.4360E-06 -
1.2180E-07 -1.8800E-06 1.3160E-06 6.1390E-07 1.6160E-05 -1.1020E-05 -
1.0400E-07 -1.8720E-06 1.2540E-06 -3.7700E-08 -2.0610E-06 1.3580E-06 -
2.8470E-08 -2.2020E-06 1.5520E-06 1.6300E-08 2.5010E-07 -2.0880E-07
  18   1.0850E-07 1.3180E-06 -1.0210E-06 8.5150E-08 1.3760E-06 -1.0480E-06
6.8410E-08 1.4050E-06 -1.0550E-06 8.7370E-08 1.4530E-06 -1.1620E-06
1.6000E-07 1.2090E-06 -9.8170E-07 -6.4830E-07 -1.1020E-05 8.5390E-06
1.2660E-07 1.1630E-06 -8.5060E-07 1.2610E-08 1.4230E-06 -9.8550E-07 -
7.6220E-10 1.6740E-06 -1.3230E-06 -5.2550E-08 -1.1590E-06 8.7710E-07
  19 -6.6090E-09 -1.2810E-07 1.0430E-07 -1.5150E-08 -1.0130E-07 9.1610E-08
-2.1340E-08 -8.4310E-08 8.5570E-08 -1.3800E-08 -8.6470E-08 5.7310E-08
1.1750E-08 -1.8860E-07 1.3010E-07 -2.3470E-08 -1.0400E-07 1.2660E-07
2.6850E-07 7.2670E-07 -6.7870E-07 -4.2840E-08 -4.6340E-08 9.4940E-08 -
4.5800E-08 1.2080E-08 -1.1520E-08 -1.3040E-08 -5.8870E-07 4.2780E-07
  20 -1.4850E-07 -1.8240E-06 1.2910E-06 -1.1030E-07 -1.9260E-06 1.3390E-06
-8.2870E-08 -1.9800E-06 1.3540E-06 -1.1410E-07 -2.0090E-06 1.5000E-06 -
2.3250E-07 -1.6280E-06 1.2160E-06 -7.6160E-08 -1.8720E-06 1.1630E-06
7.2670E-07 1.5770E-05 -1.0890E-05 9.5960E-09 -2.0640E-06 1.2700E-06
2.9110E-08 -2.3570E-06 1.7540E-06 5.9790E-08 1.9450E-06 -1.4300E-06
  21   1.3720E-07 1.2500E-06 -9.8930E-07 1.0240E-07 1.3330E-06 -1.0270E-06
7.7470E-08 1.3760E-06 -1.0380E-06 1.0610E-07 1.4300E-06 -1.1860E-06
2.1390E-07 1.0850E-06 -9.2970E-07 7.1250E-08 1.2540E-06 -8.5060E-07 -
6.7870E-07 -1.0890E-05 8.4860E-06 -6.1210E-09 1.4190E-06 -9.4140E-07 -
2.4290E-08 1.7390E-06 -1.4130E-06 -6.9170E-08 -1.9540E-06 1.4470E-06
  22 -3.2740E-08 -4.3060E-08 6.8400E-08 -1.9910E-08 -5.9690E-08 7.3470E-08
-1.0780E-08 -6.7990E-08 7.2530E-08 -2.1220E-08 -8.1630E-08 1.2330E-07 -
6.1440E-08 -4.6050E-09 6.0870E-08 -8.4580E-09 -3.7700E-08 1.2610E-08 -
4.2840E-08 9.5960E-09 -6.1210E-09 2.8340E-07 4.2110E-07 -5.7310E-07
2.5240E-08 -1.3580E-07 1.6790E-07 4.7580E-08 8.4050E-07 -6.1160E-07
  23 -4.8440E-08 -2.0580E-06 1.3980E-06 -5.3410E-08 -2.0660E-06 1.4060E-06
-5.6860E-08 -2.0660E-06 1.4090E-06 -5.1800E-08 -2.0740E-06 1.3960E-06 -
3.7630E-08 -2.0700E-06 1.3960E-06 -5.9110E-08 -2.0610E-06 1.4230E-06 -
4.6340E-08 -2.0640E-06 1.4190E-06 4.2110E-07 1.6660E-05 -1.1250E-05 -
6.7430E-08 -2.0930E-06 1.4080E-06 -1.2240E-08 -9.9160E-07 6.8800E-07
  24   8.3990E-08 1.3770E-06 -1.0500E-06 7.0340E-08 1.4140E-06 -1.0680E-06
6.0520E-08 1.4300E-06 -1.0720E-06 7.1370E-08 1.4730E-06 -1.1430E-06
1.1430E-07 1.3150E-06 -1.0280E-06 5.8650E-08 1.3580E-06 -9.8550E-07
9.4940E-08 1.2700E-06 -9.4140E-07 -5.7310E-07 -1.1250E-05 8.6490E-06
1.8840E-08 1.6190E-06 -1.2490E-06 -3.8680E-08 -4.9050E-07 3.9580E-07
  25 -3.4350E-08 -3.1990E-08 6.1250E-08 -1.9740E-08 -5.2310E-08 6.7870E-08
-9.3480E-09 -6.2760E-08 6.7400E-08 -2.1250E-08 -7.7170E-08 1.2450E-07 -
6.6950E-08 1.4850E-08 5.0800E-08 -6.6830E-09 -2.8470E-08 -7.6220E-10 -
4.5800E-08 2.9110E-08 -2.4290E-08 2.5240E-08 -6.7430E-08 1.8840E-08
2.8980E-07 2.7640E-07 -3.6590E-07 5.2970E-08 9.6890E-07 -7.0510E-07
  26 -8.7870E-09 -2.2220E-06 1.5540E-06 -3.9390E-08 -2.1750E-06 1.5390E-06
-6.1220E-08 -2.1440E-06 1.5360E-06 -3.4390E-08 -2.1350E-06 1.4260E-06
5.8470E-08 -2.3540E-06 1.5940E-06 -6.9010E-08 -2.2020E-06 1.6740E-06
1.2080E-08 -2.3570E-06 1.7390E-06 -1.3580E-07 -2.0930E-06 1.6190E-06
2.7640E-07 1.7790E-05 -1.2680E-05 -7.6950E-08 -2.6840E-06 2.0010E-06

27 1.4750E-08 1.6140E-06 -1.2030E-06 5.1530E-08 1.5470E-06 -1.1780E-06
7.7830E-08 1.5020E-06 -1.1700E-06 4.6100E-08 1.5170E-06 -1.0530E-06 -
6.5920E-08 1.7880E-06 -1.2610E-06 8.6640E-08 1.5520E-06 -1.3230E-06 -
1.1520E-08 1.7540E-06 -1.4130E-06 1.6790E-07 1.4080E-06 -1.2490E-06 -
3.6590E-07 -1.2680E-05 9.9630E-06 9.7160E-08 2.8600E-06 -2.0920E-06
28 -7.6910E-10 1.5690E-08 -3.1780E-09 9.2150E-09 -6.0280E-09 7.3460E-09
1.8090E-08 -1.3410E-08 5.9730E-09 7.8800E-09 -2.7610E-08 5.6010E-08 -
3.1250E-08 4.4430E-08 -2.8050E-09 2.0420E-08 1.6300E-08 -5.2550E-08 -
1.3040E-08 5.9790E-08 -6.9170E-08 4.7580E-08 -1.2240E-08 -3.8680E-08
5.2970E-08 -7.6950E-08 9.7160E-08 2.2250E-06 1.1340E-05 -9.0050E-06
29 -3.5640E-07 6.9710E-07 -2.5030E-07 -7.4180E-08 -6.2360E-08 1.2910E-07
1.3490E-07 -4.1760E-07 2.0810E-07 -1.0720E-07 -5.5200E-07 1.2680E-06 -
1.0090E-06 1.9280E-06 -6.1080E-07 1.9170E-07 2.5010E-07 -1.1590E-06 -
5.8870E-07 1.9450E-06 -1.9540E-06 8.4050E-07 -9.9160E-07 -4.9050E-07
9.6890E-07 -2.6840E-06 2.8600E-06 1.1340E-05 1.7050E-04 -1.2940E-04
30 2.5860E-07 -4.9300E-07 1.9590E-07 5.4130E-08 5.7650E-08 -8.3930E-08
-9.8140E-08 3.1030E-07 -1.3750E-07 7.8660E-08 4.4360E-07 -9.3140E-07
7.3540E-07 -1.3700E-06 4.3970E-07 -1.3990E-07 -2.0880E-07 8.7710E-07
4.2780E-07 -1.4300E-06 1.4470E-06 -6.1160E-07 6.8800E-07 3.9580E-07 -
7.0510E-07 2.0010E-06 -2.0920E-06 -9.0050E-06 -1.2940E-04 1.0290E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000022250 0.0000113400 -0.0000090050
0.0000113400 0.0001705000 -0.0001294000
-0.0000090050 -0.0001294000 0.0001029000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000020842 -0.0000019958 -0.0000129421
-0.0000019958 0.0000079952 0.0000363733
-0.0000129421 0.0000363733 0.0002655455

Horizontal network accuracy = 0.00589 meters.
Vertical network accuracy = 0.03195 meters.

		Vectors		
To	From	X	Y	Z
dstr	qcfv	-810.839	871.289	1508.623
nola	qcfv	24477.969	-926.022	-1381.315
eng6	qcfv	41676.596	-3971.079	-6693.036
covg	qcfv	26907.834	29275.459	50498.294
awes	qcfv	-58660.052	9082.013	14537.824
gris	qcfv	40231.675	-37543.151	-65851.899
lmcn	qcfv	-28193.985	-37746.061	-66871.636
bvhs	qcfv	93732.152	-33380.621	-58961.401
mspk	qcfv	118083.472	46980.762	79437.674

Covariance matrix of the 9 vectors
1 2.4793E-06 1.2396E-05 -9.9604E-06 2.2013E-06 1.1609E-05 -9.1830E-06
2.1886E-06 1.1629E-05 -9.1869E-06 2.2036E-06 1.1640E-05 -9.2532E-06
2.2583E-06 1.1493E-05 -9.1421E-06 2.1848E-06 1.1588E-05 -9.1025E-06
2.2322E-06 1.1488E-05 -9.0572E-06 2.1454E-06 1.1660E-05 -9.1409E-06
2.1384E-06 1.1765E-05 -9.3460E-06
2 1.2396E-05 1.8514E-04 -1.3983E-04 1.1302E-05 1.6788E-04 -1.2764E-04

1.1105E-05 1.6821E-04 -1.2771E-04 1.1334E-05 1.6832E-04 -1.2870E-04
1.2182E-05 1.6604E-04 -1.2697E-04 1.1051E-05 1.6760E-04 -1.2643E-04
1.1785E-05 1.6603E-04 -1.2570E-04 1.0441E-05 1.6874E-04 -1.2704E-04
1.0323E-05 1.7026E-04 -1.3015E-04
  3 -9.9604E-06 -1.3983E-04 1.1120E-04 -8.9653E-06 -1.2781E-04 1.0171E-04
-8.8183E-06 -1.2805E-04 1.0176E-04 -8.9897E-06 -1.2815E-04 1.0251E-04 -
9.6230E-06 -1.2645E-04 1.0122E-04 -8.7770E-06 -1.2759E-04 1.0081E-04 -
9.3253E-06 -1.2643E-04 1.0027E-04 -8.3218E-06 -1.2844E-04 1.0126E-04 -
8.2355E-06 -1.2960E-04 1.0359E-04
  4 2.2013E-06 1.1302E-05 -8.9653E-06 2.4515E-06 1.2082E-05 -9.7312E-06
2.1808E-06 1.1350E-05 -8.9850E-06 2.1922E-06 1.1358E-05 -9.0352E-06
2.2333E-06 1.1248E-05 -8.9517E-06 2.1779E-06 1.1319E-05 -8.9214E-06
2.2137E-06 1.1244E-05 -8.8876E-06 2.1483E-06 1.1373E-05 -8.9501E-06
2.1431E-06 1.1452E-05 -9.1048E-06
  5 1.1609E-05 1.6788E-04 -1.2781E-04 1.2082E-05 1.8691E-04 -1.4091E-04
1.1132E-05 1.6894E-04 -1.2824E-04 1.1368E-05 1.6906E-04 -1.2927E-04
1.2244E-05 1.6670E-04 -1.2748E-04 1.1075E-05 1.6831E-04 -1.2692E-04
1.1833E-05 1.6669E-04 -1.2617E-04 1.0446E-05 1.6949E-04 -1.2755E-04
1.0325E-05 1.7107E-04 -1.3077E-04
  6 -9.1830E-06 -1.2764E-04 1.0171E-04 -9.7312E-06 -1.4091E-04 1.1185E-04
-8.8326E-06 -1.2842E-04 1.0203E-04 -9.0070E-06 -1.2851E-04 1.0279E-04 -
9.6515E-06 -1.2678E-04 1.0148E-04 -8.7905E-06 -1.2795E-04 1.0106E-04 -
9.3485E-06 -1.2676E-04 1.0051E-04 -8.3273E-06 -1.2881E-04 1.0152E-04 -
8.2394E-06 -1.2999E-04 1.0390E-04
  7 2.1886E-06 1.1105E-05 -8.8183E-06 2.1808E-06 1.1132E-05 -8.8326E-06
2.4339E-06 1.1831E-05 -9.5481E-06 2.1822E-06 1.1150E-05 -8.8733E-06
2.2137E-06 1.1066E-05 -8.8097E-06 2.1712E-06 1.1119E-05 -8.7859E-06
2.1986E-06 1.1062E-05 -8.7602E-06 2.1485E-06 1.1160E-05 -8.8077E-06
2.1446E-06 1.1221E-05 -8.9262E-06
  8 1.1629E-05 1.6821E-04 -1.2805E-04 1.1350E-05 1.6894E-04 -1.2842E-04
1.1831E-05 1.8777E-04 -1.4129E-04 1.1384E-05 1.6941E-04 -1.2954E-04
1.2275E-05 1.6701E-04 -1.2771E-04 1.1086E-05 1.6864E-04 -1.2715E-04
1.1858E-05 1.6699E-04 -1.2638E-04 1.0445E-05 1.6984E-04 -1.2779E-04
1.0322E-05 1.7146E-04 -1.3107E-04
  9 -9.1869E-06 -1.2771E-04 1.0176E-04 -8.9850E-06 -1.2824E-04 1.0203E-04
-9.5481E-06 -1.4129E-04 1.1198E-04 -9.0100E-06 -1.2859E-04 1.0285E-04 -
9.6577E-06 -1.2684E-04 1.0153E-04 -8.7924E-06 -1.2802E-04 1.0111E-04 -
9.3532E-06 -1.2682E-04 1.0055E-04 -8.3268E-06 -1.2889E-04 1.0157E-04 -
8.2385E-06 -1.3007E-04 1.0396E-04
  10 2.2036E-06 1.1334E-05 -8.9897E-06 2.1922E-06 1.1368E-05 -9.0070E-06
2.1822E-06 1.1384E-05 -9.0100E-06 2.4524E-06 1.2140E-05 -9.8105E-06
2.2369E-06 1.1277E-05 -8.9754E-06 2.1792E-06 1.1351E-05 -8.9437E-06
2.2164E-06 1.1273E-05 -8.9084E-06 2.1483E-06 1.1408E-05 -8.9736E-06
2.1429E-06 1.1490E-05 -9.1347E-06
  11 1.1640E-05 1.6832E-04 -1.2815E-04 1.1358E-05 1.6906E-04 -1.2851E-04
1.1150E-05 1.6941E-04 -1.2859E-04 1.2140E-05 1.8813E-04 -1.4278E-04
1.2291E-05 1.6711E-04 -1.2780E-04 1.1092E-05 1.6876E-04 -1.2723E-04
1.1870E-05 1.6710E-04 -1.2646E-04 1.0445E-05 1.6997E-04 -1.2788E-04
1.0322E-05 1.7160E-04 -1.3119E-04
  12 -9.2532E-06 -1.2870E-04 1.0251E-04 -9.0352E-06 -1.2927E-04 1.0279E-04
-8.8733E-06 -1.2954E-04 1.0285E-04 -9.8105E-06 -1.4278E-04 1.1392E-04 -
9.7597E-06 -1.2776E-04 1.0225E-04 -8.8275E-06 -1.2902E-04 1.0179E-04 -
9.4315E-06 -1.2774E-04 1.0120E-04 -8.3261E-06 -1.2996E-04 1.0229E-04 -
8.2314E-06 -1.3124E-04 1.0487E-04

13 2.2583E-06 1.2182E-05 -9.6230E-06 2.2333E-06 1.2244E-05 -9.6515E-06
2.2137E-06 1.2275E-05 -9.6577E-06 2.2369E-06 1.2291E-05 -9.7597E-06
2.5915E-06 1.3073E-05 -1.0495E-05 2.2079E-06 1.2211E-05 -9.5278E-06
2.2810E-06 1.2057E-05 -9.4573E-06 2.1472E-06 1.2324E-05 -9.5874E-06
2.1363E-06 1.2484E-05 -9.9035E-06
14 1.1493E-05 1.6604E-04 -1.2645E-04 1.1248E-05 1.6670E-04 -1.2678E-04
1.1066E-05 1.6701E-04 -1.2684E-04 1.1277E-05 1.6711E-04 -1.2776E-04
1.3073E-05 1.8244E-04 -1.3846E-04 1.1015E-05 1.6644E-04 -1.2566E-04
1.1696E-05 1.6500E-04 -1.2499E-04 1.0450E-05 1.6749E-04 -1.2622E-04
1.0342E-05 1.6890E-04 -1.2910E-04
15 -9.1421E-06 -1.2697E-04 1.0122E-04 -8.9517E-06 -1.2748E-04 1.0148E-04
-8.8097E-06 -1.2771E-04 1.0153E-04 -8.9754E-06 -1.2780E-04 1.0225E-04 -
1.0495E-05 -1.3846E-04 1.1065E-04 -8.7697E-06 -1.2726E-04 1.0060E-04 -
9.2999E-06 -1.2614E-04 1.0008E-04 -8.3297E-06 -1.2808E-04 1.0104E-04 -
8.2463E-06 -1.2920E-04 1.0329E-04
16 2.1848E-06 1.1051E-05 -8.7770E-06 2.1779E-06 1.1075E-05 -8.7905E-06
2.1712E-06 1.1086E-05 -8.7924E-06 2.1792E-06 1.1092E-05 -8.8275E-06
2.2079E-06 1.1015E-05 -8.7697E-06 2.4328E-06 1.1746E-05 -9.4608E-06
2.1941E-06 1.1012E-05 -8.7247E-06 2.1485E-06 1.1101E-05 -8.7678E-06
2.1449E-06 1.1156E-05 -8.8756E-06
17 1.1588E-05 1.6760E-04 -1.2759E-04 1.1319E-05 1.6831E-04 -1.2795E-04
1.1119E-05 1.6864E-04 -1.2802E-04 1.1351E-05 1.6876E-04 -1.2902E-04
1.2211E-05 1.6644E-04 -1.2726E-04 1.1746E-05 1.8616E-04 -1.3905E-04
1.1808E-05 1.6643E-04 -1.2598E-04 1.0446E-05 1.6918E-04 -1.2734E-04
1.0326E-05 1.7073E-04 -1.3050E-04
18 -9.1025E-06 -1.2643E-04 1.0081E-04 -8.9214E-06 -1.2692E-04 1.0106E-04
-8.7859E-06 -1.2715E-04 1.0111E-04 -8.9437E-06 -1.2723E-04 1.0179E-04 -
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8.2481E-06 -1.2857E-04 1.0279E-04
19 2.2322E-06 1.1785E-05 -9.3253E-06 2.2137E-06 1.1833E-05 -9.3485E-06
2.1986E-06 1.1858E-05 -9.3532E-06 2.2164E-06 1.1870E-05 -9.4315E-06
2.2810E-06 1.1696E-05 -9.2999E-06 2.1941E-06 1.1808E-05 -9.2536E-06
2.5196E-06 1.2596E-05 -1.0042E-05 2.1476E-06 1.1895E-05 -9.2992E-06
2.1393E-06 1.2018E-05 -9.5415E-06
20 1.1488E-05 1.6603E-04 -1.2643E-04 1.1244E-05 1.6669E-04 -1.2676E-04
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1.2596E-05 1.8238E-04 -1.3691E-04 1.0449E-05 1.6748E-04 -1.2621E-04
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21 -9.0572E-06 -1.2570E-04 1.0027E-04 -8.8876E-06 -1.2617E-04 1.0051E-04
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23 1.1660E-05 1.6874E-04 -1.2844E-04 1.1373E-05 1.6949E-04 -1.2881E-04
1.1160E-05 1.6984E-04 -1.2889E-04 1.1408E-05 1.6997E-04 -1.2996E-04
1.2324E-05 1.6749E-04 -1.2808E-04 1.1101E-05 1.6918E-04 -1.2751E-04
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1.0316E-05 1.7208E-04 -1.3154E-04
  24 -9.1409E-06 -1.2704E-04 1.0126E-04 -8.9501E-06 -1.2755E-04 1.0152E-04
-8.8077E-06 -1.2779E-04 1.0157E-04 -8.9736E-06 -1.2788E-04 1.0229E-04 -
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9.2992E-06 -1.2621E-04 1.0012E-04 -8.9278E-06 -1.4085E-04 1.1076E-04 -
8.2424E-06 -1.2929E-04 1.0335E-04
  25   2.1384E-06 1.0323E-05 -8.2355E-06 2.1431E-06 1.0325E-05 -8.2394E-06
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2.4089E-06 1.0724E-05 -8.7630E-06
  26   1.1765E-05 1.7026E-04 -1.2960E-04 1.1452E-05 1.7107E-04 -1.2999E-04
1.1221E-05 1.7146E-04 -1.3007E-04 1.1490E-05 1.7160E-04 -1.3124E-04
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1.2018E-05 1.6888E-04 -1.2771E-04 1.0441E-05 1.7208E-04 -1.2929E-04
1.0724E-05 1.9366E-04 -1.4694E-04
  27 -9.3460E-06 -1.3015E-04 1.0359E-04 -9.1048E-06 -1.3077E-04 1.0390E-04
-8.9262E-06 -1.3107E-04 1.0396E-04 -9.1347E-06 -1.3119E-04 1.0487E-04 -
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9.5415E-06 -1.2908E-04 1.0213E-04 -8.3227E-06 -1.3154E-04 1.0335E-04 -
8.7630E-06 -1.4694E-04 1.1705E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 5.7859E-01 -5.9986E-01 8.9289E-01 5.3927E-01 -5.5144E-01
8.9092E-01 5.3899E-01 -5.5136E-01 8.9365E-01 5.3894E-01 -5.5058E-01
8.9090E-01 5.4038E-01 -5.5195E-01 8.8959E-01 5.3936E-01 -5.5198E-01
8.9310E-01 5.4025E-01 -5.5224E-01 8.7710E-01 5.3845E-01 -5.5162E-01
8.7503E-01 5.3690E-01 -5.4863E-01
   2   5.7859E-01 1.0000E+00 -9.7451E-01 5.3051E-01 9.0247E-01 -8.8700E-01
5.2315E-01 9.0218E-01 -8.8697E-01 5.3190E-01 9.0192E-01 -8.8619E-01
5.5616E-01 9.0347E-01 -8.8710E-01 5.2070E-01 9.0277E-01 -8.8722E-01
5.4565E-01 9.0357E-01 -8.8695E-01 4.9395E-01 9.0171E-01 -8.8717E-01
4.8885E-01 8.9921E-01 -8.8416E-01
   3 -5.9986E-01 -9.7451E-01 1.0000E+00 -5.4299E-01 -8.8652E-01 9.1203E-01
-5.3601E-01 -8.8619E-01 9.1195E-01 -5.4436E-01 -8.8598E-01 9.1077E-01 -
5.6686E-01 -8.8775E-01 9.1251E-01 -5.3363E-01 -8.8680E-01 9.1276E-01 -
5.5711E-01 -8.8777E-01 9.1286E-01 -5.0800E-01 -8.8562E-01 9.1240E-01 -
5.0318E-01 -8.8312E-01 9.0802E-01
   4   8.9289E-01 5.3051E-01 -5.4299E-01 1.0000E+00 5.6443E-01 -5.8768E-01
8.9279E-01 5.2903E-01 -5.4230E-01 8.9404E-01 5.2889E-01 -5.4065E-01
8.8607E-01 5.3186E-01 -5.4352E-01 8.9183E-01 5.2983E-01 -5.4406E-01
8.9071E-01 5.3177E-01 -5.4497E-01 8.8324E-01 5.2816E-01 -5.4316E-01
8.8190E-01 5.2558E-01 -5.3750E-01
   5   5.3927E-01 9.0247E-01 -8.8652E-01 5.6443E-01 1.0000E+00 -9.7453E-01
5.2190E-01 9.0179E-01 -8.8643E-01 5.3096E-01 9.0155E-01 -8.8585E-01
5.5630E-01 9.0273E-01 -8.8641E-01 5.1938E-01 9.0228E-01 -8.8643E-01
5.4529E-01 9.0282E-01 -8.8601E-01 4.9184E-01 9.0141E-01 -8.8651E-01
4.8658E-01 8.9916E-01 -8.8411E-01
   6 -5.5144E-01 -8.8700E-01 9.1203E-01 -5.8768E-01 -9.7453E-01 1.0000E+00
-5.3533E-01 -8.8614E-01 9.1174E-01 -5.4384E-01 -8.8594E-01 9.1064E-01 -
5.6690E-01 -8.8750E-01 9.1219E-01 -5.3291E-01 -8.8669E-01 9.1240E-01 -
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5.0197E-01 -8.8325E-01 9.0806E-01
   7   8.9092E-01 5.2315E-01 -5.3601E-01 8.9279E-01 5.2190E-01 -5.3533E-01

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8.8144E-01 5.2512E-01 -5.3682E-01 8.9228E-01 5.2236E-01 -5.3772E-01
8.8783E-01 5.2506E-01 -5.3909E-01 8.8653E-01 5.2016E-01 -5.3644E-01
8.8570E-01 5.1684E-01 -5.2885E-01
   8 5.3899E-01 9.0218E-01 -8.8619E-01 5.2903E-01 9.0179E-01 -8.8614E-01
5.5342E-01 1.0000E+00 -9.7440E-01 5.3050E-01 9.0135E-01 -8.8567E-01
5.5648E-01 9.0232E-01 -8.8602E-01 5.1870E-01 9.0201E-01 -8.8598E-01
5.4517E-01 9.0240E-01 -8.8547E-01 4.9068E-01 9.0125E-01 -8.8614E-01
4.8533E-01 8.9915E-01 -8.8412E-01
   9 -5.5136E-01 -8.8697E-01 9.1195E-01 -5.4230E-01 -8.8643E-01 9.1174E-01
-5.7837E-01 -9.7440E-01 1.0000E+00 -5.4370E-01 -8.8594E-01 9.1061E-01 -
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  10 8.9365E-01 5.3190E-01 -5.4436E-01 8.9404E-01 5.3096E-01 -5.4384E-01
8.9317E-01 5.3050E-01 -5.4370E-01 1.0000E+00 5.6518E-01 -5.8693E-01
8.8728E-01 5.3314E-01 -5.4485E-01 8.9215E-01 5.3124E-01 -5.4531E-01
8.9161E-01 5.3304E-01 -5.4614E-01 8.8308E-01 5.2966E-01 -5.4448E-01
8.8165E-01 5.2722E-01 -5.3916E-01
  11 5.3894E-01 9.0192E-01 -8.8598E-01 5.2889E-01 9.0155E-01 -8.8594E-01
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  12 -5.5058E-01 -8.8619E-01 9.1077E-01 -5.4065E-01 -8.8585E-01 9.1064E-01
-5.3287E-01 -8.8567E-01 9.1061E-01 -5.8693E-01 -9.7528E-01 1.0000E+00 -
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5.5668E-01 -8.8618E-01 9.1026E-01 -5.0215E-01 -8.8533E-01 9.1065E-01 -
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  13 8.9090E-01 5.5616E-01 -5.6686E-01 8.8607E-01 5.5630E-01 -5.6690E-01
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4.9330E-01 8.9857E-01 -8.8346E-01
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-5.3682E-01 -8.8602E-01 9.1210E-01 -5.4485E-01 -8.8579E-01 9.1071E-01 -
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5.0510E-01 -8.8258E-01 9.0763E-01
  16 8.8959E-01 5.2070E-01 -5.3363E-01 8.9183E-01 5.1938E-01 -5.3291E-01
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-5.2885E-01 -8.8412E-01 9.0807E-01 -5.3916E-01 -8.8405E-01 9.0817E-01 -
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G-FILE for the vectors

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C00100005 -586600521 16 90820134 135 145378235 105
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C00100009 1180834719 15 469807621 139 794376738 108
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17 5393625 1 18 -5519782 1 19 8931022 1 20 5402466 1 21 -5522410 D 1
22 8771019 1 23 5384467 1 24 -5516150 1 25 8750346 1 26 5368960 D 1
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7 5231469 2 8 9021787 2 9 -8869668 2 10 5319009 2 11 9019177 D 2 12
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9027709 2 18 -8872207 2 19 5456535 2 20 9035724 2 21 -8869549 D 2 22
4939536 2 23 9017132 2 24 -8871707 2 25 4888466 2 26 8992122 D 2 27 -
8841558 3 4 -5429932 3 5 -8865249 3 6 9120325 3 7 -5360133 D 3 8 -
8861942 3 9 9119547 3 10 -5443634 3 11 -8859840 3 12 9107698 D 3 13 -
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5644268 4 6 -5876763 4 7 8927922 4 8 5290333 4 9 -5423041 D 4 10
8940437 4 11 5288884 4 12 -5406506 4 13 8860677 4 14 5318575 D 4 15 -
5435212 4 16 8918257 4 17 5298285 4 18 -5440614 4 19 8907103 D 4 20
5317682 4 21 -5449672 4 22 8832433 4 23 5281615 4 24 -5431611 D 4 25
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5223648 7 18 -5377245 7 19 8878323 7 20 5250602 7 21 -5390921 D 7 22
8865271 7 23 5201568 7 24 -5364398 7 25 8856981 7 26 5168376 D 7 27 -
5288503 8 9 -9743982 8 10 5305000 8 11 9013516 8 12 -8856728 D 8 13
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9012499 8 24 -8861398 8 25 4853332 8 26 8991485 8 27 -8841174 D 9 10 -
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5296649 10 24 -5444796 10 25 8816514 10 26 5272226 10 27 -5391578 D 11 12 -
9752846 11 13 5566427 11 14 9020055 11 15 -8857880 11 16 5184580 D 11 17
9017528 11 18 -8857030 11 19 5451890 11 20 9020881 11 21 -8851549 D 11 22
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8840476 12 13 -5680051 12 14 -8861957 12 15 9107054 12 16 -5302520 D 12 17 -
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9017491 20 24 -8880083 20 25 4933371 20 26 8986219 20 27 -8834393 D 21 22 -
5148304 21 23 -8845732 21 24 9133082 21 25 -5106384 21 26 -8810519 D 21 27
9063226 22 23 5117258 22 24 -5460831 22 25 8915994 22 26 4829582 D 22 27 -
4952012 23 24 -9731222 23 25 4832884 23 26 8991328 23 27 -8840611 D 24 25 -
5046153 24 26 -8828072 24 27 9076788 25 26 4965368 25 27 -5218730 D 26 27 -
9759894

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
dstr	-36082.000	-5530950.828	3165452.232
nola	-36081.999	-5530950.796	3165452.212
eng6	-36081.994	-5530950.804	3165452.199
covg	-36081.997	-5530950.791	3165452.199
awes	-36081.998	-5530950.786	3165452.201
gris	-36081.983	-5530950.715	3165452.170
lmcn	-36082.013	-5530950.809	3165452.248
bvhs	-36082.006	-5530950.869	3165452.257
mspk	-36082.002	-5530950.789	3165452.214

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
dstr	-0.000	-0.009	0.005	-0.000	0.000	0.010
nola	0.000	0.023	-0.015	-0.000	-0.002	-0.027
eng6	0.006	0.015	-0.028	0.006	-0.017	-0.027
covg	0.002	0.028	-0.029	0.002	-0.011	-0.038

awes	0.002	0.033	-0.026	0.001	-0.006	-0.042
gris	0.017	0.104	-0.057	0.016	0.002	-0.119
lmcn	-0.014	0.010	0.021	-0.014	0.023	0.002
bvhs	-0.007	-0.050	0.030	-0.006	0.001	0.059
mspk	-0.003	0.030	-0.013	-0.003	0.003	-0.032

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 528168.190
Easting (X) [feet] 3584719.573
Convergence [degrees] 0.47979646
Point Scale 0.99992615
Combined Factor 0.99992956

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 4.227 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.389
scatter (mean square distance from rover) is 6684.189
average edop for rover is 1.010
average ndop for rover is 1.640
average hdop for rover is 1.926
average vdop for rover is 3.910
average gdop for rover is 5.350

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:16 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA07.O00 OP1335485471000

FILE: QCFVA07.O00 OP1335485471000

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069p.12o TIME: 00:15:29 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.73 START: 2012/03/09 15:40:25
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 16:04:25
NAV FILE: brdc0690.12n OBS USED: 2208 / 2456 : 90%
ANT NAME: LEIAT502 NONE QUALITY IND. 3.93/ 28.29
ARP HEIGHT: 1.567 NORMALIZED RMS: 0.354

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18760)

X:	-29685.357(m)	0.003(m)	-29686.089(m)	0.003(m)
Y:	-5531429.268(m)	0.027(m)	-5531427.777(m)	0.027(m)
Z:	3164686.708(m)	0.013(m)	3164686.500(m)	0.013(m)

LAT:	29 56 27.24235	0.009(m)	29 56 27.26060	0.009(m)
E LON:	269 41 33.05542	0.003(m)	269 41 33.02783	0.003(m)
W LON:	90 18 26.94458	0.003(m)	90 18 26.97217	0.003(m)
EL HGT:	-23.574(m)	0.029(m)	-24.967(m)	0.029(m)
ORTHO HGT:	2.420(m)	0.031(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3315285.915	160158.905
Easting (X) [meters]	759888.960	1099030.301
Convergence [degrees]	1.34460633	0.51293738
Point Scale	1.00043341	0.99992629
Combined Factor	1.00043711	0.99992999

US NATIONAL GRID DESIGNATOR: 15RYP5988815285(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9603	LWES LAKEWOOD ELMENTRY CORS ARP	N295401.295	W0902057.833	6047.8

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 18098.1
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 55795.3
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 62721.2
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 67511.9
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 70809.7
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 92082.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 109986.4

NEAREST NGS PUBLISHED CONTROL POINT
DH3214 5720+98.12=PLMS 597 N295624.284 W0901929.109 1668.2

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

lwes	-33746.218	-5533652.959	3160795.447
nola	-11604.030	-5531876.838	3164070.899
houm	-70100.636	-5550262.359	3131144.932
covg	-9174.163	-5501675.336	3215950.496
awes	-94742.051	-5521868.818	3179990.057
gvms	-86907.675	-5510048.183	3200500.205
sjb1	-106395.199	-5505141.444	3208320.263
bvhs	57650.144	-5564331.492	3106490.858
qcfv	-29686.089	-5531427.777	3164686.500

Covariance matrix of the stations:
1 2.4420E-07 8.0730E-07 -4.0920E-07 -1.3830E-08 -1.0290E-07 5.1520E-08
-1.9590E-08 -1.3670E-07 6.4740E-08 -1.3250E-08 -9.0790E-08 5.0470E-08 -
2.1730E-08 -1.3790E-07 7.0290E-08 -2.0680E-08 -1.2870E-07 6.7820E-08 -
2.2460E-08 -1.3460E-07 7.1520E-08 -7.6380E-09 -7.5690E-08 3.2760E-08
2.4980E-08 8.0270E-08 -4.3380E-08
2 8.0730E-07 1.4150E-05 -7.0610E-06 -1.0990E-07 -1.9740E-06 9.9340E-07
-1.2270E-07 -2.0950E-06 1.0480E-06 -1.0630E-07 -1.9020E-06 9.6340E-07 -
1.2380E-07 -2.0570E-06 1.0360E-06 -1.2050E-07 -2.0160E-06 1.0180E-06 -
1.2330E-07 -2.0280E-06 1.0250E-06 -1.0100E-07 -1.9550E-06 9.7760E-07 -
2.9650E-08 -2.7950E-07 1.5890E-07
3 -4.0920E-07 -7.0610E-06 3.7570E-06 5.3000E-08 9.9210E-07 -5.0960E-07
6.2650E-08 1.0450E-06 -5.2790E-07 5.2370E-08 9.6810E-07 -5.0830E-07
6.6700E-08 1.0420E-06 -5.3600E-07 6.5060E-08 1.0260E-06 -5.3230E-07
6.8090E-08 1.0330E-06 -5.3720E-07 4.1350E-08 9.5510E-07 -4.8090E-07
2.6220E-09 1.4340E-08 8.9670E-09
4 -1.3830E-08 -1.0990E-07 5.3000E-08 2.4240E-07 7.5870E-07 -3.8550E-07
-2.2290E-08 -1.5010E-07 6.3250E-08 -7.5440E-09 -6.0560E-08 4.4890E-08 -
2.6970E-08 -1.3760E-07 7.0910E-08 -2.4580E-08 -1.1770E-07 6.7220E-08 -
2.8420E-08 -1.2180E-07 7.1000E-08 6.2580E-09 -6.1020E-08 1.5090E-08
4.1620E-08 3.1550E-07 -1.6570E-07
5 -1.0290E-07 -1.9740E-06 9.9210E-07 7.5870E-07 1.3940E-05 -6.9770E-06
-1.2190E-07 -2.1060E-06 1.0400E-06 -8.8260E-08 -1.8230E-06 9.4650E-07 -
1.2830E-07 -2.0410E-06 1.0320E-06 -1.2220E-07 -1.9780E-06 1.0120E-06 -
1.2930E-07 -1.9860E-06 1.0190E-06 -6.6130E-08 -1.9070E-06 9.3550E-07

1.5230E-08 6.9820E-08 -2.9930E-08
   6   5.1520E-08 9.9340E-07 -5.0960E-07 -3.8550E-07 -6.9770E-06 3.7260E-06
6.0840E-08 1.0450E-06 -5.2430E-07 4.5260E-08 9.4050E-07 -5.0210E-07
6.6530E-08 1.0340E-06 -5.3390E-07 6.4040E-08 1.0100E-06 -5.2950E-07
6.8400E-08 1.0170E-06 -5.3450E-07 2.9030E-08 9.3640E-07 -4.6670E-07 -
1.1370E-08 -7.2050E-08 5.4140E-08
   7 -1.9590E-08 -1.2270E-07 6.2650E-08 -2.2290E-08 -1.2190E-07 6.0840E-08
2.6210E-07 9.4670E-07 -4.6070E-07 -2.3250E-08 -1.4560E-07 6.0860E-08 -
1.3280E-08 -1.4220E-07 7.0130E-08 -1.4510E-08 -1.5100E-07 6.9830E-08 -
1.2830E-08 -1.6010E-07 7.3440E-08 -3.1320E-08 -1.0330E-07 6.2960E-08 -
1.1020E-08 -3.2170E-07 1.6710E-07
   8 -1.3670E-07 -2.0950E-06 1.0450E-06 -1.5010E-07 -2.1060E-06 1.0450E-06
9.4670E-07 1.5090E-05 -7.3650E-06 -1.5230E-07 -2.1650E-06 1.0210E-06 -
1.0390E-07 -2.1380E-06 1.0540E-06 -1.0890E-07 -2.1630E-06 1.0450E-06 -
9.9520E-08 -2.1870E-06 1.0520E-06 -1.9510E-07 -2.1140E-06 1.1020E-06 -
1.5760E-07 -1.9010E-06 9.8030E-07
   9   6.4740E-08 1.0480E-06 -5.2790E-07 6.3250E-08 1.0400E-06 -5.2430E-07
-4.6070E-07 -7.3650E-06 3.8460E-06 6.3410E-08 1.0310E-06 -5.2460E-07
7.0500E-08 1.0840E-06 -5.4710E-07 6.9840E-08 1.0750E-06 -5.4480E-07
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-2.3250E-08 -1.5230E-07 6.3410E-08 2.4320E-07 7.6140E-07 -3.8040E-07 -
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4.7780E-08 3.9340E-07 -2.0470E-07
  11 -9.0790E-08 -1.9020E-06 9.6810E-07 -6.0560E-08 -1.8230E-06 9.4050E-07
-1.4560E-07 -2.1650E-06 1.0310E-06 7.6140E-07 1.3430E-05 -6.7950E-06 -
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1.7550E-07 -1.8300E-06 1.0080E-06 3.4110E-08 -1.7650E-06 8.1120E-07
1.5860E-07 1.8860E-06 -9.5680E-07
  12   5.0470E-08 9.6340E-07 -5.0830E-07 4.4890E-08 9.4650E-07 -5.0210E-07
6.0860E-08 1.0210E-06 -5.2460E-07 -3.8040E-07 -6.7950E-06 3.7140E-06
6.6410E-08 1.0010E-06 -5.3150E-07 6.3490E-08 9.7380E-07 -5.2590E-07
6.8050E-08 9.7860E-07 -5.3020E-07 2.6390E-08 9.1130E-07 -4.6640E-07 -
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2.7870E-07 9.6770E-07 -4.9570E-07 -1.1150E-08 -1.5770E-07 7.0770E-08 -
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-1.4220E-07 -2.1380E-06 1.0840E-06 -1.3440E-07 -1.9850E-06 1.0010E-06
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1.1150E-08 -1.3760E-07 7.0300E-08 2.6960E-07 9.1030E-07 -4.7870E-07 -

1.0290E-08 -1.5990E-07 7.3570E-08 -3.7640E-08 -1.0800E-07 7.2580E-08 -
1.9570E-08 -4.1890E-07 2.2100E-07
  17 -1.2870E-07 -2.0160E-06 1.0260E-06 -1.1770E-07 -1.9780E-06 1.0100E-06
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1.5770E-07 -2.0750E-06 1.0620E-06 9.1030E-07 1.4160E-05 -7.1610E-06 -
1.5840E-07 -2.0040E-06 1.0440E-06 -8.5460E-08 -1.9610E-06 9.6920E-07
2.8900E-09 2.0330E-07 -8.7580E-08
  18   6.7820E-08 1.0180E-06 -5.3230E-07 6.7220E-08 1.0120E-06 -5.2950E-07
6.9830E-08 1.0450E-06 -5.4480E-07 6.6960E-08 1.0020E-06 -5.2590E-07
7.0770E-08 1.0480E-06 -5.4730E-07 -4.7870E-07 -7.1610E-06 3.8700E-06
7.1060E-08 1.0470E-06 -5.4750E-07 6.4830E-08 9.8890E-07 -5.1730E-07
3.1560E-08 3.0880E-07 -1.5280E-07
  19 -2.2460E-08 -1.2330E-07 6.8090E-08 -2.8420E-08 -1.2930E-07 6.8400E-08
-1.2830E-08 -9.9520E-08 7.1570E-08 -3.0250E-08 -1.7550E-07 6.8050E-08 -
7.5660E-09 -1.3790E-07 7.0310E-08 -1.0290E-08 -1.5840E-07 7.1060E-08
2.8500E-07 9.4340E-07 -5.0360E-07 -4.8180E-08 -1.1950E-07 8.6400E-08 -
3.4180E-08 -5.9270E-07 3.1250E-07
  20 -1.3460E-07 -2.0280E-06 1.0330E-06 -1.2180E-07 -1.9860E-06 1.0170E-06
-1.6010E-07 -2.1870E-06 1.0840E-06 -1.1410E-07 -1.8300E-06 9.7860E-07 -
1.6820E-07 -2.0860E-06 1.0710E-06 -1.5990E-07 -2.0040E-06 1.0470E-06
9.4340E-07 1.4210E-05 -7.1990E-06 -8.3880E-08 -1.9700E-06 9.6940E-07
9.0220E-09 3.5140E-07 -1.6300E-07
  21   7.1520E-08 1.0250E-06 -5.3720E-07 7.1000E-08 1.0190E-06 -5.3450E-07
7.3440E-08 1.0520E-06 -5.4970E-07 7.0640E-08 1.0080E-06 -5.3020E-07
7.4140E-08 1.0530E-06 -5.5130E-07 7.3570E-08 1.0440E-06 -5.4750E-07 -
5.0360E-07 -7.1990E-06 3.8990E-06 6.9000E-08 9.9830E-07 -5.2380E-07
3.5410E-08 3.1790E-07 -1.5900E-07
  22 -7.6380E-09 -1.0100E-07 4.1350E-08 6.2580E-09 -6.6130E-08 2.9030E-08
-3.1320E-08 -1.9510E-07 5.7260E-08 1.0530E-08 3.4110E-08 2.6390E-08 -
4.4350E-08 -1.3940E-07 7.2300E-08 -3.7640E-08 -8.5460E-08 6.4830E-08 -
4.8180E-08 -8.3880E-08 6.9000E-08 2.7740E-07 6.3720E-07 -3.6050E-07
1.0450E-07 1.0790E-06 -5.6800E-07
  23 -7.5690E-08 -1.9550E-06 9.5510E-07 -6.1020E-08 -1.9070E-06 9.3640E-07
-1.0330E-07 -2.1140E-06 1.0040E-06 -5.5090E-08 -1.7650E-06 9.1130E-07 -
1.1610E-07 -2.0390E-06 1.0090E-06 -1.0800E-07 -1.9610E-06 9.8890E-07 -
1.1950E-07 -1.9700E-06 9.9830E-07 6.3720E-07 1.3840E-05 -6.8020E-06
7.4040E-08 5.1170E-07 -2.8600E-07
  24   3.2760E-08 9.7760E-07 -4.8090E-07 1.5090E-08 9.3550E-07 -4.6670E-07
6.2960E-08 1.1020E-06 -5.0250E-07 1.0510E-08 8.1120E-07 -4.6640E-07
8.0840E-08 1.0370E-06 -5.2590E-07 7.2580E-08 9.6920E-07 -5.1730E-07
8.6400E-08 9.6940E-07 -5.2380E-07 -3.6050E-07 -6.8020E-06 3.6080E-06 -
1.0760E-07 -1.1200E-06 6.1730E-07
  25   2.4980E-08 -2.9650E-08 2.6220E-09 4.1620E-08 1.5230E-08 -1.1370E-08
-1.1020E-08 -1.5760E-07 2.3110E-08 4.7780E-08 1.5860E-07 -1.5360E-08 -
2.9000E-08 -7.2510E-08 4.1480E-08 -1.9570E-08 2.8900E-09 3.1560E-08 -
3.4180E-08 9.0220E-09 3.5410E-08 1.0450E-07 7.4040E-08 -1.0760E-07
2.8120E-06 1.3800E-05 -7.0650E-06
  26   8.0270E-08 -2.7950E-07 1.4340E-08 3.1550E-07 6.9820E-08 -7.2050E-08
-3.2170E-07 -1.9010E-06 2.6500E-07 3.9340E-07 1.8860E-06 -1.3990E-07 -
5.3380E-07 -7.1750E-07 4.2510E-07 -4.1890E-07 2.0330E-07 3.0880E-07 -
5.9270E-07 3.5140E-07 3.1790E-07 1.0790E-06 5.1170E-07 -1.1200E-06
1.3800E-05 2.1800E-04 -1.1070E-04
  27 -4.3380E-08 1.5890E-07 8.9670E-09 -1.6570E-07 -2.9930E-08 5.4140E-08
1.6710E-07 9.8030E-07 -1.1040E-07 -2.0470E-07 -9.5680E-07 7.4960E-08

2.8040E-07 3.8410E-07 -2.0760E-07 2.2100E-07 -8.7580E-08 -1.5280E-07
3.1250E-07 -1.6300E-07 -1.5900E-07 -5.6800E-07 -2.8600E-07 6.1730E-07 -
7.0650E-06 -1.1070E-04 5.8470E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
  0.0000028120 0.0000138000 -0.0000070650
  0.0000138000 0.0002180000 -0.0001107000
 -0.0000070650 -0.0001107000 0.0000584700

Covariance Matrix for the enu OPUS Position (meters^2).
  0.0000026701 0.0000006625 -0.0000141885
  0.0000006625 0.0000023834 -0.0000127034
 -0.0000141885 -0.0000127034 0.0002742285

Horizontal network accuracy = 0.00393 meters.
Vertical network accuracy = 0.03247 meters.

		Vectors		
To	From	X	Y	Z
lwes	qcfv	-4060.129	-2225.182	-3891.053
nola	qcfv	18082.059	-449.061	-615.601
houm	qcfv	-40414.547	-18834.582	-33541.568
covg	qcfv	20511.927	29752.441	51263.997
awes	qcfv	-65055.962	9558.959	15303.557
gvms	qcfv	-57221.586	21379.594	35813.705
sjb1	qcfv	-76709.109	26286.333	43633.763
bvhs	qcfv	87336.233	-32903.715	-58195.641

Covariance matrix of the 8 vectors
  1 3.0062E-06 1.4557E-05 -7.4334E-06 2.7316E-06 1.3602E-05 -6.9587E-06
2.7785E-06 1.3741E-05 -6.9800E-06 2.7260E-06 1.3470E-05 -6.9558E-06
2.7943E-06 1.3654E-05 -6.9928E-06 2.7859E-06 1.3588E-05 -6.9854E-06
2.7987E-06 1.3576E-05 -6.9855E-06 2.6749E-06 1.3570E-05 -6.8813E-06
  2 1.4557E-05 2.3271E-04 -1.1793E-04 1.3404E-05 2.1624E-04 -1.0979E-04
1.4029E-05 2.1809E-04 -1.1008E-04 1.3330E-05 2.1449E-04 -1.0976E-04
1.4240E-05 2.1694E-04 -1.1025E-04 1.4128E-05 2.1606E-04 -1.1015E-04
1.4299E-05 2.1590E-04 -1.1015E-04 1.2650E-05 2.1581E-04 -1.0876E-04
  3 -7.4334E-06 -1.1793E-04 6.2209E-05 -6.8489E-06 -1.0969E-04 5.7897E-05
-7.1721E-06 -1.1065E-04 5.8044E-05 -6.8106E-06 -1.0879E-04 5.7878E-05 -
7.2813E-06 -1.1006E-04 5.8133E-05 -7.2236E-06 -1.0960E-04 5.8082E-05 -
7.3120E-06 -1.0952E-04 5.8083E-05 -6.4583E-06 -1.0947E-04 5.7363E-05
  4 2.7316E-06 1.3404E-05 -6.8489E-06 2.9712E-06 1.4228E-05 -7.2734E-06
2.7591E-06 1.3492E-05 -6.8592E-06 2.7151E-06 1.3265E-05 -6.8391E-06
2.7724E-06 1.3419E-05 -6.8699E-06 2.7654E-06 1.3364E-05 -6.8636E-06
2.7761E-06 1.3354E-05 -6.8637E-06 2.6721E-06 1.3349E-05 -6.7766E-06
  5 1.3602E-05 2.1624E-04 -1.0969E-04 1.4228E-05 2.3180E-04 -1.1758E-04
1.3985E-05 2.1773E-04 -1.0990E-04 1.3303E-05 2.1422E-04 -1.0958E-04
1.4190E-05 2.1661E-04 -1.1006E-04 1.4081E-05 2.1575E-04 -1.0997E-04
1.4248E-05 2.1559E-04 -1.0997E-04 1.2640E-05 2.1551E-04 -1.0861E-04
  6 -6.9587E-06 -1.0979E-04 5.7897E-05 -7.2734E-06 -1.1758E-04 6.2088E-05
-7.1599E-06 -1.1056E-04 5.8002E-05 -6.8037E-06 -1.0873E-04 5.7839E-05 -
7.2675E-06 -1.0998E-04 5.8090E-05 -7.2106E-06 -1.0953E-04 5.8039E-05 -
7.2977E-06 -1.0945E-04 5.8040E-05 -6.4566E-06 -1.0941E-04 5.7332E-05

7 2.7785E-06 1.4029E-05 -7.1721E-06 2.7591E-06 1.3985E-05 -7.1599E-06
3.0961E-06 1.5226E-05 -7.7159E-06 2.7520E-06 1.3817E-05 -7.1559E-06
2.8387E-06 1.4052E-05 -7.2035E-06 2.8281E-06 1.3968E-05 -7.1938E-06
2.8444E-06 1.3953E-05 -7.1941E-06 2.6872E-06 1.3944E-05 -7.0615E-06
8 1.3741E-05 2.1809E-04 -1.1065E-04 1.3492E-05 2.1773E-04 -1.1056E-04
1.5226E-05 2.3689E-04 -1.1931E-04 1.3412E-05 2.1585E-04 -1.1052E-04
1.4388E-05 2.1848E-04 -1.1105E-04 1.4268E-05 2.1753E-04 -1.1094E-04
1.4451E-05 2.1736E-04 -1.1095E-04 1.2683E-05 2.1728E-04 -1.0946E-04
9 -6.9800E-06 -1.1008E-04 5.8044E-05 -6.8592E-06 -1.0990E-04 5.8002E-05
-7.7159E-06 -1.1931E-04 6.2537E-05 -6.8200E-06 -1.0898E-04 5.7981E-05 -
7.2980E-06 -1.1027E-04 5.8241E-05 -7.2393E-06 -1.0980E-04 5.8188E-05 -
7.3290E-06 -1.0972E-04 5.8190E-05 -6.4629E-06 -1.0967E-04 5.7461E-05
10 2.7260E-06 1.3330E-05 -6.8106E-06 2.7151E-06 1.3303E-05 -6.8037E-06
2.7520E-06 1.3412E-05 -6.8200E-06 2.9596E-06 1.4009E-05 -7.2253E-06
2.7646E-06 1.3345E-05 -6.8306E-06 2.7580E-06 1.3293E-05 -6.8249E-06
2.7681E-06 1.3283E-05 -6.8251E-06 2.6702E-06 1.3277E-05 -6.7422E-06
11 1.3470E-05 2.1449E-04 -1.0879E-04 1.3265E-05 2.1422E-04 -1.0873E-04
1.3817E-05 2.1585E-04 -1.0898E-04 1.4009E-05 2.2766E-04 -1.1640E-04
1.4005E-05 2.1485E-04 -1.0913E-04 1.3907E-05 2.1407E-04 -1.0905E-04
1.4059E-05 2.1393E-04 -1.0905E-04 1.2597E-05 2.1384E-04 -1.0781E-04
12 -6.9558E-06 -1.0976E-04 5.7878E-05 -6.8391E-06 -1.0958E-04 5.7839E-05
-7.1559E-06 -1.1052E-04 5.7981E-05 -7.2253E-06 -1.1640E-04 6.2034E-05 -
7.2636E-06 -1.0994E-04 5.8071E-05 -7.2072E-06 -1.0950E-04 5.8022E-05 -
7.2941E-06 -1.0942E-04 5.8024E-05 -6.4553E-06 -1.0936E-04 5.7311E-05
13 2.7943E-06 1.4240E-05 -7.2813E-06 2.7724E-06 1.4190E-05 -7.2675E-06
2.8387E-06 1.4388E-05 -7.2980E-06 2.7646E-06 1.4005E-05 -7.2636E-06
3.1487E-06 1.5374E-05 -7.8826E-06 2.8494E-06 1.4173E-05 -7.3062E-06
2.8676E-06 1.4157E-05 -7.3067E-06 2.6922E-06 1.4144E-05 -7.1570E-06
14 1.3654E-05 2.1694E-04 -1.1006E-04 1.3419E-05 2.1661E-04 -1.0998E-04
1.4052E-05 2.1848E-04 -1.1027E-04 1.3345E-05 2.1485E-04 -1.0994E-04
1.5374E-05 2.3399E-04 -1.1881E-04 1.4154E-05 2.1644E-04 -1.1034E-04
1.4327E-05 2.1628E-04 -1.1035E-04 1.2654E-05 2.1617E-04 -1.0893E-04
15 -6.9928E-06 -1.1025E-04 5.8133E-05 -6.8699E-06 -1.1006E-04 5.8090E-05
-7.2035E-06 -1.1105E-04 5.8241E-05 -6.8306E-06 -1.0913E-04 5.8071E-05 -
7.8826E-06 -1.1881E-04 6.2783E-05 -7.2572E-06 -1.0998E-04 5.8283E-05 -
7.3487E-06 -1.0989E-04 5.8285E-05 -6.4662E-06 -1.0983E-04 5.7534E-05
16 2.7859E-06 1.4128E-05 -7.2236E-06 2.7654E-06 1.4081E-05 -7.2106E-06
2.8281E-06 1.4268E-05 -7.2393E-06 2.7580E-06 1.3907E-05 -7.2072E-06
2.8494E-06 1.4154E-05 -7.2572E-06 3.1207E-06 1.5126E-05 -7.7963E-06
2.8555E-06 1.4050E-05 -7.2478E-06 2.6894E-06 1.4037E-05 -7.1058E-06
17 1.3588E-05 2.1606E-04 -1.0960E-04 1.3364E-05 2.1575E-04 -1.0953E-04
1.3968E-05 2.1753E-04 -1.0980E-04 1.3293E-05 2.1407E-04 -1.0950E-04
1.4173E-05 2.1644E-04 -1.0998E-04 1.5126E-05 2.3175E-04 -1.1808E-04
1.4231E-05 2.1544E-04 -1.0989E-04 1.2633E-05 2.1532E-04 -1.0852E-04
18 -6.9854E-06 -1.1015E-04 5.8082E-05 -6.8636E-06 -1.0997E-04 5.8039E-05
-7.1938E-06 -1.1094E-04 5.8188E-05 -6.8249E-06 -1.0905E-04 5.8022E-05 -
7.3062E-06 -1.1034E-04 5.8283E-05 -7.7963E-06 -1.1808E-04 6.2646E-05 -
7.3380E-06 -1.0980E-04 5.8234E-05 -6.4637E-06 -1.0973E-04 5.7488E-05
19 2.7987E-06 1.4299E-05 -7.3120E-06 2.7761E-06 1.4248E-05 -7.2977E-06
2.8444E-06 1.4451E-05 -7.3290E-06 2.7681E-06 1.4059E-05 -7.2941E-06
2.8676E-06 1.4327E-05 -7.3487E-06 2.8555E-06 1.4231E-05 -7.3380E-06
3.1654E-06 1.5327E-05 -7.9165E-06 2.6935E-06 1.4199E-05 -7.1835E-06
20 1.3576E-05 2.1590E-04 -1.0952E-04 1.3354E-05 2.1559E-04 -1.0945E-04
1.3953E-05 2.1736E-04 -1.0972E-04 1.3283E-05 2.1393E-04 -1.0942E-04

1.4157E-05 2.1628E-04 -1.0989E-04 1.4050E-05 2.1544E-04 -1.0980E-04
1.5327E-05 2.3151E-04 -1.1805E-04 1.2628E-05 2.1517E-04 -1.0845E-04
21 -6.9855E-06 -1.1015E-04 5.8083E-05 -6.8637E-06 -1.0997E-04 5.8040E-05
-7.1941E-06 -1.1095E-04 5.8190E-05 -6.8251E-06 -1.0905E-04 5.8024E-05 -
7.3067E-06 -1.1035E-04 5.8285E-05 -7.2478E-06 -1.0989E-04 5.8234E-05 -
7.9165E-06 -1.1805E-04 6.2687E-05 -6.4634E-06 -1.0973E-04 5.7488E-05
22 2.6749E-06 1.2650E-05 -6.4583E-06 2.6721E-06 1.2640E-05 -6.4566E-06
2.6872E-06 1.2683E-05 -6.4629E-06 2.6702E-06 1.2597E-05 -6.4553E-06
2.6922E-06 1.2654E-05 -6.4662E-06 2.6894E-06 1.2633E-05 -6.4637E-06
2.6935E-06 1.2628E-05 -6.4634E-06 2.8804E-06 1.3284E-05 -6.7499E-06
23 1.3570E-05 2.1581E-04 -1.0947E-04 1.3349E-05 2.1551E-04 -1.0941E-04
1.3944E-05 2.1728E-04 -1.0967E-04 1.3277E-05 2.1384E-04 -1.0936E-04
1.4144E-05 2.1617E-04 -1.0983E-04 1.4037E-05 2.1532E-04 -1.0973E-04
1.4199E-05 2.1517E-04 -1.0973E-04 1.3284E-05 2.3082E-04 -1.1610E-04
24 -6.8813E-06 -1.0876E-04 5.7363E-05 -6.7766E-06 -1.0861E-04 5.7332E-05
-7.0615E-06 -1.0946E-04 5.7461E-05 -6.7422E-06 -1.0781E-04 5.7311E-05 -
7.1570E-06 -1.0893E-04 5.7534E-05 -7.1058E-06 -1.0852E-04 5.7488E-05 -
7.1835E-06 -1.0845E-04 5.7488E-05 -6.7499E-06 -1.1610E-04 6.0843E-05

Correlation matrix of the 8 vectors
1 1.0000E+00 5.5036E-01 -5.4356E-01 9.1398E-01 5.1525E-01 -5.0935E-01
9.1071E-01 5.1490E-01 -5.0907E-01 9.1389E-01 5.1490E-01 -5.0935E-01
9.0823E-01 5.1483E-01 -5.0900E-01 9.0955E-01 5.1480E-01 -5.0902E-01
9.0728E-01 5.1461E-01 -5.0886E-01 9.0901E-01 5.1515E-01 -5.0880E-01
2 5.5036E-01 1.0000E+00 -9.8018E-01 5.0977E-01 9.3103E-01 -9.1341E-01
5.2264E-01 9.2885E-01 -9.1247E-01 5.0793E-01 9.3188E-01 -9.1349E-01
5.2605E-01 9.2969E-01 -9.1210E-01 5.2426E-01 9.3037E-01 -9.1229E-01
5.2685E-01 9.3017E-01 -9.1200E-01 4.8859E-01 9.3119E-01 -9.1403E-01
3 -5.4356E-01 -9.8018E-01 1.0000E+00 -5.0377E-01 -9.1347E-01 9.3160E-01
-5.1678E-01 -9.1148E-01 9.3059E-01 -5.0192E-01 -9.1415E-01 9.3169E-01 -
5.2026E-01 -9.1221E-01 9.3019E-01 -5.1844E-01 -9.1280E-01 9.3039E-01 -
5.2107E-01 -9.1259E-01 9.3011E-01 -4.8246E-01 -9.1358E-01 9.3239E-01
4 9.1398E-01 5.0977E-01 -5.0377E-01 1.0000E+00 5.4215E-01 -5.3552E-01
9.0969E-01 5.0856E-01 -5.0320E-01 9.1558E-01 5.1005E-01 -5.0375E-01
9.0642E-01 5.0895E-01 -5.0300E-01 9.0816E-01 5.0928E-01 -5.0309E-01
9.0525E-01 5.0916E-01 -5.0293E-01 9.1342E-01 5.0976E-01 -5.0401E-01
5 5.1525E-01 9.3103E-01 -9.1347E-01 5.4215E-01 1.0000E+00 -9.8007E-01
5.2201E-01 9.2913E-01 -9.1275E-01 5.0790E-01 9.3253E-01 -9.1385E-01
5.2525E-01 9.3008E-01 -9.1235E-01 5.2355E-01 9.3085E-01 -9.1256E-01
5.2601E-01 9.3067E-01 -9.1227E-01 4.8916E-01 9.3171E-01 -9.1459E-01
6 -5.0935E-01 -9.1341E-01 9.3160E-01 -5.3552E-01 -9.8007E-01 1.0000E+00
-5.1641E-01 -9.1166E-01 9.3083E-01 -5.0190E-01 -9.1455E-01 9.3197E-01 -
5.1978E-01 -9.1245E-01 9.3041E-01 -5.1801E-01 -9.1310E-01 9.3062E-01 -
5.2056E-01 -9.1290E-01 9.3033E-01 -4.8281E-01 -9.1391E-01 9.3280E-01
7 9.1071E-01 5.2264E-01 -5.1678E-01 9.0969E-01 5.2201E-01 -5.1641E-01
1.0000E+00 5.6221E-01 -5.5451E-01 9.0911E-01 5.2045E-01 -5.1634E-01
9.0918E-01 5.2208E-01 -5.1666E-01 9.0981E-01 5.2144E-01 -5.1654E-01
9.0858E-01 5.2115E-01 -5.1639E-01 8.9984E-01 5.2162E-01 -5.1450E-01
8 5.1490E-01 9.2885E-01 -9.1148E-01 5.0856E-01 9.2913E-01 -9.1166E-01
5.6221E-01 1.0000E+00 -9.8025E-01 5.0652E-01 9.2947E-01 -9.1169E-01
5.2680E-01 9.2799E-01 -9.1060E-01 5.2474E-01 9.2841E-01 -9.1072E-01
5.2772E-01 9.2817E-01 -9.1043E-01 4.8555E-01 9.2918E-01 -9.1173E-01
9 -5.0907E-01 -9.1247E-01 9.3059E-01 -5.0320E-01 -9.1275E-01 9.3083E-01
-5.5451E-01 -9.8025E-01 1.0000E+00 -5.0130E-01 -9.1333E-01 9.3090E-01 -

5.2008E-01 -9.1154E-01 9.2948E-01 -5.1820E-01 -9.1208E-01 9.2966E-01 -
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  10 9.1389E-01 5.0793E-01 -5.0192E-01 9.1558E-01 5.0790E-01 -5.0190E-01
9.0911E-01 5.0652E-01 -5.0130E-01 1.0000E+00 5.3971E-01 -5.3324E-01
9.0562E-01 5.0710E-01 -5.0109E-01 9.0750E-01 5.0756E-01 -5.0122E-01
9.0440E-01 5.0747E-01 -5.0107E-01 9.1455E-01 5.0800E-01 -5.0243E-01
  11 5.1490E-01 9.3188E-01 -9.1415E-01 5.1005E-01 9.3253E-01 -9.1455E-01
5.2045E-01 9.2947E-01 -9.1333E-01 5.3971E-01 1.0000E+00 -9.7947E-01
5.2310E-01 9.3088E-01 -9.1285E-01 5.2175E-01 9.3198E-01 -9.1314E-01
5.2371E-01 9.3187E-01 -9.1287E-01 4.9191E-01 9.3284E-01 -9.1605E-01
  12 -5.0935E-01 -9.1349E-01 9.3169E-01 -5.0375E-01 -9.1385E-01 9.3197E-01
-5.1634E-01 -9.1169E-01 9.3090E-01 -5.3324E-01 -9.7947E-01 1.0000E+00 -
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  13 9.0823E-01 5.2605E-01 -5.2026E-01 9.0642E-01 5.2525E-01 -5.1978E-01
9.0918E-01 5.2680E-01 -5.2008E-01 9.0562E-01 5.2310E-01 -5.1972E-01
1.0000E+00 5.6641E-01 -5.6064E-01 9.0900E-01 5.2467E-01 -5.2021E-01
9.0833E-01 5.2434E-01 -5.2007E-01 8.9394E-01 5.2464E-01 -5.1708E-01
  14 5.1483E-01 9.2969E-01 -9.1221E-01 5.0895E-01 9.3008E-01 -9.1245E-01
5.2208E-01 9.2799E-01 -9.1154E-01 5.0710E-01 9.3088E-01 -9.1256E-01
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5.2645E-01 9.2927E-01 -9.1114E-01 4.8743E-01 9.3017E-01 -9.1293E-01
  15 -5.0900E-01 -9.1210E-01 9.3019E-01 -5.0300E-01 -9.1235E-01 9.3041E-01
-5.1666E-01 -9.1060E-01 9.2948E-01 -5.0109E-01 -9.1285E-01 9.3052E-01 -
5.6064E-01 -9.8023E-01 1.0000E+00 -5.1846E-01 -9.1172E-01 9.2934E-01 -
5.2129E-01 -9.1150E-01 9.2907E-01 -4.8084E-01 -9.1236E-01 9.3089E-01
  16 9.0955E-01 5.2426E-01 -5.1844E-01 9.0816E-01 5.2355E-01 -5.1801E-01
9.0981E-01 5.2474E-01 -5.1820E-01 9.0750E-01 5.2175E-01 -5.1799E-01
9.0900E-01 5.2378E-01 -5.1846E-01 1.0000E+00 5.6246E-01 -5.5759E-01
9.0852E-01 5.2271E-01 -5.1819E-01 8.9703E-01 5.2301E-01 -5.1568E-01
  17 5.1480E-01 9.3037E-01 -9.1280E-01 5.0928E-01 9.3085E-01 -9.1310E-01
5.2144E-01 9.2841E-01 -9.1208E-01 5.0756E-01 9.3198E-01 -9.1323E-01
5.2467E-01 9.2946E-01 -9.1172E-01 5.6246E-01 1.0000E+00 -9.8000E-01
5.2544E-01 9.3011E-01 -9.1168E-01 4.8894E-01 9.3099E-01 -9.1391E-01
  18 -5.0902E-01 -9.1229E-01 9.3039E-01 -5.0309E-01 -9.1256E-01 9.3062E-01
-5.1654E-01 -9.1072E-01 9.2966E-01 -5.0122E-01 -9.1314E-01 9.3075E-01 -
5.2021E-01 -9.1141E-01 9.2934E-01 -5.5759E-01 -9.8000E-01 1.0000E+00 -
5.2110E-01 -9.1174E-01 9.2928E-01 -4.8118E-01 -9.1256E-01 9.3117E-01
  19 9.0728E-01 5.2685E-01 -5.2107E-01 9.0525E-01 5.2601E-01 -5.2056E-01
9.0858E-01 5.2772E-01 -5.2092E-01 9.0440E-01 5.2371E-01 -5.2053E-01
9.0833E-01 5.2645E-01 -5.2129E-01 9.0852E-01 5.2544E-01 -5.2110E-01
1.0000E+00 5.6619E-01 -5.6200E-01 8.9203E-01 5.2531E-01 -5.1763E-01
  20 5.1461E-01 9.3017E-01 -9.1259E-01 5.0916E-01 9.3067E-01 -9.1290E-01
5.2115E-01 9.2817E-01 -9.1186E-01 5.0747E-01 9.3187E-01 -9.1305E-01
5.2434E-01 9.2927E-01 -9.1150E-01 5.2271E-01 9.3011E-01 -9.1174E-01
5.6619E-01 1.0000E+00 -9.7996E-01 4.8902E-01 9.3081E-01 -9.1376E-01
  21 -5.0886E-01 -9.1200E-01 9.3011E-01 -5.0293E-01 -9.1227E-01 9.3033E-01
-5.1639E-01 -9.1043E-01 9.2937E-01 -5.0107E-01 -9.1287E-01 9.3047E-01 -
5.2007E-01 -9.1114E-01 9.2907E-01 -5.1819E-01 -9.1168E-01 9.2928E-01 -
5.6200E-01 -9.7996E-01 1.0000E+00 -4.8100E-01 -9.1226E-01 9.3085E-01
  22 9.0901E-01 4.8859E-01 -4.8246E-01 9.1342E-01 4.8916E-01 -4.8281E-01
8.9984E-01 4.8555E-01 -4.8154E-01 9.1455E-01 4.9191E-01 -4.8292E-01
8.9394E-01 4.8743E-01 -4.8084E-01 8.9703E-01 4.8894E-01 -4.8118E-01
8.9203E-01 4.8902E-01 -4.8100E-01 1.0000E+00 5.1520E-01 -5.0988E-01

23 5.1515E-01 9.3119E-01 -9.1358E-01 5.0976E-01 9.3171E-01 -9.1391E-01
5.2162E-01 9.2918E-01 -9.1286E-01 5.0800E-01 9.3284E-01 -9.1395E-01
5.2464E-01 9.3017E-01 -9.1236E-01 5.2301E-01 9.3099E-01 -9.1256E-01
5.2531E-01 9.3081E-01 -9.1226E-01 5.1520E-01 1.0000E+00 -9.7966E-01
24 -5.0880E-01 -9.1403E-01 9.3239E-01 -5.0401E-01 -9.1459E-01 9.3280E-01
-5.1450E-01 -9.1173E-01 9.3153E-01 -5.0243E-01 -9.1605E-01 9.3286E-01 -
5.1708E-01 -9.1293E-01 9.3089E-01 -5.1568E-01 -9.1391E-01 9.3117E-01 -
5.1763E-01 -9.1376E-01 9.3085E-01 -5.0988E-01 -9.7966E-01 1.0000E+00

G-FILE for the vectors

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C00090003 -404145468 17 -188345815 153 -335415679 79
C00090004 205119265 17 297524411 150 512639968 78
C00090005 -650559616 17 95589586 152 153035570 79
C00090006 -572215862 17 213795939 152 358137049 79
C00090007 -767091094 17 262863327 152 436337628 79
C00090008 873362332 16 -329037149 151 -581956413 78
D 1 2 5503562 1 3 -5435647 1 4 9139816 1 5 5152537 1 6 -5093488 D
1 7 9107107 1 8 5148961 1 9 -5090672 1 10 9138880 1 11 5149028 D 1
12 -5093536 1 13 9082261 1 14 5148312 1 15 -5090004 1 16 9095497 D 1
17 5147959 1 18 -5090162 1 19 9072754 1 20 5146135 1 21 -5088591 D 1
22 9090052 1 23 5151509 1 24 -5088026 2 3 -9801814 2 4 5097683 D 2
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9115039 15 21 9290702 15 22 -4808389 15 23 -9123597 15 24 9308916 D 16 17
5624593 16 18 -5575864 16 19 9085225 16 20 5227145 16 21 -5181924 D 16 22
8970260 16 23 5230071 16 24 -5156780 17 18 -9800002 17 19 5254402 D 17 20
9301085 17 21 -9116787 17 22 4889393 17 23 9309918 17 24 -9139088 D 18 19 -
5210997 18 20 -9117379 18 21 9292762 18 22 -4811843 18 23 -9125612 D 18 24
9311650 19 20 5661943 19 21 -5619963 19 22 8920291 19 23 5253123 D 19 24 -
5176280 20 21 -9799622 20 22 4890230 20 23 9308071 20 24 -9137575 D 21 22 -
4810016 21 23 -9122573 21 24 9308527 22 23 5151980 22 24 -5098755 D 23 24 -
9796636

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
lwes	-29686.088	-5531427.757	3164686.499
nola	-29686.092	-5531427.771	3164686.515
houm	-29686.088	-5531427.728	3164686.474
covg	-29686.090	-5531427.773	3164686.499
awes	-29686.090	-5531427.761	3164686.486
gvms	-29686.082	-5531427.801	3164686.501
sjb1	-29686.090	-5531427.813	3164686.507
bvhs	-29686.093	-5531427.762	3164686.490

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
lwes	0.001	0.020	-0.001	0.001	0.009	-0.018
nola	-0.002	0.005	0.015	-0.002	0.016	0.003
houm	0.002	0.049	-0.025	0.001	0.002	-0.055
covg	-0.000	0.004	-0.001	-0.000	0.002	-0.004
awes	-0.001	0.015	-0.013	-0.001	0.004	-0.020
gvms	0.007	-0.024	0.002	0.007	0.011	0.022
sjb1	-0.001	-0.036	0.008	-0.001		

0.011 0.035
bvhs -0.004 0.015 -0.010 -0.004 -
0.001 -0.018

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 525454.674
Easting (X) [feet] 3605735.246
Convergence [degrees] 0.51293738
Point Scale 0.99992629
Combined Factor 0.99992999

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 2.302 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.367
scatter (mean square distance from rover) is 4694.668
average edop for rover is 0.800
average ndop for rover is 0.760
average hdop for rover is 1.103
average vdop for rover is 2.090
average gdop for rover is 2.770

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:24 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA09.O00 OP1335485845717

FILE: QCFVA09.O00 OP1335485845717

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068x.12o TIME: 00:23:49 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.73 START: 2012/03/08 23:57:55
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/09 00:24:47
NAV FILE: brdc0680.12n OBS USED: 3105 / 3483 : 89%
ANT NAME: LEIAT502 NONE QUALITY IND. 21.95/ 19.20
ARP HEIGHT: 1.565 NORMALIZED RMS: 0.344

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18581)

X:	-26926.378(m)	0.004(m)	-26927.110(m)	0.004(m)
Y:	-5528210.992(m)	0.021(m)	-5528209.502(m)	0.021(m)
Z:	3170283.911(m)	0.014(m)	3170283.703(m)	0.014(m)

LAT:	29 59 57.15012	0.004(m)	29 59 57.16841	0.004(m)
E LON:	269 43 15.34945	0.004(m)	269 43 15.32187	0.004(m)
W LON:	90 16 44.65055	0.004(m)	90 16 44.67813	0.004(m)
EL HGT:	-27.654(m)	0.025(m)	-29.045(m)	0.025(m)
ORTHO HGT:	-1.520(m)	0.027(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3321815.271	166646.573
Easting (X) [meters]	762479.214	1101713.805
Convergence [degrees]	1.36121178	0.52714525
Point Scale	1.00045010	0.99992574
Combined Factor	1.00045444	0.99993009

US NATIONAL GRID DESIGNATOR: 15RYP6247921815(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9596	DSTR DESTRAHAN H.S. CORS ARP	N295752.395	W0902256.007	10670.2

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 16936.5
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 69574.0
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 55719.7
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 62306.7
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 91071.9
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 90418.5
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 87090.4
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 120071.0

NEAREST NGS PUBLISHED CONTROL POINT
AA8545 MSY F N295941.959 W0901656.286 563.7

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

dstr	-36892.838	-5530079.553	3166960.862
nola	-11604.031	-5531876.841	3164070.914
gvms	-86907.675	-5510048.243	3200500.224
covg	-9174.166	-5501675.365	3215950.514
houm	-70100.642	-5550262.338	3131144.925
sjb1	-106395.188	-5505141.430	3208320.251
lmcn	-64275.988	-5568696.866	3098580.611
gris	4149.688	-5568493.955	3099600.318
fshs	-145211.079	-5537098.001	3151657.535
qcfv	-26927.110	-5528209.502	3170283.703

Covariance matrix of the stations:
1 1.5720E-07 2.8160E-07 -1.5640E-07 1.3460E-09 -2.4460E-08 1.3710E-08
-1.1630E-08 -5.2200E-08 3.6540E-08 -5.4410E-10 -3.5100E-08 2.8840E-08 -
5.5660E-09 -3.1440E-08 1.2510E-08 -1.5050E-08 -5.8570E-08 4.1840E-08 -
3.1380E-09 -2.1750E-08 1.7510E-09 6.2370E-09 -4.9740E-09 -7.7470E-09 -
1.7700E-08 -5.3040E-08 2.8900E-08 2.2070E-08 6.6110E-08 -3.5370E-08
2 2.8160E-07 5.0100E-06 -2.6190E-06 -2.7610E-08 -6.0240E-07 3.2190E-07
-4.2010E-08 -6.3380E-07 3.4760E-07 -3.0200E-08 -6.1920E-07 3.4150E-07 -
3.4690E-08 -6.0520E-07 3.1800E-07 -4.5800E-08 -6.4100E-07 3.5360E-07 -
3.1760E-08 -5.9230E-07 3.0500E-07 -2.1750E-08 -5.7660E-07 2.9590E-07 -
4.7860E-08 -6.2850E-07 3.3580E-07 7.9800E-09 1.3300E-07 -6.4000E-08
3 -1.5640E-07 -2.6190E-06 1.5250E-06 1.7180E-08 3.2310E-07 -1.7420E-07
2.2330E-08 3.4360E-07 -1.8830E-07 1.8700E-08 3.3920E-07 -1.8650E-07
1.8890E-08 3.1950E-07 -1.7070E-07 2.3730E-08 3.4860E-07 -1.9170E-07
1.7560E-08 3.0910E-07 -1.6330E-07 1.4680E-08 3.0230E-07 -1.5950E-07
2.3360E-08 3.3400E-07 -1.8020E-07 -2.3940E-09 -4.6890E-08 3.9290E-08
4 1.3460E-09 -2.7610E-08 1.7180E-08 1.6570E-07 2.6480E-07 -1.4760E-07
-1.8570E-08 -6.3130E-08 5.1920E-08 5.5670E-09 -3.7370E-08 4.1770E-08 -
5.4970E-09 -2.3480E-08 1.7990E-09 -2.5920E-08 -7.3440E-08 6.1560E-08 -
2.2740E-10 -4.3700E-09 -2.0980E-08 2.0420E-08 2.2800E-08 -3.6750E-08 -
3.1630E-08 -5.8080E-08 3.1000E-08 3.0240E-08 1.4360E-07 -7.6230E-08
5 -2.4460E-08 -6.0240E-07 3.2310E-07 2.6480E-07 4.9830E-06 -2.5990E-06
-4.6100E-08 -6.4460E-07 3.6260E-07 -2.0580E-08 -6.2040E-07 3.5360E-07 -

3.1400E-08 -5.9580E-07 3.0540E-07 -5.4030E-08 -6.5620E-07 3.7320E-07 -
2.5490E-08 -5.7290E-07 2.7980E-07 -3.6490E-09 -5.4580E-07 2.6380E-07 -
5.9320E-08 -6.3350E-07 3.3710E-07 1.7170E-08 9.5690E-08 -4.4370E-08
   6 1.3710E-08 3.2190E-07 -1.7420E-07 -1.4760E-07 -2.5990E-06 1.5110E-06
2.6120E-08 3.5190E-07 -1.9990E-07 1.2130E-08 3.4040E-07 -1.9590E-07
1.7110E-08 3.1260E-07 -1.6150E-07 3.0650E-08 3.6010E-07 -2.0680E-07
1.3520E-08 2.9460E-07 -1.4460E-07 1.6920E-09 2.7930E-07 -1.3560E-07
3.2710E-08 3.3780E-07 -1.8140E-07 -9.4040E-09 -4.5600E-08 3.6470E-08
   7 -1.1630E-08 -4.2010E-08 2.2330E-08 -1.8570E-08 -4.6100E-08 2.6120E-08
1.7520E-07 3.7110E-07 -2.2540E-07 -1.5230E-08 -3.0480E-08 -8.1640E-10 -
6.0240E-09 -5.1150E-08 3.8720E-08 1.0320E-08 -2.4200E-08 -3.8720E-09 -
1.0310E-08 -6.3750E-08 5.6370E-08 -2.7530E-08 -7.1540E-08 6.1700E-08
1.4880E-08 -4.2010E-08 2.4820E-08 -4.6730E-09 -1.3440E-07 7.1960E-08
   8 -5.2200E-08 -6.3380E-07 3.4360E-07 -6.3130E-08 -6.4460E-07 3.5190E-07
3.7110E-07 5.2280E-06 -2.8170E-06 -5.8320E-08 -6.2320E-07 3.1210E-07 -
4.3110E-08 -6.4430E-07 3.6690E-07 -1.7960E-08 -6.0180E-07 3.0080E-07 -
4.9590E-08 -6.6330E-07 3.9390E-07 -7.6640E-08 -6.8310E-07 4.0610E-07 -
1.0080E-08 -6.2280E-07 3.4150E-07 -3.8840E-08 -2.7440E-07 1.6000E-07
   9 3.6540E-08 3.4760E-07 -1.8830E-07 5.1920E-08 3.6260E-07 -1.9990E-07
-2.2540E-07 -2.8170E-06 1.6980E-06 4.5270E-08 3.3730E-07 -1.4640E-07
2.3460E-08 3.5580E-07 -2.1760E-07 -1.1940E-08 2.9960E-07 -1.2620E-07
3.2570E-08 3.8050E-07 -2.5450E-07 7.0960E-08 4.1240E-07 -2.7400E-07 -
2.3440E-08 3.2170E-07 -1.7950E-07 4.2480E-08 3.2870E-07 -1.6670E-07
  10 -5.4410E-10 -3.0200E-08 1.8700E-08 5.5670E-09 -2.0580E-08 1.2130E-08
-1.5230E-08 -5.8320E-08 4.5270E-08 1.6080E-07 2.6560E-07 -1.3730E-07 -
5.6000E-09 -2.8100E-08 7.9700E-09 -2.0670E-08 -6.6690E-08 5.2770E-08 -
1.7240E-09 -1.3660E-08 -8.9190E-09 1.3450E-08 8.4620E-09 -2.1630E-08 -
2.4920E-08 -5.6310E-08 3.0890E-08 2.5200E-08 1.0320E-07 -5.4180E-08
  11 -3.5100E-08 -6.1920E-07 3.3920E-07 -3.7370E-08 -6.2040E-07 3.4040E-07
-3.0480E-08 -6.2320E-07 3.3730E-07 2.6560E-07 5.0980E-06 -2.7430E-06 -
3.3140E-08 -6.2350E-07 3.4530E-07 -2.8780E-08 -6.2480E-07 3.3710E-07 -
3.4250E-08 -6.2470E-07 3.4950E-07 -3.9800E-08 -6.2290E-07 3.4880E-07 -
2.6880E-08 -6.2860E-07 3.4520E-07 -9.3870E-09 -1.1260E-07 7.5690E-08
  12 2.8840E-08 3.4150E-07 -1.8650E-07 4.1770E-08 3.5360E-07 -1.9590E-07
-8.1640E-10 3.1210E-07 -1.4640E-07 -1.3730E-07 -2.7430E-06 1.6670E-06
1.7780E-08 3.4830E-07 -2.1110E-07 -1.1710E-08 3.0470E-07 -1.3620E-07
2.5380E-08 3.6790E-07 -2.4160E-07 5.7690E-08 3.9310E-07 -2.5710E-07 -
2.1490E-08 3.2240E-07 -1.8060E-07 3.1330E-08 2.8200E-07 -1.4280E-07
  13 -5.5660E-09 -3.4690E-08 1.8890E-08 -5.4970E-09 -3.1400E-08 1.7110E-08
-6.0240E-09 -4.3110E-08 2.3460E-08 -5.6000E-09 -3.3140E-08 1.7780E-08
1.5730E-07 3.0000E-07 -1.6400E-07 -6.2420E-09 -4.6290E-08 2.5230E-08 -
5.5420E-09 -3.5530E-08 1.9660E-08 -5.3780E-09 -2.7280E-08 1.5290E-08 -
6.3650E-09 -4.8610E-08 2.6580E-08 1.1440E-08 -6.4470E-09 3.0580E-09
  14 -3.1440E-08 -6.0520E-07 3.1950E-07 -2.3480E-08 -5.9580E-07 3.1260E-07
-5.1150E-08 -6.4430E-07 3.5580E-07 -2.8100E-08 -6.2350E-07 3.4830E-07
3.0000E-07 4.9960E-06 -2.5770E-06 -5.8350E-08 -6.5500E-07 3.6560E-07 -
3.2140E-08 -5.7620E-07 2.7900E-07 -1.2420E-08 -5.5240E-07 2.6490E-07 -
6.2870E-08 -6.3200E-07 3.3150E-07 9.0520E-09 8.0170E-08 -4.1020E-08
  15 1.2510E-08 3.1800E-07 -1.7070E-07 1.7990E-09 3.0540E-07 -1.6150E-07
3.8720E-08 3.6690E-07 -2.1760E-07 7.9700E-09 3.4530E-07 -2.1110E-07 -
1.6400E-07 -2.5770E-06 1.4920E-06 4.8300E-08 3.8010E-07 -2.3000E-07
1.3360E-08 2.7250E-07 -1.1270E-07 -1.2960E-08 2.4460E-07 -9.6140E-08
5.4210E-08 3.4390E-07 -1.8120E-07 -1.9070E-08 -1.5200E-07 9.5590E-08
  16 -1.5050E-08 -4.5800E-08 2.3730E-08 -2.5920E-08 -5.4030E-08 3.0650E-08

1.0320E-08 -1.7960E-08 -1.1940E-08 -2.0670E-08 -2.8780E-08 -1.1710E-08 -
6.2420E-09 -5.8350E-08 4.8300E-08 1.9480E-07 4.1770E-07 -2.6580E-07 -
1.2990E-08 -7.9120E-08 7.6360E-08 -3.9960E-08 -9.5930E-08 8.7140E-08
2.6780E-08 -3.7920E-08 2.3290E-08 -1.3750E-08 -2.0610E-07 1.1020E-07
  17 -5.8570E-08 -6.4100E-07 3.4860E-07 -7.3440E-08 -6.5620E-07 3.6010E-07
-2.4200E-08 -6.0180E-07 2.9960E-07 -6.6690E-08 -6.2480E-07 3.0470E-07 -
4.6290E-08 -6.5500E-07 3.8010E-07 4.1770E-07 5.3050E-06 -2.8890E-06 -
5.5240E-08 -6.8240E-07 4.1750E-07 -9.2050E-08 -7.1170E-07 4.3540E-07 -
1.0670E-09 -6.2140E-07 3.4300E-07 -5.0870E-08 -3.4930E-07 2.0160E-07
  18   4.1840E-08 3.5360E-07 -1.9170E-07 6.1560E-08 3.7320E-07 -2.0680E-07
-3.8720E-09 3.0080E-07 -1.2620E-07 5.2770E-08 3.3710E-07 -1.3620E-07
2.5230E-08 3.6560E-07 -2.3000E-07 -2.6580E-07 -2.8890E-06 1.7640E-06
3.7060E-08 3.9930E-07 -2.7840E-07 8.6210E-08 4.4150E-07 -3.0410E-07 -
3.5070E-08 3.1860E-07 -1.7940E-07 5.4000E-08 4.0940E-07 -2.1060E-07
  19 -3.1380E-09 -3.1760E-08 1.7560E-08 -2.2740E-10 -2.5490E-08 1.3520E-08
-1.0310E-08 -4.9590E-08 3.2570E-08 -1.7240E-09 -3.4250E-08 2.5380E-08 -
5.5420E-09 -3.2140E-08 1.3360E-08 -1.2990E-08 -5.5240E-08 3.7060E-08
1.5650E-07 2.8910E-07 -1.6330E-07 3.5720E-09 -9.4020E-09 -3.4530E-09 -
1.5010E-08 -5.1300E-08 2.7340E-08 1.7940E-08 4.5380E-08 -2.4800E-08
  20 -2.1750E-08 -5.9230E-07 3.0910E-07 -4.3700E-09 -5.7290E-07 2.9460E-07
-6.3750E-08 -6.6330E-07 3.8050E-07 -1.3660E-08 -6.2470E-07 3.6790E-07 -
3.5530E-08 -5.7620E-07 2.7250E-07 -7.9120E-08 -6.8240E-07 3.9930E-07
2.8910E-07 4.9500E-06 -2.5480E-06 1.8920E-08 -4.8900E-07 1.9640E-07 -
8.9860E-08 -6.3780E-07 3.2810E-07 3.2270E-08 2.5560E-07 -1.3960E-07
  21   1.7510E-09 3.0500E-07 -1.6330E-07 -2.0980E-08 2.7980E-07 -1.4460E-07
5.6370E-08 3.9390E-07 -2.5450E-07 -8.9190E-09 3.4950E-07 -2.4160E-07
1.9660E-08 2.7900E-07 -1.1270E-07 7.6360E-08 4.1750E-07 -2.7840E-07 -
1.6330E-07 -2.5480E-06 1.5040E-06 -5.1300E-08 1.6820E-07 -1.5080E-08
9.0310E-08 3.5470E-07 -1.8270E-07 -4.7120E-08 -3.7280E-07 2.1570E-07
  22   6.2370E-09 -2.1750E-08 1.4680E-08 2.0420E-08 -3.6490E-09 1.6920E-09
-2.7530E-08 -7.6640E-08 7.0960E-08 1.3450E-08 -3.9800E-08 5.7690E-08 -
5.3780E-09 -1.2420E-08 -1.2960E-08 -3.9960E-08 -9.2050E-08 8.6210E-08
3.5720E-09 1.8920E-08 -5.1300E-08 1.8990E-07 2.9140E-07 -1.9980E-07 -
4.9600E-08 -6.3790E-08 3.2800E-08 4.3540E-08 2.5050E-07 -1.3350E-07
  23 -4.9740E-09 -5.7660E-07 3.0230E-07 2.2800E-08 -5.4580E-07 2.7930E-07
-7.1540E-08 -6.8310E-07 4.1240E-07 8.4620E-09 -6.2290E-07 3.9310E-07 -
2.7280E-08 -5.5240E-07 2.4460E-07 -9.5930E-08 -7.1170E-07 4.4150E-07 -
9.4020E-09 -4.8900E-07 1.6820E-07 2.9140E-07 4.9380E-06 -2.5710E-06 -
1.1380E-07 -6.4560E-07 3.3060E-07 6.3900E-08 4.4880E-07 -2.4270E-07
  24 -7.7470E-09 2.9590E-07 -1.5950E-07 -3.6750E-08 2.6380E-07 -1.3560E-07
6.1700E-08 4.0610E-07 -2.7400E-07 -2.1630E-08 3.4880E-07 -2.5710E-07
1.5290E-08 2.6490E-07 -9.6140E-08 8.7140E-08 4.3540E-07 -3.0410E-07 -
3.4530E-09 1.9640E-07 -1.5080E-08 -1.9980E-07 -2.5710E-06 1.5370E-06
1.0530E-07 3.5970E-07 -1.8440E-07 -6.5570E-08 -4.8900E-07 2.7760E-07
  25 -1.7700E-08 -4.7860E-08 2.3360E-08 -3.1630E-08 -5.9320E-08 3.2710E-08
1.4880E-08 -1.0080E-08 -2.3440E-08 -2.4920E-08 -2.6880E-08 -2.1490E-08 -
6.3650E-09 -6.2870E-08 5.4210E-08 2.6780E-08 -1.0670E-09 -3.5070E-08 -
1.5010E-08 -8.9860E-08 9.0310E-08 -4.9600E-08 -1.1380E-07 1.0530E-07
2.1460E-07 4.1140E-07 -2.2580E-07 -2.0840E-08 -2.6160E-07 1.3880E-07
  26 -5.3040E-08 -6.2850E-07 3.3400E-07 -5.8080E-08 -6.3350E-07 3.3780E-07
-4.2010E-08 -6.2280E-07 3.2170E-07 -5.6310E-08 -6.2860E-07 3.2240E-07 -
4.8610E-08 -6.3200E-07 3.4390E-07 -3.7920E-08 -6.2140E-07 3.1860E-07 -
5.1300E-08 -6.3780E-07 3.5470E-07 -6.3790E-08 -6.4560E-07 3.5970E-07
4.1140E-07 5.1610E-06 -2.6930E-06 -3.1170E-08 -1.6580E-07 9.4290E-08

27 2.8900E-08 3.3580E-07 -1.8020E-07 3.1000E-08 3.3710E-07 -1.8140E-07
2.4820E-08 3.4150E-07 -1.7950E-07 3.0890E-08 3.4520E-07 -1.8060E-07
2.6580E-08 3.3150E-07 -1.8120E-07 2.3290E-08 3.4300E-07 -1.7940E-07
2.7340E-08 3.2810E-07 -1.8270E-07 3.2800E-08 3.3060E-07 -1.8440E-07 -
2.2580E-07 -2.6930E-06 1.5600E-06 1.5690E-08 8.6050E-08 -3.3330E-08
28 2.2070E-08 7.9800E-09 -2.3940E-09 3.0240E-08 1.7170E-08 -9.4040E-09
-4.6730E-09 -3.8840E-08 4.2480E-08 2.5200E-08 -9.3870E-09 3.1330E-08
1.1440E-08 9.0520E-09 -1.9070E-08 -1.3750E-08 -5.0870E-08 5.4000E-08
1.7940E-08 3.2270E-08 -4.7120E-08 4.3540E-08 6.3900E-08 -6.5570E-08 -
2.0840E-08 -3.1170E-08 1.5690E-08 1.4750E-06 3.1060E-06 -1.7170E-06
29 6.6110E-08 1.3300E-07 -4.6890E-08 1.4360E-07 9.5690E-08 -4.5600E-08
-1.3440E-07 -2.7440E-07 3.2870E-07 1.0320E-07 -1.1260E-07 2.8200E-07 -
6.4470E-09 8.0170E-08 -1.5200E-07 -2.0610E-07 -3.4930E-07 4.0940E-07
4.5380E-08 2.5560E-07 -3.7280E-07 2.5050E-07 4.4880E-07 -4.8900E-07 -
2.6160E-07 -1.6580E-07 8.6050E-08 3.1060E-06 5.5260E-05 -2.8980E-05
30 -3.5370E-08 -6.4000E-08 3.9290E-08 -7.6230E-08 -4.4370E-08 3.6470E-08
7.1960E-08 1.6000E-07 -1.6670E-07 -5.4180E-08 7.5690E-08 -1.4280E-07
3.0580E-09 -4.1020E-08 9.5590E-08 1.1020E-07 2.0160E-07 -2.1060E-07 -
2.4800E-08 -1.3960E-07 2.1570E-07 -1.3350E-07 -2.4270E-07 2.7760E-07
1.3880E-07 9.4290E-08 -3.3330E-08 -1.7170E-06 -2.8980E-05 1.6640E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000014750 0.0000031060 -0.0000017170
0.0000031060 0.0000552600 -0.0000289800
-0.0000017170 -0.0000289800 0.0000166400

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000014460 0.0000000478 -0.0000032509
0.0000000478 0.0000011854 -0.0000020386
-0.0000032509 -0.0000020386 0.0000707436

Horizontal network accuracy = 0.00281 meters.
Vertical network accuracy = 0.01649 meters.

Vectors

To	From	X	Y	Z
dstr	qcfv	-9965.728	-1870.051	-3322.842
nola	qcfv	15323.079	-3667.340	-6212.789
gvms	qcfv	-59980.565	18161.258	30216.521
covg	qcfv	17752.943	26534.137	45666.811
houm	qcfv	-43173.533	-22052.837	-39138.778
sjb1	qcfv	-79468.078	23068.072	38036.548
lmcn	qcfv	-37348.879	-40487.364	-71703.092
gris	qcfv	31076.797	-40284.453	-70683.385
fshs	qcfv	-118283.969	-8888.500	-18626.169

Covariance matrix of the 9 vectors
1 1.5881E-06 3.3135E-06 -1.8356E-06 1.4240E-06 2.9983E-06 -1.6585E-06
1.4460E-06 3.0265E-06 -1.6876E-06 1.4272E-06 3.0142E-06 -1.6841E-06
1.4359E-06 2.9994E-06 -1.6500E-06 1.4516E-06 3.0322E-06 -1.6938E-06
1.4319E-06 2.9859E-06 -1.6328E-06 1.4156E-06 2.9710E-06 -1.6238E-06
1.4561E-06 3.0180E-06 -1.6684E-06
2 3.3135E-06 6.0004E-05 -3.1488E-05 2.9268E-06 5.4429E-05 -2.8548E-05

3.1904E-06 5.4768E-05 -2.8897E-05 2.9646E-06 5.4620E-05 -2.8857E-05
3.0698E-06 5.4442E-05 -2.8446E-05 3.2583E-06 5.4835E-05 -2.8972E-05
3.0209E-06 5.4279E-05 -2.8238E-05 2.8258E-06 5.4102E-05 -2.8131E-05
3.3118E-06 5.4664E-05 -2.8666E-05
   3 -1.8356E-06 -3.1488E-05 1.8086E-05 -1.6212E-06 -2.8566E-05 1.6390E-05
-1.7642E-06 -2.8750E-05 1.6579E-05 -1.6417E-06 -2.8670E-05 1.6557E-05 -
1.6988E-06 -2.8573E-05 1.6334E-05 -1.8011E-06 -2.8786E-05 1.6620E-05 -
1.6722E-06 -2.8484E-05 1.6222E-05 -1.5664E-06 -2.8388E-05 1.6164E-05 -
1.8300E-06 -2.8693E-05 1.6454E-05
   4   1.4240E-06 2.9268E-06 -1.6212E-06 1.5802E-06 3.2100E-06 -1.7790E-06
1.4309E-06 2.9381E-06 -1.6313E-06 1.4251E-06 2.9344E-06 -1.6303E-06
1.4278E-06 2.9299E-06 -1.6199E-06 1.4326E-06 2.9398E-06 -1.6332E-06
1.4266E-06 2.9258E-06 -1.6146E-06 1.4216E-06 2.9213E-06 -1.6120E-06
1.4340E-06 2.9355E-06 -1.6255E-06
   5   2.9983E-06 5.4429E-05 -2.8566E-05 3.2100E-06 6.0052E-05 -3.1489E-05
3.1771E-06 5.4794E-05 -2.8902E-05 2.9651E-06 5.4657E-05 -2.8864E-05
3.0639E-06 5.4488E-05 -2.8478E-05 3.2409E-06 5.4857E-05 -2.8972E-05
3.0180E-06 5.4336E-05 -2.8283E-05 2.8347E-06 5.4170E-05 -2.8183E-05
3.2911E-06 5.4697E-05 -2.8685E-05
   6 -1.6585E-06 -2.8548E-05 1.6390E-05 -1.7790E-06 -3.1489E-05 1.8078E-05
-1.7534E-06 -2.8743E-05 1.6570E-05 -1.6413E-06 -2.8670E-05 1.6550E-05 -
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1.7313E-06 3.8102E-06 -2.0973E-06
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3.8102E-06 6.0753E-05 -3.1853E-05
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-1.7798E-06 -2.8885E-05 1.6661E-05 -1.6476E-06 -2.8797E-05 1.6636E-05 -
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2.0973E-06 -3.1853E-05 1.8267E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 3.3944E-01 -3.4251E-01 8.9894E-01 3.0702E-01 -3.0954E-01
8.9070E-01 3.0741E-01 -3.0991E-01 8.9945E-01 3.0730E-01 -3.0993E-01
8.9818E-01 3.0703E-01 -3.0913E-01 8.8419E-01 3.0741E-01 -3.0978E-01
8.9950E-01 3.0666E-01 -3.0786E-01 8.9431E-01 3.0616E-01 -3.0696E-01
8.7814E-01 3.0726E-01 -3.0977E-01
   2   3.3944E-01 1.0000E+00 -9.5583E-01 3.0057E-01 9.0673E-01 -8.6680E-01
3.1971E-01 9.0498E-01 -8.6333E-01 3.0396E-01 9.0592E-01 -8.6394E-01
3.1238E-01 9.0661E-01 -8.6698E-01 3.2287E-01 9.0442E-01 -8.6202E-01
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3.2493E-01 9.0538E-01 -8.6587E-01
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-3.2202E-01 -8.6528E-01 9.0219E-01 -3.0659E-01 -8.6610E-01 9.0289E-01 -
3.1487E-01 -8.6667E-01 9.0679E-01 -3.2507E-01 -8.6478E-01 9.0069E-01 -
3.1129E-01 -8.6686E-01 9.0632E-01 -2.9323E-01 -8.6682E-01 9.0539E-01 -
3.2704E-01 -8.6561E-01 9.0524E-01
   4   8.9894E-01 3.0057E-01 -3.0325E-01 1.0000E+00 3.2952E-01 -3.3284E-01
8.8358E-01 2.9917E-01 -3.0033E-01 9.0038E-01 2.9991E-01 -3.0078E-01
8.9533E-01 3.0065E-01 -3.0423E-01 8.7475E-01 2.9879E-01 -2.9944E-01
8.9841E-01 3.0123E-01 -3.0519E-01 9.0033E-01 3.0178E-01 -3.0547E-01
8.6696E-01 2.9960E-01 -3.0254E-01
   5   3.0702E-01 9.0673E-01 -8.6677E-01 3.2952E-01 1.0000E+00 -9.5570E-01
3.1826E-01 9.0506E-01 -8.6312E-01 3.0388E-01 9.0616E-01 -8.6382E-01
3.1166E-01 9.0703E-01 -8.6762E-01 3.2101E-01 9.0442E-01 -8.6168E-01
3.0831E-01 9.0749E-01 -8.6721E-01 2.9121E-01 9.0775E-01 -8.6636E-01
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   6 -3.0954E-01 -8.6680E-01 9.0642E-01 -3.3284E-01 -9.5570E-01 1.0000E+00
-3.2012E-01 -8.6527E-01 9.0192E-01 -3.0658E-01 -8.6631E-01 9.0274E-01 -
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   7   8.9070E-01 3.1971E-01 -3.2202E-01 8.8358E-01 3.1826E-01 -3.2012E-01

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3.0912E-01 9.0401E-01 -8.6187E-01 2.8625E-01 9.0335E-01 -8.6001E-01
3.3183E-01 9.0405E-01 -8.6464E-01

18 -3.0978E-01 -8.6202E-01 9.0069E-01 -2.9944E-01 -8.6168E-01 9.0023E-01
-3.3042E-01 -8.6286E-01 9.0095E-01 -3.0460E-01 -8.6251E-01 9.0104E-01 -
3.1772E-01 -8.6169E-01 8.9919E-01 -3.7982E-01 -9.5641E-01 1.0000E+00 -
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3.4067E-01 -8.6240E-01 9.0081E-01
19 8.9950E-01 3.0873E-01 -3.1129E-01 8.9841E-01 3.0831E-01 -3.1080E-01
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20 3.0666E-01 9.0690E-01 -8.6686E-01 3.0123E-01 9.0749E-01 -8.6754E-01
3.1591E-01 9.0477E-01 -8.6228E-01 3.0393E-01 9.0610E-01 -8.6308E-01
3.1061E-01 9.0736E-01 -8.6828E-01 3.1797E-01 9.0401E-01 -8.6060E-01
3.3990E-01 1.0000E+00 -9.5380E-01 2.9284E-01 9.0869E-01 -8.6806E-01
3.1924E-01 9.0550E-01 -8.6602E-01
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-3.1087E-01 -8.6292E-01 8.9832E-01 -3.0658E-01 -8.6493E-01 8.9961E-01 -
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3.4016E-01 -9.5380E-01 1.0000E+00 -3.0033E-01 -8.7001E-01 9.1309E-01 -
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8.9311E-01 2.9284E-01 -3.0033E-01 1.0000E+00 3.1872E-01 -3.2576E-01
8.4870E-01 2.8832E-01 -2.9177E-01
23 3.0616E-01 9.0697E-01 -8.6682E-01 3.0178E-01 9.0775E-01 -8.6777E-01
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3.1482E-01 9.0519E-01 -8.6572E-01
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-3.0728E-01 -8.6123E-01 8.9614E-01 -3.0628E-01 -8.6362E-01 8.9765E-01 -
3.0780E-01 -8.6611E-01 9.0946E-01 -3.0618E-01 -8.6001E-01 8.9323E-01 -
3.0741E-01 -8.6806E-01 9.1309E-01 -3.2576E-01 -9.5339E-01 1.0000E+00 -
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25 8.7814E-01 3.2493E-01 -3.2704E-01 8.6696E-01 3.2277E-01 -3.2419E-01
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8.8545E-01 3.2310E-01 -3.1984E-01 8.9626E-01 3.3183E-01 -3.4067E-01
8.8016E-01 3.1924E-01 -3.1031E-01 8.4870E-01 3.1482E-01 -3.0505E-01
1.0000E+00 3.7152E-01 -3.7295E-01
26 3.0726E-01 9.0538E-01 -8.6561E-01 2.9960E-01 9.0556E-01 -8.6574E-01
3.2164E-01 9.0447E-01 -8.6346E-01 3.0341E-01 9.0509E-01 -8.6388E-01
3.1300E-01 9.0551E-01 -8.6563E-01 3.2550E-01 9.0405E-01 -8.6240E-01
3.0881E-01 9.0550E-01 -8.6413E-01 2.8832E-01 9.0519E-01 -8.6265E-01
3.7152E-01 1.0000E+00 -9.5619E-01
27 -3.0977E-01 -8.6587E-01 9.0524E-01 -3.0254E-01 -8.6608E-01 9.0553E-01
-3.2326E-01 -8.6505E-01 9.0213E-01 -3.0617E-01 -8.6563E-01 9.0269E-01 -
3.1522E-01 -8.6603E-01 9.0574E-01 -3.2679E-01 -8.6464E-01 9.0081E-01 -
3.1128E-01 -8.6602E-01 9.0479E-01 -2.9177E-01 -8.6572E-01 9.0357E-01 -
3.7295E-01 -9.5619E-01 1.0000E+00

G-FILE for the vectors

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C00100004 177529432 12 265341366 77 456668106 43
C00100005 -431735326 12 -220528365 77 -391387781 42
C00100006 -794680780 13 230680718 78 380365481 43
C00100007 -373488788 12 -404873641 77 -717030919 42
C00100008 310767974 12 -402844529 77 -706833850 41
C00100009-1182839693 13 -88884995 77 -186261686 42
D 1 2 3394413 1 3 -3425128 1 4 8989359 1 5 3070248 1 6 -3095353 D
1 7 8907012 1 8 3074083 1 9 -3099130 1 10 8994513 1 11 3072976 D 1
12 -3099342 1 13 8981798 1 14 3070287 1 15 -3091309 1 16 8841850 D 1
17 3074126 1 18 -3097820 1 19 8994974 1 20 3066582 1 21 -3078558 D 1
22 8943070 1 23 3061559 1 24 -3069557 1 25 8781427 1 26 3072601 D 1
27 -3097721 2 3 -9558289 2 4 3005700 2 5 9067283 2 6 -8667967 D 2
7 3197140 2 8 9049773 2 9 -8633277 2 10 3039551 2 11 9059175 D 2 12
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9044173 2 18 -8620164 2 19 3087298 2 20 9069006 2 21 -8661752 D 2 22
2904142 2 23 9069663 2 24 -8651102 2 25 3249264 2 26 9053807 D 2 27 -
8658670 3 4 -3032497 3 5 -8667728 3 6 9064164 3 7 -3220221 D 3 8 -
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9003790 4 11 2999072 4 12 -3007784 4 13 8953253 4 14 3006545 D 4 15 -
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9086935 20 24 -8680557 20 25 3192354 20 26 9055019 20 27 -8660213 D 21 22 -
3003261 21 23 -8700058 21 24 9130860 21 25 -3103072 21 26 -8641324 D 21 27
9047912 22 23 3187248 22 24 -3257624 22 25 8486965 22 26 2883243 D 22 27 -
2917706 23 24 -9533861 23 25 3148216 23 26 9051897 23 27 -8657170 D 24 25 -
3050514 24 26 -8626516 24 27 9035744 25 26 3715166 25 27 -3729454 D 26 27 -
9561872

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
dstr	-26927.111	-5528209.484	3170283.692
nola	-26927.113	-5528209.507	3170283.707
gvms	-26927.105	-5528209.481	3170283.694
covg	-26927.105	-5528209.476	3170283.683
houm	-26927.110	-5528209.492	3170283.691
sjb1	-26927.115	-5528209.533	3170283.716
lmcn	-26927.112	-5528209.487	3170283.690
gris	-26927.107	-5528209.479	3170283.685
fshs	-26927.105	-5528209.484	3170283.699

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
dstr	-0.002	0.018	-0.011	-0.002	-0.001	-0.021
nola	-0.004	-0.005	0.004	-0.004	0.001	0.006
gvms	0.005	0.021	-0.009	0.005	0.003	-0.023
covg	0.004	0.026	-0.020	0.004	-0.004	-0.033

houm -0.000 0.009 -0.012 -0.001 -
0.006 -0.014
sjb1 -0.006 -0.031 0.013 -0.005 -
0.004 0.033
lmcn -0.002 0.015 -0.013 -0.002 -
0.004 -0.020
gris 0.002 0.022 -0.018 0.002 -
0.004 -0.028
fshs 0.005 0.018 -0.004 0.004
0.005 -0.017

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 546739.631
Easting (X) [feet] 3614539.376
Convergence [degrees] 0.52714525
Point Scale 0.99992574
Combined Factor 0.99993009

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -1.639 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.420
scatter (mean square distance from rover) is 5632.997
average edop for rover is 0.730
average ndop for rover is 0.670
average hdop for rover is 0.991
average vdop for rover is 1.880
average gdop for rover is 2.490

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:20 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA10.O00 OP1335485874997

FILE: QCFVA10.O00 OP1335485874997

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069s.12o TIME: 00:19:41 UTC

SOFTWARE: rsgps 1.37 RS1.prl 1.73 START: 2012/03/09 18:09:55
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 18:36:18
NAV FILE: brdc0690.12n OBS USED: 1908 / 2115 : 90%
ANT NAME: LEIAT502 NONE QUALITY IND. 8.69/ 36.74
ARP HEIGHT: 1.514 NORMALIZED RMS: 0.319

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18789)

X:	-23120.300(m)	0.002(m)	-23121.032(m)	0.002(m)
Y:	-5530568.096(m)	0.032(m)	-5530566.605(m)	0.032(m)
Z:	3166236.724(m)	0.016(m)	3166236.516(m)	0.016(m)

LAT:	29 57 25.32903	0.004(m)	29 57 25.34731	0.004(m)
E LON:	269 45 37.72395	0.003(m)	269 45 37.69642	0.003(m)
W LON:	90 14 22.27605	0.003(m)	90 14 22.30358	0.003(m)
EL HGT:	-23.088(m)	0.035(m)	-24.481(m)	0.035(m)
ORTHO HGT:	2.945(m)	0.037(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3317230.844	162007.984
Easting (X) [meters]	766408.452	1105573.890
Convergence [degrees]	1.37925967	0.54691998
Point Scale	1.00047575	0.99992604
Combined Factor	1.00047938	0.99992966

US NATIONAL GRID DESIGNATOR: 15RYP6640817230(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9603	LWES LAKEWOOD ELMENTRY CORS ARP	N295401.295	W0902057.833	12329.9

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 11791.9
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 29991.1
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 61858.1
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 59166.7
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 73446.5
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 75257.8
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 96706.1
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 105988.7

NEAREST NGS PUBLISHED CONTROL POINT
DH3207 119+11.35=LMS 512 N295740.861 W0901432.963 559.1

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

lwes	-33746.217	-5533652.986	3160795.464
nola	-11604.031	-5531876.851	3164070.919
eng6	5594.601	-5534921.902	3158759.182
houm	-70100.641	-5550262.348	3131144.920
covg	-9174.162	-5501675.364	3215950.518
awes	-94742.053	-5521868.791	3179990.045
gvms	-86907.675	-5510048.213	3200500.216
sjb1	-106395.198	-5505141.429	3208320.250
bvhs	57650.146	-5564331.462	3106490.834
qcfv	-23121.032	-5530566.605	3166236.516

Covariance matrix of the stations:
1 1.7040E-07 3.6760E-07 -2.1960E-07 -5.8570E-09 -2.7410E-08 1.6730E-08
-5.1180E-09 -1.5050E-08 9.6740E-09 -8.6210E-09 -5.8110E-08 3.1120E-08 -
5.7300E-09 -3.2600E-08 2.2960E-08 -1.0080E-08 -8.2780E-08 4.7970E-08 -
9.7110E-09 -8.2280E-08 4.9300E-08 -1.0860E-08 -9.5900E-08 5.7390E-08 -
3.2930E-09 2.6540E-08 -1.5600E-08 1.7260E-08 1.4260E-07 -7.9460E-08
2 3.6760E-07 4.9970E-05 -2.7410E-05 -2.3690E-08 -6.2540E-06 3.4320E-06
-9.1310E-09 -6.2610E-06 3.4300E-06 -6.6300E-08 -5.9650E-06 3.2150E-06 -
2.4190E-08 -6.5140E-06 3.6610E-06 -9.0230E-08 -6.1760E-06 3.3970E-06 -
8.6890E-08 -6.2940E-06 3.4970E-06 -1.0280E-07 -6.2980E-06 3.5070E-06
3.5590E-08 -6.0950E-06 3.2690E-06 8.7330E-10 7.6420E-07 -4.2980E-07
3 -2.1960E-07 -2.7410E-05 1.5250E-05 1.2520E-08 3.4360E-06 -1.8930E-06
2.8770E-09 3.4370E-06 -1.8900E-06 3.9880E-08 3.2030E-06 -1.7280E-06
1.3620E-08 3.6720E-06 -2.0810E-06 5.6680E-08 3.3900E-06 -1.8750E-06
5.4990E-08 3.4930E-06 -1.9540E-06 6.5730E-08 3.5010E-06 -1.9640E-06 -
2.6740E-08 3.2770E-06 -1.7570E-06 -8.0680E-09 -9.1570E-07 5.3000E-07
4 -5.8570E-09 -2.3690E-08 1.2520E-08 1.7150E-07 2.5450E-07 -1.5840E-07
8.9740E-10 -7.2990E-09 3.8610E-09 -1.1760E-08 -1.7040E-08 -4.5540E-11 -
1.8430E-09 -4.4400E-08 4.0570E-08 -1.6650E-08 -5.8000E-08 3.5420E-08 -
1.5580E-08 -6.8400E-08 4.7380E-08 -1.9150E-08 -8.0260E-08 5.5820E-08
9.5830E-09 4.4660E-08 -3.7250E-08 2.5410E-08 8.7600E-07 -4.8560E-07
5 -2.7410E-08 -6.2540E-06 3.4360E-06 2.5450E-07 5.0620E-05 -2.7820E-05
-8.8630E-09 -6.3320E-06 3.4820E-06 -4.1740E-08 -6.1310E-06 3.3370E-06 -

1.8220E-08 -6.5280E-06 3.6480E-06 -5.6500E-08 -6.2950E-06 3.4690E-06 -
5.5000E-08 -6.3830E-06 3.5390E-06 -6.4430E-08 -6.3910E-06 3.5480E-06
1.7580E-08 -6.1950E-06 3.3640E-06 7.9990E-10 -1.3670E-06 7.6050E-07
   6   1.6730E-08 3.4320E-06 -1.8930E-06 -1.5840E-07 -2.7820E-05 1.5510E-05
5.0740E-09 3.4810E-06 -1.9220E-06 2.4990E-08 3.3130E-06 -1.8090E-06
1.1810E-08 3.6770E-06 -2.0670E-06 3.5350E-08 3.4680E-06 -1.9200E-06
3.4960E-08 3.5500E-06 -1.9790E-06 4.1170E-08 3.5610E-06 -1.9890E-06 -
1.1710E-08 3.3410E-06 -1.8190E-06 -3.6500E-09 5.5320E-07 -2.9180E-07
   7 -5.1180E-09 -9.1310E-09 2.8770E-09 8.9740E-10 -8.8630E-09 5.0740E-09
1.7680E-07 1.5620E-07 -1.0590E-07 -1.4340E-08 1.6610E-08 -2.5580E-08
1.2200E-09 -5.3310E-08 5.4270E-08 -2.1980E-08 -3.7470E-08 2.4860E-08 -
2.0340E-08 -5.6640E-08 4.5370E-08 -2.5870E-08 -6.7090E-08 5.4080E-08
1.9870E-08 5.9860E-08 -5.5130E-08 3.4030E-08 1.4570E-06 -8.0770E-07
   8 -1.5050E-08 -6.2610E-06 3.4370E-06 -7.2990E-09 -6.3320E-06 3.4810E-06
1.5620E-07 5.0670E-05 -2.7820E-05 -2.6120E-08 -6.1570E-06 3.3540E-06 -
8.1460E-09 -6.5120E-06 3.6260E-06 -3.8200E-08 -6.3090E-06 3.4710E-06 -
3.7260E-08 -6.3880E-06 3.5330E-06 -4.4780E-08 -6.3980E-06 3.5420E-06
2.0590E-08 -6.2010E-06 3.3720E-06 5.3960E-09 -1.9310E-06 1.0690E-06
   9   9.6740E-09 3.4300E-06 -1.8900E-06 3.8610E-09 3.4820E-06 -1.9220E-06
-1.0590E-07 -2.7820E-05 1.5490E-05 1.7360E-08 3.3160E-06 -1.8090E-06
5.1610E-09 3.6720E-06 -2.0600E-06 2.7250E-08 3.4680E-06 -1.9180E-06
2.6960E-08 3.5490E-06 -1.9750E-06 3.2830E-08 3.5610E-06 -1.9850E-06 -
1.7120E-08 3.3390E-06 -1.8170E-06 -9.3220E-09 6.5090E-07 -3.4340E-07
  10 -8.6210E-09 -6.6300E-08 3.9880E-08 -1.1760E-08 -4.1740E-08 2.4990E-08
-1.4340E-08 -2.6120E-08 1.7360E-08 1.8120E-07 4.8910E-07 -2.6940E-07 -
1.1800E-08 -1.4850E-08 -4.0080E-09 -6.3460E-10 -1.1910E-07 6.5650E-08 -
1.3140E-09 -1.0250E-07 5.1240E-08 1.1330E-09 -1.1880E-07 5.8840E-08 -
2.2690E-08 2.1530E-10 1.5500E-08 -1.7250E-09 -9.1880E-07 5.0800E-07
  11 -5.8110E-08 -5.9650E-06 3.2030E-06 -1.7040E-08 -6.1310E-06 3.3130E-06
1.6610E-08 -6.1570E-06 3.3160E-06 4.8910E-07 4.9040E-05 -2.6670E-05 -
1.6760E-08 -6.5910E-06 3.7550E-06 -1.7180E-07 -5.9230E-06 3.2230E-06 -
1.6260E-07 -6.1410E-06 3.4170E-06 -1.9920E-07 -6.1290E-06 3.4300E-06
1.1990E-07 -5.8940E-06 3.0150E-06 8.0060E-08 6.7960E-06 -3.8150E-06
  12   3.1120E-08 3.2150E-06 -1.7280E-06 -4.5540E-11 3.3370E-06 -1.8090E-06
-2.5580E-08 3.3540E-06 -1.8090E-06 -2.6940E-07 -2.6670E-05 1.4750E-05
3.6010E-10 3.7350E-06 -2.1700E-06 1.1760E-07 3.1840E-06 -1.7450E-06
1.1100E-07 3.3680E-06 -1.9010E-06 1.3890E-07 3.3640E-06 -1.9140E-06 -
1.0390E-07 3.1150E-06 -1.5610E-06 -7.7380E-08 -5.9790E-06 3.3560E-06
  13 -5.7300E-09 -2.4190E-08 1.3620E-08 -1.8430E-09 -1.8220E-08 1.1810E-08
1.2200E-09 -8.1460E-09 5.1610E-09 -1.1800E-08 -1.6760E-08 3.6010E-10
1.7100E-07 2.3110E-07 -1.3700E-07 -1.6810E-08 -5.8170E-08 3.6450E-08 -
1.5710E-08 -6.8890E-08 4.8760E-08 -1.9380E-08 -8.0660E-08 5.7200E-08
1.0170E-08 4.4050E-08 -3.6470E-08 2.5910E-08 9.0280E-07 -4.9960E-07
  14 -3.2600E-08 -6.5140E-06 3.6720E-06 -4.4400E-08 -6.5280E-06 3.6770E-06
-5.3310E-08 -6.5120E-06 3.6720E-06 -1.4850E-08 -6.5910E-06 3.7350E-06
2.3110E-07 5.2570E-05 -2.9550E-05 -2.4880E-09 -6.6120E-06 3.7130E-06 -
6.3120E-09 -6.6040E-06 3.6940E-06 3.2880E-09 -6.6250E-06 3.7000E-06 -
8.0590E-08 -6.4710E-06 3.6860E-06 -8.1140E-08 -7.1200E-06 4.0250E-06
  15   2.2960E-08 3.6610E-06 -2.0810E-06 4.0570E-08 3.6480E-06 -2.0670E-06
5.4270E-08 3.6260E-06 -2.0600E-06 -4.0080E-09 3.7550E-06 -2.1700E-06 -
1.3700E-07 -2.9550E-05 1.6870E-05 -2.3160E-08 3.7610E-06 -2.1170E-06 -
1.7630E-08 3.7440E-06 -2.0810E-06 -3.2210E-08 3.7700E-06 -2.0880E-06
9.6240E-08 3.5830E-06 -2.0970E-06 8.6560E-08 6.8040E-06 -3.7990E-06
  16 -1.0080E-08 -9.0230E-08 5.6680E-08 -1.6650E-08 -5.6500E-08 3.5350E-08

-2.1980E-08 -3.8200E-08 2.7250E-08 -6.3460E-10 -1.7180E-07 1.1760E-07 -
1.6810E-08 -2.4880E-09 -2.3160E-08 1.9920E-07 6.4630E-07 -3.7820E-07
5.6740E-09 -1.2200E-07 5.6250E-08 1.1110E-08 -1.4040E-07 6.3410E-08 -
3.8780E-08 -2.4870E-08 4.5020E-08 -1.5270E-08 -1.8110E-06 1.0040E-06
  17 -8.2780E-08 -6.1760E-06 3.3900E-06 -5.8000E-08 -6.2950E-06 3.4680E-06
-3.7470E-08 -6.3090E-06 3.4680E-06 -1.1910E-07 -5.9230E-06 3.1840E-06 -
5.8170E-08 -6.6120E-06 3.7610E-06 6.4630E-07 5.0190E-05 -2.7630E-05 -
1.4690E-07 -6.3220E-06 3.5430E-06 -1.6920E-07 -6.3200E-06 3.5540E-06
2.5570E-08 -6.1170E-06 3.2670E-06 -2.0350E-09 2.4760E-06 -1.3620E-06
  18   4.7970E-08 3.3970E-06 -1.8750E-06 3.5420E-08 3.4690E-06 -1.9200E-06
2.4860E-08 3.4710E-06 -1.9180E-06 6.5650E-08 3.2230E-06 -1.7450E-06
3.6450E-08 3.7130E-06 -2.1170E-06 -3.7820E-07 -2.7630E-05 1.5440E-05
8.1840E-08 3.5230E-06 -1.9820E-06 9.3570E-08 3.5300E-06 -1.9920E-06 -
7.5890E-09 3.3080E-06 -1.7790E-06 5.0800E-09 -1.0920E-06 6.1540E-07
  19 -9.7110E-09 -8.6890E-08 5.4990E-08 -1.5580E-08 -5.5000E-08 3.4960E-08
-2.0340E-08 -3.7260E-08 2.6960E-08 -1.3140E-09 -1.6260E-07 1.1100E-07 -
1.5710E-08 -6.3120E-09 -1.7630E-08 5.6740E-09 -1.4690E-07 8.1840E-08
1.9430E-07 6.5360E-07 -3.9690E-07 9.1310E-09 -1.3740E-07 6.4150E-08 -
3.5410E-08 -2.1420E-08 4.0790E-08 -1.2420E-08 -1.6290E-06 9.0340E-07
  20 -8.2280E-08 -6.2940E-06 3.4930E-06 -6.8400E-08 -6.3830E-06 3.5500E-06
-5.6640E-08 -6.3880E-06 3.5490E-06 -1.0250E-07 -6.1410E-06 3.3680E-06 -
6.8890E-08 -6.6040E-06 3.7440E-06 -1.2200E-07 -6.3220E-06 3.5230E-06
6.5360E-07 5.0910E-05 -2.8250E-05 -1.3220E-07 -6.4270E-06 3.6160E-06 -
2.0510E-08 -6.2430E-06 3.4120E-06 -4.0010E-08 -3.9710E-07 2.6050E-07
  21   4.9300E-08 3.4970E-06 -1.9540E-06 4.7380E-08 3.5390E-06 -1.9790E-06
4.5370E-08 3.5330E-06 -1.9750E-06 5.1240E-08 3.4170E-06 -1.9010E-06
4.8760E-08 3.6940E-06 -2.0810E-06 5.6250E-08 3.5430E-06 -1.9820E-06 -
3.9690E-07 -2.8250E-05 1.5910E-05 5.9350E-08 3.6200E-06 -2.0320E-06
3.9160E-08 3.4130E-06 -1.8980E-06 4.3920E-08 1.6970E-06 -9.4690E-07
  22 -1.0860E-08 -1.0280E-07 6.5730E-08 -1.9150E-08 -6.4430E-08 4.1170E-08
-2.5870E-08 -4.4780E-08 3.2830E-08 1.1330E-09 -1.9920E-07 1.3890E-07 -
1.9380E-08 3.2880E-09 -3.2210E-08 1.1110E-08 -1.6920E-07 9.3570E-08
9.1310E-09 -1.3220E-07 5.9350E-08 2.1180E-07 7.4720E-07 -4.5970E-07 -
4.6900E-08 -3.8050E-08 6.0490E-08 -2.2120E-08 -2.2590E-06 1.2530E-06
  23 -9.5900E-08 -6.2980E-06 3.5010E-06 -8.0260E-08 -6.3910E-06 3.5610E-06
-6.7090E-08 -6.3980E-06 3.5610E-06 -1.1880E-07 -6.1290E-06 3.3640E-06 -
8.0660E-08 -6.6250E-06 3.7700E-06 -1.4040E-07 -6.3200E-06 3.5300E-06 -
1.3740E-07 -6.4270E-06 3.6200E-06 7.4720E-07 5.0950E-05 -2.8320E-05 -
2.6640E-08 -6.2480E-06 3.4150E-06 -4.7380E-08 4.7660E-08 2.1470E-08
  24   5.7390E-08 3.5070E-06 -1.9640E-06 5.5820E-08 3.5480E-06 -1.9890E-06
5.4080E-08 3.5420E-06 -1.9850E-06 5.8840E-08 3.4300E-06 -1.9140E-06
5.7200E-08 3.7000E-06 -2.0880E-06 6.3410E-08 3.5540E-06 -1.9920E-06
6.4150E-08 3.6160E-06 -2.0320E-06 -4.5970E-07 -2.8320E-05 1.5990E-05
4.8710E-08 3.4240E-06 -1.9110E-06 5.3190E-08 1.7920E-06 -1.0040E-06
  25 -3.2930E-09 3.5590E-08 -2.6740E-08 9.5830E-09 1.7580E-08 -1.1710E-08
1.9870E-08 2.0590E-08 -1.7120E-08 -2.2690E-08 1.1990E-07 -1.0390E-07
1.0170E-08 -8.0590E-08 9.6240E-08 -3.8780E-08 2.5570E-08 -7.5890E-09 -
3.5410E-08 -2.0510E-08 3.9160E-08 -4.6900E-08 -2.6640E-08 4.8710E-08
2.1870E-07 -9.1160E-08 -1.7270E-08 6.0040E-08 3.2390E-06 -1.7950E-06
  26   2.6540E-08 -6.0950E-06 3.2770E-06 4.4660E-08 -6.1950E-06 3.3410E-06
5.9860E-08 -6.2010E-06 3.3390E-06 2.1530E-10 -5.8940E-06 3.1150E-06
4.4050E-08 -6.4710E-06 3.5830E-06 -2.4870E-08 -6.1170E-06 3.3080E-06 -
2.1420E-08 -6.2430E-06 3.4130E-06 -3.8050E-08 -6.2480E-06 3.4240E-06 -
9.1160E-08 4.9570E-05 -2.6800E-05 8.3480E-08 8.4320E-07 -5.2980E-07

27 -1.5600E-08 3.2690E-06 -1.7570E-06 -3.7250E-08 3.3640E-06 -1.8190E-06
-5.5130E-08 3.3720E-06 -1.8170E-06 1.5500E-08 3.0150E-06 -1.5610E-06 -
3.6470E-08 3.6860E-06 -2.0970E-06 4.5020E-08 3.2670E-06 -1.7790E-06
4.0790E-08 3.4120E-06 -1.8980E-06 6.0490E-08 3.4150E-06 -1.9110E-06 -
1.7270E-08 -2.6800E-05 1.4750E-05 -9.0380E-08 -3.5100E-06 1.9950E-06
28 1.7260E-08 8.7330E-10 -8.0680E-09 2.5410E-08 7.9990E-10 -3.6500E-09
3.4030E-08 5.3960E-09 -9.3220E-09 -1.7250E-09 8.0060E-08 -7.7380E-08
2.5910E-08 -8.1140E-08 8.6560E-08 -1.5270E-08 -2.0350E-09 5.0800E-09 -
1.2420E-08 -4.0010E-08 4.3920E-08 -2.2120E-08 -4.7380E-08 5.3190E-08
6.0040E-08 8.3480E-08 -9.0380E-08 1.6140E-06 3.8250E-06 -2.2910E-06
29 1.4260E-07 7.6420E-07 -9.1570E-07 8.7600E-07 -1.3670E-06 5.5320E-07
1.4570E-06 -1.9310E-06 6.5090E-07 -9.1880E-07 6.7960E-06 -5.9790E-06
9.0280E-07 -7.1200E-06 6.8040E-06 -1.8110E-06 2.4760E-06 -1.0920E-06 -
1.6290E-06 -3.9710E-07 1.6970E-06 -2.2590E-06 4.7660E-08 1.7920E-06
3.2390E-06 8.4320E-07 -3.5100E-06 3.8250E-06 5.2250E-04 -2.8740E-04
30 -7.9460E-08 -4.2980E-07 5.3000E-07 -4.8560E-07 7.6050E-07 -2.9180E-07
-8.0770E-07 1.0690E-06 -3.4340E-07 5.0800E-07 -3.8150E-06 3.3560E-06 -
4.9960E-07 4.0250E-06 -3.7990E-06 1.0040E-06 -1.3620E-06 6.1540E-07
9.0340E-07 2.6050E-07 -9.4690E-07 1.2530E-06 2.1470E-08 -1.0040E-06 -
1.7950E-06 -5.2980E-07 1.9950E-06 -2.2910E-06 -2.8740E-04 1.6020E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000016140 0.0000038250 -0.0000022910
0.0000038250 0.0005225000 -0.0002874000
-0.0000022910 -0.0002874000 0.0001602000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000015911 -0.0000001271 -0.0000019709
-0.0000001271 0.0000017917 -0.0000107077
-0.0000019709 -0.0000107077 0.0006809312

Horizontal network accuracy = 0.00318 meters.
Vertical network accuracy = 0.05117 meters.

Vectors

To	From	X	Y	Z
lwes	qcfv	-10625.185	-3086.381	-5441.053
nola	qcfv	11517.001	-1310.246	-2165.598
eng6	qcfv	28715.633	-4355.297	-7477.335
houm	qcfv	-46979.609	-19695.743	-35091.597
covg	qcfv	13946.870	28891.242	49714.001
awes	qcfv	-71621.021	8697.814	13753.528
gvms	qcfv	-63786.643	20518.392	34263.699
sjb1	qcfv	-83274.166	25425.176	42083.734
bvhs	qcfv	80771.178	-33764.857	-59745.682

Covariance matrix of the 9 vectors
1 1.7499E-06 4.0491E-06 -2.4231E-06 1.5655E-06 3.6542E-06 -2.1912E-06
1.5576E-06 3.6620E-06 -2.1925E-06 1.5898E-06 3.5442E-06 -2.1030E-06
1.5651E-06 3.7309E-06 -2.2751E-06 1.6019E-06 3.6017E-06 -2.1686E-06
1.5994E-06 3.6401E-06 -2.2062E-06 1.6080E-06 3.6339E-06 -2.2073E-06
1.5334E-06 3.6255E-06 -2.1368E-06
2 4.0491E-06 5.7094E-04 -3.1346E-04 2.9244E-06 5.1685E-04 -2.8409E-04

2.3580E-06 5.1741E-04 -2.8419E-04 4.6766E-06 5.0897E-04 -2.7778E-04
2.8971E-06 5.2234E-04 -2.9011E-04 5.5449E-06 5.1308E-04 -2.8248E-04
5.3662E-06 5.1584E-04 -2.8517E-04 5.9803E-06 5.1539E-04 -2.8526E-04
6.2072E-07 5.1480E-04 -2.8019E-04
  3 -2.4231E-06 -3.1346E-04 1.7439E-04 -1.7848E-06 -2.8381E-04 1.5807E-04
-1.4724E-06 -2.8412E-04 1.5812E-04 -2.7511E-06 -2.7947E-04 1.5459E-04 -
1.7697E-06 -2.8684E-04 1.6139E-04 -3.2303E-06 -2.8173E-04 1.5718E-04 -
3.1313E-06 -2.8325E-04 1.5866E-04 -3.4702E-06 -2.8300E-04 1.5871E-04 -
5.1467E-07 -2.8268E-04 1.5592E-04
  4 1.5655E-06 2.9244E-06 -1.7848E-06 1.7347E-06 3.2027E-06 -1.9602E-06
1.5555E-06 2.9363E-06 -1.7922E-06 1.5786E-06 2.8519E-06 -1.7281E-06
1.5608E-06 2.9857E-06 -1.8514E-06 1.5872E-06 2.8930E-06 -1.7751E-06
1.5854E-06 2.9206E-06 -1.8019E-06 1.5916E-06 2.9161E-06 -1.8028E-06
1.5381E-06 2.9102E-06 -1.7523E-06
  5 3.6542E-06 5.1685E-04 -2.8381E-04 3.2027E-06 5.7585E-04 -3.1653E-04
2.3583E-06 5.1947E-04 -2.8533E-04 4.7013E-06 5.1094E-04 -2.7884E-04
2.9032E-06 5.2446E-04 -2.9132E-04 5.5787E-06 5.1510E-04 -2.8360E-04
5.3982E-06 5.1788E-04 -2.8632E-04 6.0188E-06 5.1743E-04 -2.8640E-04
6.0278E-07 5.1683E-04 -2.8129E-04
  6 -2.1912E-06 -2.8409E-04 1.5807E-04 -1.9602E-06 -3.1653E-04 1.7629E-04
-1.4746E-06 -2.8554E-04 1.5891E-04 -2.7704E-06 -2.8083E-04 1.5533E-04 -
1.7759E-06 -2.8830E-04 1.6222E-04 -3.2560E-06 -2.8312E-04 1.5796E-04 -
3.1558E-06 -2.8466E-04 1.5946E-04 -3.4992E-06 -2.8441E-04 1.5951E-04 -
5.0406E-07 -2.8408E-04 1.5668E-04
  7 1.5576E-06 2.3580E-06 -1.4724E-06 1.5555E-06 2.3583E-06 -1.4746E-06
1.7227E-06 2.5188E-06 -1.5799E-06 1.5674E-06 2.3045E-06 -1.4315E-06
1.5553E-06 2.3958E-06 -1.5156E-06 1.5733E-06 2.3326E-06 -1.4635E-06
1.5720E-06 2.3514E-06 -1.4819E-06 1.5762E-06 2.3483E-06 -1.4824E-06
1.5398E-06 2.3444E-06 -1.4481E-06
  8 3.6620E-06 5.1741E-04 -2.8412E-04 2.9363E-06 5.1947E-04 -2.8554E-04
2.5188E-06 5.7703E-04 -3.1694E-04 4.7123E-06 5.1148E-04 -2.7914E-04
2.9087E-06 5.2504E-04 -2.9165E-04 5.5924E-06 5.1565E-04 -2.8391E-04
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4.1136E-07 5.7038E-04 -3.1016E-04
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-1.4481E-06 -2.8159E-04 1.5673E-04 -2.6931E-06 -2.7706E-04 1.5329E-04 -
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4.2289E-07 -3.1016E-04 1.7096E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 1.2810E-01 -1.3871E-01 8.9853E-01 1.1511E-01 -1.2475E-01
8.9710E-01 1.1524E-01 -1.2480E-01 8.9614E-01 1.1343E-01 -1.2257E-01
8.9870E-01 1.1618E-01 -1.2656E-01 8.9185E-01 1.1427E-01 -1.2414E-01
8.9303E-01 1.1484E-01 -1.2500E-01 8.8891E-01 1.1472E-01 -1.2500E-01
8.8577E-01 1.1476E-01 -1.2354E-01
   2   1.2810E-01 1.0000E+00 -9.9342E-01 9.2926E-02 9.0139E-01 -8.9546E-01
7.5186E-02 9.0144E-01 -8.9556E-01 1.4594E-01 9.0179E-01 -8.9627E-01
9.2098E-02 9.0051E-01 -8.9346E-01 1.7090E-01 9.0119E-01 -8.9518E-01
1.6587E-01 9.0092E-01 -8.9453E-01 1.8302E-01 9.0080E-01 -8.9431E-01
1.9850E-02 9.0211E-01 -8.9683E-01
   3 -1.3871E-01 -9.9342E-01 1.0000E+00 -1.0262E-01 -8.9559E-01 9.0150E-01
-8.4946E-02 -8.9564E-01 9.0160E-01 -1.5533E-01 -8.9593E-01 9.0250E-01 -
1.0179E-01 -8.9475E-01 8.9932E-01 -1.8015E-01 -8.9537E-01 9.0126E-01 -
1.7513E-01 -8.9511E-01 9.0053E-01 -1.9216E-01 -8.9500E-01 9.0031E-01 -
2.9781E-02 -8.9629E-01 9.0300E-01
   4   8.9853E-01 9.2926E-02 -1.0262E-01 1.0000E+00 1.0133E-01 -1.1209E-01
8.9978E-01 9.2809E-02 -1.0246E-01 8.9367E-01 9.1670E-02 -1.0116E-01
9.0017E-01 9.3384E-02 -1.0344E-01 8.8751E-01 9.2187E-02 -1.0205E-01
8.8908E-01 9.2540E-02 -1.0255E-01 8.8367E-01 9.2466E-02 -1.0254E-01
8.9239E-01 9.2518E-02 -1.0175E-01
   5   1.1511E-01 9.0139E-01 -8.9559E-01 1.0133E-01 1.0000E+00 -9.9345E-01
7.4876E-02 9.0116E-01 -8.9530E-01 1.4608E-01 9.0140E-01 -8.9587E-01
9.1896E-02 9.0029E-01 -8.9333E-01 1.7121E-01 9.0086E-01 -8.9488E-01
1.6615E-01 9.0062E-01 -8.9429E-01 1.8341E-01 9.0050E-01 -8.9407E-01
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8.6405E-01 1.6542E-01 -1.7304E-01
20 1.1484E-01 9.0092E-01 -8.9511E-01 9.2540E-02 9.0062E-01 -8.9471E-01
7.4761E-02 9.0067E-01 -8.9481E-01 1.4567E-01 9.0096E-01 -8.9545E-01
9.1715E-02 8.9979E-01 -8.9278E-01 1.7070E-01 9.0041E-01 -8.9441E-01
1.8949E-01 1.0000E+00 -9.9344E-01 1.8285E-01 9.0004E-01 -8.9358E-01
1.9309E-02 9.0131E-01 -8.9603E-01
21 -1.2500E-01 -8.9453E-01 9.0053E-01 -1.0255E-01 -8.9429E-01 9.0016E-01
-8.4621E-02 -8.9436E-01 9.0026E-01 -1.5602E-01 -8.9440E-01 9.0083E-01 -
1.0171E-01 -8.9362E-01 8.9829E-01 -1.8120E-01 -8.9397E-01 8.9984E-01 -
2.0124E-01 -9.9344E-01 1.0000E+00 -1.9340E-01 -8.9367E-01 8.9903E-01 -
2.8680E-02 -8.9491E-01 9.0145E-01
22 8.8891E-01 1.8302E-01 -1.9216E-01 8.8367E-01 1.8341E-01 -1.9272E-01
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8.8364E-01 1.8581E-01 -1.9710E-01 8.9534E-01 1.8159E-01 -1.9134E-01
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7.4719E-02 9.0055E-01 -8.9468E-01 1.4550E-01 9.0086E-01 -8.9535E-01
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1.9362E-02 9.0119E-01 -8.9592E-01
24 -1.2500E-01 -8.9431E-01 9.0031E-01 -1.0254E-01 -8.9407E-01 8.9993E-01
-8.4607E-02 -8.9414E-01 9.0003E-01 -1.5603E-01 -8.9417E-01 9.0059E-01 -
1.0171E-01 -8.9341E-01 8.9808E-01 -1.8122E-01 -8.9375E-01 8.9962E-01 -
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25 8.8577E-01 1.9850E-02 -2.9781E-02 8.9239E-01 1.9194E-02 -2.9009E-02
8.9645E-01 1.9124E-02 -2.8987E-02 8.7345E-01 2.0246E-02 -3.0783E-02
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1.0000E+00 1.3162E-02 -2.4714E-02
26 1.1476E-01 9.0211E-01 -8.9629E-01 9.2518E-02 9.0179E-01 -8.9586E-01
7.4788E-02 9.0184E-01 -8.9597E-01 1.4551E-01 9.0221E-01 -8.9670E-01
9.1686E-02 9.0089E-01 -8.9383E-01 1.7045E-01 9.0160E-01 -8.9558E-01
1.6542E-01 9.0131E-01 -8.9491E-01 1.8256E-01 9.0119E-01 -8.9469E-01
1.3162E-02 1.0000E+00 -9.9324E-01
27 -1.2354E-01 -8.9683E-01 9.0300E-01 -1.0175E-01 -8.9649E-01 9.0249E-01
-8.4377E-02 -8.9653E-01 9.0258E-01 -1.5358E-01 -8.9708E-01 9.0386E-01 -
1.0094E-01 -8.9547E-01 8.9996E-01 -1.7797E-01 -8.9637E-01 9.0233E-01 -
1.7304E-01 -8.9603E-01 9.0145E-01 -1.8977E-01 -8.9592E-01 9.0121E-01 -
2.4714E-02 -9.9324E-01 1.0000E+00

G-FILE for the vectors

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C00100003  287156325   13  -43552968  240  -74773347  132
C00100004 -469796093   13 -196957430  236 -350915968  129
C00100005  139468701   13  288912415  242  497140010  135
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C00100007 -637866434   13  205183916  239  342636992  133
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C00100009  807711781   13 -337648566  238 -597456820  130
D  1  2  1281036  1  3 -1387079  1  4  8985283  1  5  1151147  1  6 -1247531 D
1  7  8970976  1  8  1152414  1  9 -1248025  1 10  8961424  1 11  1134281 D  1
12 -1225691  1 13  8987028  1 14  1161829  1 15 -1265634  1 16  8918453 D  1
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D  1 27 -1235390  2  3 -9934173  2  4   929258  2  5  9013873  2  6 -8954554
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D  2 12 -8962664  2 13   920982  2 14  9005068  2 15 -8934614  2 16  1709022
D  2 17  9011943  2 18 -8951771  2 19  1658731  2 20  9009175  2 21 -8945274
D  2 22  1830221  2 23  9008004  2 24 -8943063  2 25   198503  2 26  9021051
D  2 27 -8968326  3  4 -1026176  3  5 -8955892  3  6  9015028  3  7  -849457 D
3  8 -8956439  3  9  9016015  3 10 -1553333  3 11 -8959252  3 12  9025002 D  3
13 -1017934  3 14 -8947525  3 15  8993207  3 16 -1801464  3 17 -8953686 D  3
18  9012612  3 19 -1751345  3 20 -8951147  3 21  9005336  3 22 -1921624 D  3
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D  4  5  1013328  4  6 -1120885  4  7  8997846  4  8   928093  4  9 -1024613
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D  4 15 -1034409  4 16  8875132  4 17   921870  4 18 -1020513  4 19  8890773
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D  4 25  8923879  4 26   925180  4 27 -1017522  5  6 -9934487  5  7   748755
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17 -8949179  6 18  9008121  6 19 -1755464  6 20 -8947065  6 21  9001565 D  6
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D  7 22  8781759  7 23   747188  7 24  -846071  7 25  8964456  7 26   747884
D  7 27  -843774  8  9 -9934733  8 10  1462709  8 11  9014261  8 12 -8958882
D  8 13   919752  8 14  9003672  8 15 -8934324  8 16  1714544  8 17  9009023
D  8 18 -8949317  8 19  1663823  8 20  9006694  8 21 -8943584  8 22  1836822
D  8 23  9005458  8 24 -8941391  8 25   191242  8 26  9018449  8 27 -8965311
D  9 10 -1556499  9 11 -8954986  9 12  9020027  9 13 -1016306  9 14 -8945579 D
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20 -8948056  9 21  9002579  9 22 -1928195  9 23 -8946789  9 24  9000329 D  9
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D 11 27 -8970769 12 13 -1003554 12 14 -8946843 12 15 8990780 12 16 -1760161 D
12 17 -8958756 12 18 9018527 12 19 -1711717 12 20 -8954452 12 21 9008267 D
12 22 -1876114 12 23 -8953516 12 24 9005904 12 25 -307829 12 26 -8967047
D 12 27 9038551 13 14 1012057 13 15 -1126286 13 16 8875280 13 17   913671
D 13 18 -1012310 13 19 8891086 13 20   917152 13 21 -1017140 13 22 8836422
D 13 23   916435 13 24 -1017058 13 25 8928245 13 26   916863 13 27 -1009376
D 14 15 -9936041 14 16 1733676 14 17 8999151 14 18 -8940254 14 19 1682144 D
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D 15 18 8985948 15 19 -1792811 15 20 -8927845 15 21 8982909 15 22 -1971007 D
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16 22 8953366 16 23 1704832 16 24 -1812195 16 25 8612689 16 26 1704539 D
16 27 -1779651 17 18 -9933377 17 19 1645704 17 20 9004086 17 21 -8939705
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19 20 1894852 19 21 -2012418 19 22 8953133 19 23 1654541 19 24 -1761357 D
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D 20 23 9000367 20 24 -8935792 20 25   193085 20 26 9013092 20 27 -8960279
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21 27 9014456 22 23 2100688 22 24 -2222370 22 25 8544814 22 26 1825648
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D 24 25 -286486 24 26 -8946903 24 27 9012069 25 26   131615 25 27 -247143
D 26 27 -9932425

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
lwes	-23121.034	-5530566.554	3166236.493
nola	-23121.033	-5530566.616	3166236.528
eng6	-23121.035	-5530566.631	3166236.530
houm	-23121.033	-5530566.595	3166236.518
covg	-23121.035	-5530566.610	3166236.513
awes	-23121.030	-5530566.632	3166236.529
gvms	-23121.030	-5530566.631	3166236.531
sjb1	-23121.028	-5530566.660	3166236.546
bvhs	-23121.033	-5530566.611	3166236.525

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
lwes	-0.002	0.051	-0.024	-0.002	0.005	-0.056
nola	-0.001	-0.011	0.012	-0.001	0.005	0.015
eng6	-0.003	-0.026	0.013	-0.003	-	0.001
houm	-0.001	0.010	0.001	-0.001	0.006	-0.008

covg	-0.004	-0.005	-0.004	-0.004	-
0.006	0.002				
awes	0.001	-0.027	0.012	0.001	-
0.003	0.029				
gvms	0.002	-0.026	0.014	0.002	-
0.001	0.029				
sjb1	0.004	-0.055	0.029	0.004	-
0.002	0.062				
bvhs	-0.001	-0.006	0.009	-0.001	
0.005	0.010				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 531521.194
Easting (X) [feet] 3627203.671
Convergence [degrees] 0.54691998
Point Scale 0.99992604
Combined Factor 0.99992966

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 2.828 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.350
scatter (mean square distance from rover) is 4462.165
average edop for rover is 1.090
average ndop for rover is 1.000
average hdop for rover is 1.479
average vdop for rover is 3.600
average gdop for rover is 4.760

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:24 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA12.O00 OP1335485933772

FILE: QCFVA12.O00 OP1335485933772

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv070a.12o TIME: 00:24:15 UTC

SOFTWARE: rsgps 1.37 RS41.prl 1.73 START: 2012/03/10 00:10:10
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/10 00:30:56
NAV FILE: brdc0690.12n OBS USED: 1566 / 2493 : 63%
ANT NAME: LEIAT502 NONE QUALITY IND. 28.58/ 29.61
ARP HEIGHT: 1.565 NORMALIZED RMS: 0.306

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18856)

X:	-20122.911(m)	0.005(m)	-20123.643(m)	0.005(m)
Y:	-5532245.531(m)	0.052(m)	-5532244.040(m)	0.052(m)
Z:	3163349.506(m)	0.036(m)	3163349.298(m)	0.036(m)

LAT:	29 55 37.07819	0.008(m)	29 55 37.09645	0.008(m)
E LON:	269 47 29.73864	0.005(m)	269 47 29.71115	0.005(m)
W LON:	90 12 30.26136	0.005(m)	90 12 30.28885	0.005(m)
EL HGT:	-20.779(m)	0.063(m)	-22.173(m)	0.063(m)
ORTHO HGT:	5.178(m)	0.064(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3313969.648	158704.197
Easting (X) [meters]	769493.654	1108609.729
Convergence [degrees]	1.39355510	0.56247798
Point Scale	1.00049616	0.99992657
Combined Factor	1.00049942	0.99992983

US NATIONAL GRID DESIGNATOR: 15RYP6949313969(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	8558.0

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 13931.3
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 17289.7
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 26261.5
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 61816.0
AJ7833 HAMM HAMMOND CORS ARP N303047.051 W0902803.428 69600.4
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 79579.8
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 86447.8
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 100993.7

NEAREST NGS PUBLISHED CONTROL POINT
AU0402 R 276 N295536.065 W0901224.945 145.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.031	-5531876.854	3164070.920
lwes	-33746.218	-5533652.948	3160795.441
dstr	-36892.840	-5530079.547	3166960.857
eng6	5594.597	-5534921.921	3158759.200
covg	-9174.164	-5501675.353	3215950.509
hamm	-44885.215	-5499419.420	3219506.412
gvms	-86907.674	-5510048.244	3200500.228
lmcn	-64275.990	-5568696.891	3098580.629
sjb1	-106395.193	-5505141.424	3208320.245
qcfv	-20123.643	-5532244.040	3163349.298

Covariance matrix of the stations:
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-1.4980E-08 -5.2890E-08 2.9470E-08 1.1350E-09 -1.3540E-08 3.9900E-10 -
5.0840E-09 -8.4370E-09 2.3240E-08 -1.8690E-08 -3.8450E-08 4.4720E-08 -
3.5230E-08 -8.3640E-08 6.5330E-08 -2.4670E-08 -9.8760E-08 2.6090E-08 -
4.3250E-08 -9.5330E-08 7.6730E-08 4.6940E-08 9.5980E-07 -6.3380E-07
2 4.4300E-07 2.1750E-05 -1.3250E-05 -4.5590E-08 -2.7240E-06 1.6540E-06
-4.7910E-08 -2.7180E-06 1.6560E-06 -1.6540E-08 -2.6850E-06 1.6280E-06 -
2.7440E-08 -2.6140E-06 1.6340E-06 -5.3240E-08 -2.6370E-06 1.6510E-06 -
8.4630E-08 -2.7040E-06 1.6760E-06 -6.9000E-08 -2.8490E-06 1.6720E-06 -
9.8810E-08 -2.7030E-06 1.6820E-06 2.1900E-08 1.2390E-07 -5.9050E-08
3 -2.9190E-07 -1.3250E-05 8.5600E-06 2.7260E-08 1.6570E-06 -1.0420E-06
2.9500E-08 1.6580E-06 -1.0470E-06 1.6020E-09 1.6270E-06 -1.0220E-06
1.2500E-08 1.6250E-06 -1.0680E-06 3.6010E-08 1.6440E-06 -1.0820E-06
6.3420E-08 1.6760E-06 -1.0860E-06 4.5230E-08 1.6860E-06 -1.0080E-06
7.6480E-08 1.6800E-06 -1.0940E-06 -2.9760E-08 -5.1430E-07 3.5070E-07
4 -1.3680E-08 -4.5590E-08 2.7260E-08 2.6120E-07 5.5800E-07 -3.6370E-07
-1.7280E-08 -6.6110E-08 4.1100E-08 -1.1430E-08 -3.2220E-08 1.7750E-08 -
1.3810E-08 -3.8310E-08 3.0410E-08 -1.8860E-08 -6.5450E-08 4.9210E-08 -
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2.8790E-08 -1.1450E-07 8.0070E-08 2.1950E-08 2.9010E-07 -1.9180E-07
5 -5.1890E-08 -2.7240E-06 1.6570E-06 5.5800E-07 2.2020E-05 -1.3400E-05
-6.5850E-08 -2.7540E-06 1.6770E-06 -4.2870E-08 -2.7270E-06 1.6560E-06 -

5.0580E-08 -2.6640E-06 1.6520E-06 -6.9380E-08 -2.6840E-06 1.6670E-06 -
9.2570E-08 -2.7420E-06 1.6910E-06 -8.1990E-08 -2.8710E-06 1.7030E-06 -
1.0290E-07 -2.7420E-06 1.6950E-06 -1.0630E-08 -5.6830E-07 3.6550E-07
   6   2.5930E-08 1.6540E-06 -1.0420E-06 -3.6370E-07 -1.3400E-05 8.6340E-06
4.0850E-08 1.6780E-06 -1.0590E-06 1.6060E-08 1.6500E-06 -1.0350E-06
2.5760E-08 1.6500E-06 -1.0780E-06 4.6670E-08 1.6680E-06 -1.0910E-06
7.1030E-08 1.6960E-06 -1.0940E-06 5.4770E-08 1.7010E-06 -1.0220E-06
8.2660E-08 1.7000E-06 -1.1020E-06 -1.3170E-08 -2.4400E-07 1.8430E-07
   7 -1.4980E-08 -4.7910E-08 2.9500E-08 -1.7280E-08 -6.5850E-08 4.0850E-08
2.6180E-07 5.7510E-07 -3.7480E-07 -1.3350E-08 -3.4860E-08 2.0420E-08 -
1.5160E-08 -4.2590E-08 3.1530E-08 -1.8940E-08 -6.9280E-08 4.9920E-08 -
2.3980E-08 -1.0350E-07 7.0450E-08 -2.0310E-08 -9.4040E-08 5.1530E-08 -
2.6670E-08 -1.1710E-07 8.0590E-08 1.8620E-08 1.9000E-07 -1.2560E-07
   8 -5.2890E-08 -2.7180E-06 1.6580E-06 -6.6110E-08 -2.7540E-06 1.6780E-06
5.7510E-07 2.1970E-05 -1.3410E-05 -4.3160E-08 -2.7210E-06 1.6560E-06 -
5.1510E-08 -2.6550E-06 1.6540E-06 -7.1780E-08 -2.6750E-06 1.6690E-06 -
9.6700E-08 -2.7350E-06 1.6930E-06 -8.5160E-08 -2.8690E-06 1.7030E-06 -
1.0780E-07 -2.7340E-06 1.6970E-06 -9.2480E-09 -4.4760E-07 2.9160E-07
   9   2.9470E-08 1.6560E-06 -1.0470E-06 4.1100E-08 1.6770E-06 -1.0590E-06
-3.7480E-07 -1.3410E-05 8.6660E-06 2.0610E-08 1.6520E-06 -1.0420E-06
2.9350E-08 1.6550E-06 -1.0820E-06 4.8180E-08 1.6710E-06 -1.0940E-06
7.0110E-08 1.6970E-06 -1.0970E-06 5.5360E-08 1.6980E-06 -1.0300E-06
8.0600E-08 1.7010E-06 -1.1040E-06 -6.3580E-09 -8.4200E-08 7.5150E-08
  10   1.1350E-09 -1.6540E-08 1.6020E-09 -1.1430E-08 -4.2870E-08 1.6060E-08
-1.3350E-08 -4.3160E-08 2.0610E-08 2.7760E-07 3.6040E-07 -2.4330E-07
1.5750E-09 1.4340E-08 1.7890E-08 -1.8720E-08 -1.7940E-08 4.1470E-08 -
4.3110E-08 -7.0620E-08 6.2130E-08 -2.7840E-08 -1.0250E-07 9.0530E-09 -
5.4750E-08 -8.0950E-08 7.4380E-08 6.0990E-08 1.4860E-06 -9.8070E-07
  11 -1.3540E-08 -2.6850E-06 1.6270E-06 -3.2220E-08 -2.7270E-06 1.6500E-06
-3.4860E-08 -2.7210E-06 1.6520E-06 3.6040E-07 2.1760E-05 -1.3230E-05 -
1.1950E-08 -2.6100E-06 1.6320E-06 -4.1070E-08 -2.6360E-06 1.6510E-06 -
7.6350E-08 -2.7080E-06 1.6760E-06 -5.8240E-08 -2.8580E-06 1.6640E-06 -
9.2360E-08 -2.7060E-06 1.6830E-06 4.3820E-08 2.4870E-07 -1.7340E-07
  12   3.9900E-10 1.6280E-06 -1.0220E-06 1.7750E-08 1.6560E-06 -1.0350E-06
2.0420E-08 1.6560E-06 -1.0420E-06 -2.4330E-07 -1.3230E-05 8.5320E-06
3.6800E-11 1.6150E-06 -1.0650E-06 2.8110E-08 1.6360E-06 -1.0810E-06
6.0860E-08 1.6730E-06 -1.0850E-06 3.9360E-08 1.6930E-06 -9.9640E-07
7.6410E-08 1.6770E-06 -1.0950E-06 -4.9890E-08 -8.0940E-07 5.5740E-07
  13 -5.0840E-09 -2.7440E-08 1.2500E-08 -1.3810E-08 -5.0580E-08 2.5760E-08
-1.5160E-08 -5.1510E-08 2.9350E-08 1.5750E-09 -1.1950E-08 3.6800E-11
2.6830E-07 4.5120E-07 -2.8040E-07 -1.8960E-08 -3.6070E-08 4.4910E-08 -
3.6110E-08 -8.1770E-08 6.5460E-08 -2.5240E-08 -9.8550E-08 2.5440E-08 -
4.4400E-08 -9.3270E-08 7.6860E-08 4.4980E-08 1.0030E-06 -6.6070E-07
  14 -8.4370E-09 -2.6140E-06 1.6250E-06 -3.8310E-08 -2.6640E-06 1.6500E-06
-4.2590E-08 -2.6550E-06 1.6550E-06 1.4340E-08 -2.6100E-06 1.6150E-06
4.5120E-07 2.1270E-05 -1.3240E-05 -5.3000E-08 -2.5350E-06 1.6650E-06 -
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1.3490E-07 -2.6190E-06 1.6970E-06 7.7660E-08 1.7020E-06 -1.0800E-06
  15   2.3240E-08 1.6340E-06 -1.0680E-06 3.0410E-08 1.6520E-06 -1.0780E-06
3.1530E-08 1.6540E-06 -1.0820E-06 1.7890E-08 1.6320E-06 -1.0650E-06 -
2.8040E-07 -1.3240E-05 8.7880E-06 3.4960E-08 1.6560E-06 -1.1040E-06
4.8470E-08 1.6740E-06 -1.1080E-06 3.8930E-08 1.6620E-06 -1.0590E-06
5.5040E-08 1.6800E-06 -1.1140E-06 -1.0430E-09 4.4940E-07 -3.0830E-07
  16 -1.8690E-08 -5.3240E-08 3.6010E-08 -1.8860E-08 -6.9380E-08 4.6670E-08

-1.8940E-08 -7.1780E-08 4.8180E-08 -1.8720E-08 -4.1070E-08 2.8110E-08 -
1.8960E-08 -5.3000E-08 3.4960E-08 2.6600E-07 6.1130E-07 -4.0990E-07 -
2.0370E-08 -1.0870E-07 7.2620E-08 -1.9160E-08 -9.1250E-08 6.1120E-08 -
2.1210E-08 -1.2290E-07 8.2240E-08 9.5280E-09 -7.5790E-08 5.1250E-08
  17 -3.8450E-08 -2.6370E-06 1.6440E-06 -6.5450E-08 -2.6840E-06 1.6680E-06
-6.9280E-08 -2.6750E-06 1.6710E-06 -1.7940E-08 -2.6360E-06 1.6360E-06 -
3.6070E-08 -2.5350E-06 1.6560E-06 6.1130E-07 2.1410E-05 -1.3350E-05 -
1.2920E-07 -2.6450E-06 1.7000E-06 -1.0270E-07 -2.8460E-06 1.6720E-06 -
1.5230E-07 -2.6380E-06 1.7060E-06 4.0500E-08 1.3320E-06 -8.3370E-07
  18   4.4720E-08 1.6510E-06 -1.0820E-06 4.9210E-08 1.6670E-06 -1.0910E-06
4.9920E-08 1.6690E-06 -1.0940E-06 4.1470E-08 1.6510E-06 -1.0810E-06
4.4910E-08 1.6650E-06 -1.1040E-06 -4.0990E-07 -1.3350E-05 8.8760E-06
6.0610E-08 1.6890E-06 -1.1150E-06 5.4340E-08 1.6690E-06 -1.0770E-06
6.4780E-08 1.6940E-06 -1.1200E-06 2.7140E-08 7.9090E-07 -5.3490E-07
  19 -3.5230E-08 -8.4630E-08 6.3420E-08 -2.5400E-08 -9.2570E-08 7.1030E-08
-2.3980E-08 -9.6700E-08 7.0110E-08 -4.3110E-08 -7.6350E-08 6.0860E-08 -
3.6110E-08 -1.0930E-07 4.8470E-08 -2.0370E-08 -1.2920E-07 6.0610E-08
3.0260E-07 8.3130E-07 -5.6560E-07 -1.2630E-08 -8.3760E-08 1.0270E-07
5.3390E-09 -1.5890E-07 8.8460E-08 -3.2630E-08 -1.3400E-06 8.8520E-07
  20 -8.3640E-08 -2.7040E-06 1.6760E-06 -1.0110E-07 -2.7420E-06 1.6960E-06
-1.0350E-07 -2.7350E-06 1.6970E-06 -7.0620E-08 -2.7080E-06 1.6730E-06 -
8.1770E-08 -2.6260E-06 1.6740E-06 -1.0870E-07 -2.6450E-06 1.6890E-06
8.3130E-07 2.1850E-05 -1.3530E-05 -1.2590E-07 -2.8730E-06 1.7150E-06 -
1.5600E-07 -2.7040E-06 1.7140E-06 -2.8910E-08 9.5850E-08 -3.7500E-08
  21   6.5330E-08 1.6760E-06 -1.0860E-06 6.9750E-08 1.6910E-06 -1.0940E-06
7.0450E-08 1.6930E-06 -1.0970E-06 6.2130E-08 1.6760E-06 -1.0850E-06
6.5460E-08 1.6900E-06 -1.1080E-06 7.2620E-08 1.7000E-06 -1.1150E-06 -
5.6560E-07 -1.3530E-05 8.8940E-06 7.4840E-08 1.6920E-06 -1.0790E-06
8.4980E-08 1.7160E-06 -1.1210E-06 4.7730E-08 8.1600E-07 -5.3840E-07
  22 -2.4670E-08 -6.9000E-08 4.5230E-08 -2.0830E-08 -8.1990E-08 5.4770E-08
-2.0310E-08 -8.5160E-08 5.5360E-08 -2.7840E-08 -5.8240E-08 3.9360E-08 -
2.5240E-08 -7.9220E-08 3.8930E-08 -1.9160E-08 -1.0270E-07 5.4340E-08 -
1.2630E-08 -1.2590E-07 7.4840E-08 2.7170E-07 7.4390E-07 -4.4660E-07 -
9.9920E-09 -1.4170E-07 8.3810E-08 -6.7990E-09 -5.8770E-07 3.8500E-07
  23 -9.8760E-08 -2.8490E-06 1.6860E-06 -9.4790E-08 -2.8710E-06 1.7010E-06
-9.4040E-08 -2.8690E-06 1.6980E-06 -1.0250E-07 -2.8580E-06 1.6930E-06 -
9.8550E-08 -2.8330E-06 1.6620E-06 -9.1250E-08 -2.8460E-06 1.6690E-06 -
8.3760E-08 -2.8730E-06 1.6920E-06 7.4390E-07 2.2990E-05 -1.3490E-05 -
8.0000E-08 -2.8790E-06 1.6930E-06 -9.8980E-08 -2.6910E-06 1.7020E-06
  24   2.6090E-08 1.6720E-06 -1.0080E-06 4.8160E-08 1.7030E-06 -1.0220E-06
5.1530E-08 1.7030E-06 -1.0300E-06 9.0530E-09 1.6640E-06 -9.9640E-07
2.5440E-08 1.6490E-06 -1.0590E-06 6.1120E-08 1.6720E-06 -1.0770E-06
1.0270E-07 1.7150E-06 -1.0790E-06 -4.4660E-07 -1.3490E-05 8.4700E-06
1.2230E-07 1.7170E-06 -1.0890E-06 -3.6510E-08 -1.3570E-06 9.5820E-07
  25 -4.3250E-08 -9.8810E-08 7.6480E-08 -2.8790E-08 -1.0290E-07 8.2660E-08
-2.6670E-08 -1.0780E-07 8.0600E-08 -5.4750E-08 -9.2360E-08 7.6410E-08 -
4.4400E-08 -1.3490E-07 5.5040E-08 -2.1210E-08 -1.5230E-07 6.4780E-08
5.3390E-09 -1.5600E-07 8.4980E-08 -9.9920E-09 -8.0000E-08 1.2230E-07
3.3480E-07 9.2490E-07 -6.4320E-07 -5.2480E-08 -1.9240E-06 1.2710E-06
  26 -9.5330E-08 -2.7030E-06 1.6800E-06 -1.1450E-07 -2.7420E-06 1.7000E-06
-1.1710E-07 -2.7340E-06 1.7010E-06 -8.0950E-08 -2.7060E-06 1.6770E-06 -
9.3270E-08 -2.6190E-06 1.6800E-06 -1.2290E-07 -2.6380E-06 1.6940E-06 -
1.5890E-07 -2.7040E-06 1.7160E-06 -1.4170E-07 -2.8790E-06 1.7170E-06
9.2490E-07 2.1840E-05 -1.3570E-05 -3.6030E-08 3.1560E-07 -1.7610E-07

27 7.6730E-08 1.6820E-06 -1.0940E-06 8.0070E-08 1.6950E-06 -1.1020E-06
8.0590E-08 1.6970E-06 -1.1040E-06 7.4380E-08 1.6830E-06 -1.0950E-06
7.6860E-08 1.6970E-06 -1.1140E-06 8.2240E-08 1.7060E-06 -1.1200E-06
8.8460E-08 1.7140E-06 -1.1210E-06 8.3810E-08 1.6930E-06 -1.0890E-06 -
6.4320E-07 -1.3570E-05 8.9510E-06 6.1820E-08 9.5210E-07 -6.3260E-07
28 4.6940E-08 2.1900E-08 -2.9760E-08 2.1950E-08 -1.0630E-08 -1.3170E-08
1.8620E-08 -9.2480E-09 -6.3580E-09 6.0990E-08 4.3820E-08 -4.9890E-08
4.4980E-08 7.7660E-08 -1.0430E-09 9.5280E-09 4.0500E-08 2.7140E-08 -
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5.2480E-08 -3.6030E-08 6.1820E-08 2.5660E-06 6.4490E-06 -4.2070E-06
29 9.5980E-07 1.2390E-07 -5.1430E-07 2.9010E-07 -5.6830E-07 -2.4400E-07
1.9000E-07 -4.4760E-07 -8.4200E-08 1.4860E-06 2.4870E-07 -8.0940E-07
1.0030E-06 1.7020E-06 4.4940E-07 -7.5790E-08 1.3320E-06 7.9090E-07 -
1.3400E-06 9.5850E-08 8.1600E-07 -5.8770E-07 -2.6910E-06 -1.3570E-06 -
1.9240E-06 3.1560E-07 9.5210E-07 6.4490E-06 2.6080E-04 -1.6110E-04
30 -6.3380E-07 -5.9050E-08 3.5070E-07 -1.9180E-07 3.6550E-07 1.8430E-07
-1.2560E-07 2.9160E-07 7.5150E-08 -9.8070E-07 -1.7340E-07 5.5740E-07 -
6.6070E-07 -1.0800E-06 -3.0830E-07 5.1250E-08 -8.3370E-07 -5.3490E-07
8.8520E-07 -3.7500E-08 -5.3840E-07 3.8500E-07 1.7020E-06 9.5820E-07
1.2710E-06 -1.7610E-07 -6.3260E-07 -4.2070E-06 -1.6110E-04 1.0440E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000025660 0.0000064490 -0.0000042070
0.0000064490 0.0002608000 -0.0001611000
-0.0000042070 -0.0001611000 0.0001044000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000025225 -0.0000004086 -0.0000065802
-0.0000004086 0.0000040951 0.0000143059
-0.0000065802 0.0000143059 0.0003611484

Horizontal network accuracy = 0.00449 meters.
Vertical network accuracy = 0.03726 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	8519.612	367.186	721.622
lwes	qcfv	-13622.575	-1408.909	-2553.857
dstr	qcfv	-16769.197	2164.493	3611.559
eng6	qcfv	25718.240	-2677.882	-4590.098
covg	qcfv	10949.480	30568.687	52601.211
hamm	qcfv	-24761.572	32824.620	56157.114
gvms	qcfv	-66784.030	22195.796	37150.929
lmcn	qcfv	-44152.347	-36452.852	-64768.669
sjb1	qcfv	-86271.550	27102.615	44970.947

Covariance matrix of the 9 vectors
1 2.7376E-06 5.9103E-06 -3.8353E-06 2.4834E-06 5.4479E-06 -3.5341E-06
2.4855E-06 5.4456E-06 -3.5374E-06 2.4592E-06 5.4318E-06 -3.5229E-06
2.4690E-06 5.4031E-06 -3.5489E-06 2.4908E-06 5.4102E-06 -3.5556E-06
2.5165E-06 5.4345E-06 -3.5556E-06 2.5012E-06 5.4894E-06 -3.5106E-06
2.5283E-06 5.4299E-06 -3.5583E-06
2 5.9103E-06 2.8230E-04 -1.7378E-04 6.0914E-06 2.5852E-04 -1.5914E-04

6.1892E-06 2.5841E-04 -1.5930E-04 4.9246E-06 2.5774E-04 -1.5860E-04
5.3967E-06 2.5636E-04 -1.5986E-04 6.4496E-06 2.5671E-04 -1.6018E-04
7.6825E-06 2.5788E-04 -1.6018E-04 6.9458E-06 2.6052E-04 -1.5801E-04
8.2523E-06 2.5766E-04 -1.6031E-04
   3 -3.8353E-06 -1.7378E-04 1.1226E-04 -3.9582E-06 -1.5929E-04 1.0282E-04
-4.0221E-06 -1.5922E-04 1.0293E-04 -3.1949E-06 -1.5879E-04 1.0247E-04 -
3.5040E-06 -1.5788E-04 1.0329E-04 -4.1925E-06 -1.5811E-04 1.0350E-04 -
4.9990E-06 -1.5887E-04 1.0350E-04 -4.5170E-06 -1.6060E-04 1.0208E-04 -
5.3718E-06 -1.5873E-04 1.0359E-04
   4   2.4834E-06 6.0914E-06 -3.9582E-06 2.7833E-06 6.7275E-06 -4.3657E-06
2.5082E-06 6.1020E-06 -3.9677E-06 2.4716E-06 6.0829E-06 -3.9476E-06
2.4853E-06 6.0429E-06 -3.9837E-06 2.5157E-06 6.0529E-06 -3.9931E-06
2.5513E-06 6.0867E-06 -3.9932E-06 2.5300E-06 6.1631E-06 -3.9305E-06
2.5677E-06 6.0804E-06 -3.9969E-06
   5   5.4479E-06 2.5852E-04 -1.5929E-04 6.7275E-06 2.8396E-04 -1.7462E-04
6.2038E-06 2.5906E-04 -1.5970E-04 4.9308E-06 2.5839E-04 -1.5900E-04
5.4060E-06 2.5700E-04 -1.6026E-04 6.4660E-06 2.5735E-04 -1.6059E-04
7.7071E-06 2.5853E-04 -1.6059E-04 6.9653E-06 2.6119E-04 -1.5841E-04
8.2807E-06 2.5831E-04 -1.6072E-04
   6 -3.5341E-06 -1.5914E-04 1.0282E-04 -4.3657E-06 -1.7462E-04 1.1267E-04
-4.0274E-06 -1.5947E-04 1.0308E-04 -3.1971E-06 -1.5903E-04 1.0262E-04 -
3.5074E-06 -1.5813E-04 1.0345E-04 -4.1984E-06 -1.5835E-04 1.0366E-04 -
5.0080E-06 -1.5912E-04 1.0366E-04 -4.5241E-06 -1.6086E-04 1.0224E-04 -
5.3822E-06 -1.5898E-04 1.0375E-04
   7   2.4855E-06 6.1892E-06 -4.0221E-06 2.5081E-06 6.2038E-06 -4.0274E-06
2.7906E-06 6.8433E-06 -4.4498E-06 2.4730E-06 6.1803E-06 -4.0111E-06
2.4872E-06 6.1387E-06 -4.0488E-06 2.5189E-06 6.1492E-06 -4.0586E-06
2.5560E-06 6.1844E-06 -4.0587E-06 2.5339E-06 6.2639E-06 -3.9934E-06
2.5732E-06 6.1779E-06 -4.0626E-06
   8   5.4456E-06 2.5841E-04 -1.5922E-04 6.1020E-06 2.5906E-04 -1.5947E-04
6.8433E-06 2.8367E-04 -1.7472E-04 4.9291E-06 2.5828E-04 -1.5893E-04
5.4037E-06 2.5689E-04 -1.6019E-04 6.4623E-06 2.5724E-04 -1.6051E-04
7.7015E-06 2.5842E-04 -1.6051E-04 6.9608E-06 2.6107E-04 -1.5833E-04
8.2744E-06 2.5820E-04 -1.6065E-04
   9 -3.5374E-06 -1.5930E-04 1.0293E-04 -3.9677E-06 -1.5970E-04 1.0308E-04
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2.5027E-06 4.9181E-06 -3.2137E-06
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9.3339E-06 2.8201E-04 -1.7545E-04
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-4.0626E-06 -1.6065E-04 1.0385E-04 -3.2137E-06 -1.6020E-04 1.0338E-04 -
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6.1830E-06 -1.7545E-04 1.1462E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 2.1260E-01 -2.1878E-01 8.9967E-01 1.9540E-01 -2.0123E-01
8.9924E-01 1.9541E-01 -2.0119E-01 9.0094E-01 1.9547E-01 -2.0135E-01
9.0077E-01 1.9562E-01 -2.0106E-01 8.9759E-01 1.9557E-01 -2.0096E-01
8.8794E-01 1.9543E-01 -2.0094E-01 8.9524E-01 1.9510E-01 -2.0143E-01
8.8138E-01 1.9542E-01 -2.0088E-01
   2   2.1260E-01 1.0000E+00 -9.7617E-01 2.1731E-01 9.1309E-01 -8.9235E-01
2.2051E-01 9.1315E-01 -8.9224E-01 1.7766E-01 9.1339E-01 -8.9269E-01
1.9389E-01 9.1401E-01 -8.9185E-01 2.2888E-01 9.1381E-01 -8.9155E-01
2.6695E-01 9.1322E-01 -8.9145E-01 2.4482E-01 9.1181E-01 -8.9282E-01
2.8330E-01 9.1318E-01 -8.9122E-01
   3 -2.1878E-01 -9.7617E-01 1.0000E+00 -2.2393E-01 -8.9220E-01 9.1429E-01
-2.2725E-01 -8.9224E-01 9.1420E-01 -1.8278E-01 -8.9233E-01 9.1460E-01 -
1.9964E-01 -8.9264E-01 9.1383E-01 -2.3593E-01 -8.9252E-01 9.1354E-01 -
2.7546E-01 -8.9220E-01 9.1344E-01 -2.5248E-01 -8.9138E-01 9.1469E-01 -
2.9244E-01 -8.9211E-01 9.1322E-01
   4   8.9967E-01 2.1731E-01 -2.2393E-01 1.0000E+00 2.3930E-01 -2.4654E-01
8.9997E-01 2.1717E-01 -2.2381E-01 8.9803E-01 2.1710E-01 -2.2377E-01
8.9923E-01 2.1698E-01 -2.2384E-01 8.9907E-01 2.1700E-01 -2.2383E-01
8.9281E-01 2.1708E-01 -2.2381E-01 8.9810E-01 2.1724E-01 -2.2367E-01
8.8776E-01 2.1703E-01 -2.2378E-01
   5   1.9540E-01 9.1309E-01 -8.9220E-01 2.3930E-01 1.0000E+00 -9.7628E-01
2.2039E-01 9.1280E-01 -8.9189E-01 1.7737E-01 9.1302E-01 -8.9231E-01
1.9366E-01 9.1363E-01 -8.9151E-01 2.2879E-01 9.1343E-01 -8.9121E-01
2.6702E-01 9.1287E-01 -8.9112E-01 2.4479E-01 9.1149E-01 -8.9243E-01
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   6 -2.0123E-01 -8.9235E-01 9.1429E-01 -2.4654E-01 -9.7628E-01 1.0000E+00
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2.9247E-01 -8.9190E-01 9.1297E-01
   7   8.9924E-01 2.2051E-01 -2.2725E-01 8.9997E-01 2.2039E-01 -2.2713E-01

1.0000E+00 2.4323E-01 -2.5068E-01 8.9737E-01 2.2029E-01 -2.2707E-01
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3.0046E-01 1.0000E+00 -9.7592E-01 2.4454E-01 9.1157E-01 -8.9245E-01
2.8300E-01 9.1302E-01 -8.9091E-01
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8.9829E-01 2.4476E-01 -2.5248E-01 8.9168E-01 2.4453E-01 -2.5218E-01
8.9464E-01 2.4407E-01 -2.5270E-01 8.9833E-01 2.4417E-01 -2.5281E-01
8.9645E-01 2.4454E-01 -2.5279E-01 1.0000E+00 2.7441E-01 -2.8123E-01
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23 1.9510E-01 9.1181E-01 -8.9138E-01 2.1724E-01 9.1149E-01 -8.9118E-01
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-2.2695E-01 -8.9247E-01 9.1429E-01 -1.8304E-01 -8.9259E-01 9.1474E-01 -
1.9968E-01 -8.9295E-01 9.1387E-01 -2.3551E-01 -8.9281E-01 9.1355E-01 -
2.7452E-01 -8.9245E-01 9.1347E-01 -2.8123E-01 -9.7663E-01 1.0000E+00 -
2.9127E-01 -8.9236E-01 9.1323E-01
25 8.8138E-01 2.8330E-01 -2.9244E-01 8.8776E-01 2.8344E-01 -2.9247E-01
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1.0000E+00 3.2059E-01 -3.3312E-01
26 1.9542E-01 9.1318E-01 -8.9211E-01 2.1703E-01 9.1282E-01 -8.9190E-01
2.2022E-01 9.1289E-01 -8.9180E-01 1.7752E-01 9.1311E-01 -8.9222E-01
1.9370E-01 9.1378E-01 -8.9141E-01 2.2858E-01 9.1360E-01 -8.9112E-01
2.6652E-01 9.1302E-01 -8.9104E-01 2.4442E-01 9.1150E-01 -8.9236E-01
3.2059E-01 1.0000E+00 -9.7586E-01
27 -2.0088E-01 -8.9122E-01 9.1322E-01 -2.2378E-01 -8.9090E-01 9.1297E-01
-2.2716E-01 -8.9093E-01 9.1289E-01 -1.8196E-01 -8.9095E-01 9.1319E-01 -
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2.7624E-01 -8.9091E-01 9.1228E-01 -2.5280E-01 -8.9018E-01 9.1323E-01 -
3.3312E-01 -9.7586E-01 1.0000E+00

G-FILE for the vectors

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22 8952382 1 23 1951020 1 24 -2014299 1 25 8813799 1 26 1954222 D 1
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9122793 22 23 2744123 22 24 -2812286 22 25 8933484 22 26 2444247 D 22 27 -
2527975 23 24 -9766251 23 25 2846486 23 26 9115042 23 27 -8901796 D 24 25 -
2912712 24 26 -8923644 24 27 9132337 25 26 3205944 25 27 -3331198 D 26 27 -
9758636

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-20123.646	-5532243.998	3163349.269
lwes	-20123.648	-5532243.985	3163349.272
dstr	-20123.637	-5532243.970	3163349.250
eng6	-20123.642	-5532244.007	3163349.265
covg	-20123.642	-5532243.994	3163349.260
hamm	-20123.645	-5532244.018	3163349.280
gvms	-20123.633	-5532243.966	3163349.256
lmcn	-20123.640	-5532244.000	3163349.262
sjb1	-20123.644	-5532244.082	3163349.318

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	-0.003	0.041	-0.029	-0.003	-0.004	-0.050
lwes	-0.004	0.054	-0.027	-0.004	0.004	-0.061
dstr	0.006	0.070	-0.049	0.006	-0.008	-0.085
eng6	0.001	0.033	-0.034	0.001	-0.013	-0.045

covg	0.001	0.046	-0.039	0.001	-0.011	-0.059
hamm	-0.002	0.022	-0.018	-0.002	-0.005	-0.028
gvms	0.011	0.074	-0.043	0.010	-0.000	-0.086
lmcn	0.003	0.040	-0.036	0.003	-0.012	-0.052
sjb1	-0.001	-0.042	0.019	-0.001	-0.004	0.046

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 520682.021
Easting (X) [feet] 3637163.752
Convergence [degrees] 0.56247798
Point Scale 0.99992657
Combined Factor 0.99992983

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 5.063 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.410
scatter (mean square distance from rover) is 3769.476
average edop for rover is 0.660
average ndop for rover is 0.640
average hdop for rover is 0.919
average vdop for rover is 1.790
average gdop for rover is 2.340

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:25 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA13.O00 OP1335485962732

FILE: QCFVA13.O00 OP1335485962732

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069x.12o TIME: 00:23:39 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/09 23:11:19
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 23:31:22
NAV FILE: brdc0690.12n OBS USED: 2277 / 2367 : 96%
ANT NAME: LEIAT502 NONE QUALITY IND. 19.73/ 16.70
ARP HEIGHT: 1.643 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18845)

X:	-19927.958(m)	0.003(m)	-19928.690(m)	0.003(m)
Y:	-5534056.685(m)	0.013(m)	-5534055.193(m)	0.013(m)
Z:	3160189.979(m)	0.009(m)	3160189.770(m)	0.009(m)

LAT:	29 53 38.81743	0.006(m)	29 53 38.83565	0.006(m)
E LON:	269 47 37.25036	0.003(m)	269 47 37.22287	0.003(m)
W LON:	90 12 22.74964	0.003(m)	90 12 22.77713	0.003(m)
EL HGT:	-26.973(m)	0.015(m)	-28.368(m)	0.015(m)
ORTHO HGT:	-1.103(m)	0.019(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3310332.340	155065.142
Easting (X) [meters]	769783.794	1108846.990
Convergence [degrees]	1.39320930	0.56352130
Point Scale	1.00049810	0.99992747
Combined Factor	1.00050233	0.99993171

US NATIONAL GRID DESIGNATOR: 15RYP6978310332(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	9439.7

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 13836.6
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 18693.2
DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 25578.0
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 60195.5
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 65371.0
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 81776.8
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 99089.4
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 103097.1

NEAREST NGS PUBLISHED CONTROL POINT
AU2796 AVONDALE ELBILCO MAST N295425.556 W0901211.000 1479.2

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.032	-5531876.843	3164070.912
lwes	-33746.216	-5533652.951	3160795.443
dstr	-36892.837	-5530079.553	3166960.865
eng6	5594.596	-5534921.910	3158759.194
houm	-70100.644	-5550262.328	3131144.921
covg	-9174.161	-5501675.348	3215950.502
gvms	-86907.672	-5510048.240	3200500.229
bvhs	57650.144	-5564331.458	3106490.830
sjb1	-106395.195	-5505141.454	3208320.260
qcfv	-19928.690	-5534055.193	3160189.770

Covariance matrix of the stations:
1 2.2840E-07 6.1650E-07 -4.5260E-07 -1.4690E-08 -8.2400E-08 5.8370E-08
-1.5250E-08 -8.1340E-08 5.9350E-08 -8.3170E-09 -7.1260E-08 4.6760E-08 -
2.0300E-08 -1.0120E-07 6.7660E-08 -1.1310E-08 -5.8240E-08 5.1890E-08 -
2.3040E-08 -8.0190E-08 7.0650E-08 1.4470E-09 -6.1740E-08 2.3860E-08 -
2.5840E-08 -7.9990E-08 7.3990E-08 2.5230E-08 9.2380E-08 -6.9180E-08
2 6.1650E-07 7.9640E-06 -5.6030E-06 -7.7680E-08 -9.8980E-07 7.0520E-07
-7.7660E-08 -9.8560E-07 7.0330E-07 -7.3260E-08 -9.7680E-07 6.9370E-07 -
8.4000E-08 -1.0300E-06 7.3050E-07 -7.1840E-08 -9.3540E-07 6.7330E-07 -
8.0790E-08 -9.7130E-07 7.0070E-07 -6.9160E-08 -9.9470E-07 6.9520E-07 -
8.2160E-08 -9.6930E-07 7.0130E-07 3.3660E-09 1.0290E-07 -6.6590E-08
3 -4.5260E-07 -5.6030E-06 4.3200E-06 5.6720E-08 7.0840E-07 -5.2910E-07
5.7390E-08 7.0640E-07 -5.3010E-07 4.8320E-08 6.9150E-07 -5.1200E-07
6.4500E-08 7.3930E-07 -5.4580E-07 5.1740E-08 6.6890E-07 -5.1510E-07
6.7280E-08 7.0380E-07 -5.4480E-07 3.5770E-08 6.8140E-07 -4.8280E-07
7.0870E-08 7.0370E-07 -5.4950E-07 -1.2050E-08 -1.4880E-07 1.3150E-07
4 -1.4690E-08 -7.7680E-08 5.6720E-08 2.3200E-07 6.5750E-07 -4.7950E-07
-1.5100E-08 -8.3440E-08 6.0670E-08 -1.4530E-08 -7.4090E-08 5.4300E-08 -
1.5890E-08 -9.1410E-08 6.6100E-08 -1.4470E-08 -7.7470E-08 5.6480E-08 -
1.5830E-08 -9.3790E-08 6.7960E-08 -1.4230E-08 -6.1980E-08 4.6560E-08 -
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5 -8.2400E-08 -9.8980E-07 7.0840E-07 6.5750E-07 8.0800E-06 -5.6960E-06
-8.2320E-08 -9.9860E-07 7.1400E-07 -8.3050E-08 -9.9110E-07 7.0980E-07 -

8.5210E-08 -1.0330E-06 7.3870E-07 -7.9160E-08 -9.6220E-07 6.8660E-07 -
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   8 -8.1340E-08 -9.8560E-07 7.0640E-07 -8.3440E-08 -9.9860E-07 7.1600E-07
6.6070E-07 8.0350E-06 -5.6850E-06 -8.0570E-08 -9.8710E-07 7.0650E-07 -
8.8480E-08 -1.0360E-06 7.4020E-07 -7.8290E-08 -9.4870E-07 6.8450E-07 -
8.4440E-08 -9.8160E-07 7.0910E-07 -7.8960E-08 -1.0060E-06 7.1300E-07 -
8.5110E-08 -9.8010E-07 7.0920E-07 -1.3450E-08 -1.1590E-07 9.4870E-08
   9   5.9350E-08 7.0330E-07 -5.3010E-07 6.0670E-08 7.1400E-07 -5.3800E-07
-4.8360E-07 -5.6850E-06 4.4000E-06 5.8720E-08 7.0040E-07 -5.2750E-07
6.3140E-08 7.3350E-07 -5.5080E-07 5.8740E-08 6.9500E-07 -5.2690E-07
6.2760E-08 7.2290E-07 -5.4790E-07 5.6660E-08 6.8870E-07 -5.1570E-07
6.3610E-08 7.2700E-07 -5.5180E-07 1.0210E-08 9.8020E-08 -6.1050E-08
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-1.5530E-08 -8.0570E-08 5.8720E-08 2.3150E-07 5.8930E-07 -4.3840E-07 -
2.4130E-08 -1.1040E-07 6.9400E-08 -8.8570E-09 -4.3260E-08 4.8570E-08 -
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3.4040E-08 -6.6290E-08 7.7160E-08 3.0740E-08 1.6830E-07 -1.2520E-07
  11 -7.1260E-08 -9.7680E-07 6.9150E-07 -7.4090E-08 -9.9110E-07 7.0220E-07
-7.4050E-08 -9.8710E-07 7.0040E-07 5.8930E-07 7.9760E-06 -5.5820E-06 -
8.0220E-08 -1.0310E-06 7.2750E-07 -6.8380E-08 -9.3790E-07 6.7060E-07 -
7.6980E-08 -9.7460E-07 6.9850E-07 -6.6130E-08 -9.9370E-07 6.9170E-07 -
7.8290E-08 -9.7320E-07 6.9940E-07 -2.0490E-09 -9.0210E-08 6.7700E-08
  12   4.6760E-08 6.9370E-07 -5.1200E-07 5.4300E-08 7.0980E-07 -5.2600E-07
5.5440E-08 7.0650E-07 -5.2750E-07 -4.3840E-07 -5.5820E-06 4.2910E-06
6.6160E-08 7.4950E-07 -5.4570E-07 4.7000E-08 6.5460E-07 -5.0980E-07
7.1370E-08 6.9480E-07 -5.4600E-07 2.0350E-08 6.8170E-07 -4.6120E-07
7.7070E-08 6.9150E-07 -5.5140E-07 -1.6860E-08 -9.8430E-08 9.0430E-08
  13 -2.0300E-08 -8.4000E-08 6.4500E-08 -1.5890E-08 -8.5210E-08 6.3460E-08
-1.5100E-08 -8.8480E-08 6.3140E-08 -2.4130E-08 -8.0220E-08 6.6160E-08
2.5120E-07 7.5310E-07 -5.3310E-07 -1.9490E-08 -1.0850E-07 6.3970E-08 -
5.1670E-09 -1.1630E-07 6.4420E-08 -3.8140E-08 -6.4070E-08 8.1210E-08 -
1.7990E-09 -1.2640E-07 6.6420E-08 -6.7100E-09 -1.7080E-07 1.2530E-07
  14 -1.0120E-07 -1.0300E-06 7.3930E-07 -9.1410E-08 -1.0330E-06 7.3740E-07
-8.9240E-08 -1.0360E-06 7.3350E-07 -1.1040E-07 -1.0310E-06 7.4950E-07
7.5310E-07 8.4830E-06 -5.9150E-06 -9.6810E-08 -1.0560E-06 7.1750E-07 -
6.3990E-08 -1.0660E-06 7.1420E-07 -1.4420E-07 -1.0390E-06 8.1190E-07 -
5.5450E-08 -1.0800E-06 7.1230E-07 -6.1770E-08 -5.2730E-07 3.8970E-07
  15   6.7660E-08 7.3050E-07 -5.4580E-07 6.6100E-08 7.3870E-07 -5.5090E-07
6.5710E-08 7.4020E-07 -5.5080E-07 6.9400E-08 7.2750E-07 -5.4570E-07 -
5.3310E-07 -5.9150E-06 4.5120E-06 6.6780E-08 7.3790E-07 -5.4320E-07
6.1420E-08 7.5980E-07 -5.5710E-07 7.5790E-08 7.1280E-07 -5.4690E-07
6.0060E-08 7.6750E-07 -5.6050E-07 2.5170E-08 2.1140E-07 -1.3830E-07
  16 -1.1310E-08 -7.1840E-08 5.1740E-08 -1.4470E-08 -7.9160E-08 5.7850E-08

-1.4960E-08 -7.8290E-08 5.8740E-08 -8.8570E-09 -6.8380E-08 4.7000E-08 -
1.9490E-08 -9.6810E-08 6.6780E-08 2.2660E-07 6.1050E-07 -4.5040E-07 -
2.1820E-08 -7.8420E-08 6.9380E-08 -3.3420E-10 -5.8820E-08 2.6250E-08 -
2.4300E-08 -7.8700E-08 7.2610E-08 2.0520E-08 7.6730E-08 -5.5440E-08
  17 -5.8240E-08 -9.3540E-07 6.6890E-07 -7.7470E-08 -9.6220E-07 6.9460E-07
-8.0190E-08 -9.4870E-07 6.9500E-07 -4.3260E-08 -9.3790E-07 6.5460E-07 -
1.0850E-07 -1.0560E-06 7.3790E-07 6.1050E-07 7.6440E-06 -5.4560E-06 -
1.1920E-07 -8.7180E-07 7.1070E-07 9.2460E-09 -9.7380E-07 5.8120E-07 -
1.3310E-07 -8.4780E-07 7.1330E-07 5.0550E-08 4.6290E-07 -3.1970E-07
  18   5.1890E-08 6.7330E-07 -5.1510E-07 5.6480E-08 6.8660E-07 -5.2620E-07
5.7080E-08 6.8450E-07 -5.2690E-07 4.8570E-08 6.7060E-07 -5.0980E-07
6.3970E-08 7.1750E-07 -5.4320E-07 -4.5040E-07 -5.4560E-06 4.3000E-06
6.6230E-08 6.8080E-07 -5.3980E-07 3.6910E-08 6.6310E-07 -4.8360E-07
6.9560E-08 6.8040E-07 -5.4400E-07 -4.8860E-09 -3.1080E-08 2.4570E-08
  19 -2.3040E-08 -8.0790E-08 6.7280E-08 -1.5830E-08 -7.9710E-08 6.3590E-08
-1.4560E-08 -8.4440E-08 6.2760E-08 -2.9190E-08 -7.6980E-08 7.1370E-08 -
5.1670E-09 -6.3990E-08 6.1420E-08 -2.1820E-08 -1.1920E-07 6.6230E-08
2.6500E-07 6.9960E-07 -5.5430E-07 -5.1570E-08 -5.9110E-08 1.0010E-07
7.1790E-09 -1.3550E-07 6.1670E-08 -1.6040E-08 -2.5260E-07 1.8870E-07
  20 -8.0190E-08 -9.7130E-07 7.0380E-07 -9.3790E-08 -9.9250E-07 7.2350E-07
-9.5540E-08 -9.8160E-07 7.2290E-07 -6.9870E-08 -9.7460E-07 6.9480E-07 -
1.1630E-07 -1.0660E-06 7.5980E-07 -7.8420E-08 -8.7180E-07 6.8080E-07
6.9960E-07 7.8830E-06 -5.6660E-06 -3.3990E-08 -1.0100E-06 6.5000E-07 -
1.3150E-07 -9.0310E-07 7.3020E-07 1.5750E-08 2.6100E-07 -1.6600E-07
  21   7.0650E-08 7.0070E-07 -5.4480E-07 6.7960E-08 7.0750E-07 -5.4850E-07
6.7330E-08 7.0910E-07 -5.4790E-07 7.3370E-08 6.9850E-07 -5.4600E-07
6.4420E-08 7.1420E-07 -5.5710E-07 6.9380E-08 7.1070E-07 -5.3980E-07 -
5.5430E-07 -5.6660E-06 4.5030E-06 8.3340E-08 6.8760E-07 -5.5570E-07
5.7880E-08 7.3740E-07 -5.5270E-07 3.0630E-08 2.1280E-07 -1.5960E-07
  22   1.4470E-09 -6.9160E-08 3.5770E-08 -1.4230E-08 -8.6550E-08 5.3670E-08
-1.6850E-08 -7.8960E-08 5.6660E-08 1.4310E-08 -6.6130E-08 2.0350E-08 -
3.8140E-08 -1.4420E-07 7.5790E-08 -3.3420E-10 9.2460E-09 3.6910E-08 -
5.1570E-08 -3.3990E-08 8.3340E-08 2.8040E-07 4.8820E-07 -4.5140E-07 -
6.3760E-08 -1.8230E-08 8.8740E-08 6.3100E-08 4.6390E-07 -3.4560E-07
  23 -6.1740E-08 -9.9470E-07 6.8140E-07 -6.1980E-08 -1.0080E-06 6.9040E-07
-6.1560E-08 -1.0060E-06 6.8870E-07 -6.2480E-08 -9.9370E-07 6.8170E-07 -
6.4070E-08 -1.0390E-06 7.1280E-07 -5.8820E-08 -9.7380E-07 6.6310E-07 -
5.9110E-08 -1.0100E-06 6.8760E-07 4.8820E-07 8.1510E-06 -5.4950E-06 -
5.8570E-08 -1.0140E-06 6.8950E-07 4.8230E-10 -1.9920E-07 1.2210E-07
  24   2.3860E-08 6.9520E-07 -4.8280E-07 4.6560E-08 7.2400E-07 -5.1140E-07
5.0290E-08 7.1300E-07 -5.1570E-07 5.4630E-09 6.9170E-07 -4.6120E-07
8.1210E-08 8.1190E-07 -5.4690E-07 2.6250E-08 5.8120E-07 -4.8360E-07
1.0010E-07 6.5000E-07 -5.5570E-07 -4.5140E-07 -5.4950E-06 4.2330E-06
1.1760E-07 6.2820E-07 -5.6430E-07 -7.5350E-08 -5.5590E-07 4.4720E-07
  25 -2.5840E-08 -8.2160E-08 7.0870E-08 -1.6180E-08 -7.9080E-08 6.4850E-08
-1.4490E-08 -8.5110E-08 6.3610E-08 -3.4040E-08 -7.8290E-08 7.7070E-08 -
1.7990E-09 -5.5450E-08 6.0060E-08 -2.4300E-08 -1.3310E-07 6.9560E-08
7.1790E-09 -1.3150E-07 5.7880E-08 -6.3760E-08 -5.8570E-08 1.1760E-07
2.8420E-07 7.0300E-07 -5.8130E-07 -2.4730E-08 -3.2980E-07 2.4640E-07
  26 -7.9990E-08 -9.6930E-07 7.0370E-07 -9.7670E-08 -9.9330E-07 7.2700E-07
-1.0010E-07 -9.8010E-07 7.2700E-07 -6.6290E-08 -9.7320E-07 6.9150E-07 -
1.2640E-07 -1.0800E-06 7.6750E-07 -7.8700E-08 -8.4780E-07 6.8040E-07 -
1.3550E-07 -9.0310E-07 7.3740E-07 -1.8230E-08 -1.0140E-06 6.2820E-07
7.0300E-07 7.8720E-06 -5.6630E-06 2.5880E-08 3.9130E-07 -2.5750E-07

27 7.3990E-08 7.0130E-07 -5.4950E-07 7.0760E-08 7.0750E-07 -5.5250E-07
7.0030E-08 7.0920E-07 -5.5180E-07 7.7160E-08 6.9940E-07 -5.5140E-07
6.6420E-08 7.1230E-07 -5.6050E-07 7.2610E-08 7.1330E-07 -5.4400E-07
6.1670E-08 7.3020E-07 -5.5270E-07 8.8740E-08 6.8950E-07 -5.6430E-07 -
5.8130E-07 -5.6630E-06 4.5380E-06 3.5090E-08 2.2780E-07 -1.7460E-07
28 2.5230E-08 3.3660E-09 -1.2050E-08 1.0450E-08 -1.8670E-08 8.0200E-09
8.6070E-09 -1.3450E-08 1.0210E-08 3.0740E-08 -2.0490E-09 -1.6860E-08 -
6.7100E-09 -6.1770E-08 2.5170E-08 2.0520E-08 5.0550E-08 -4.8860E-09 -
1.6040E-08 1.5750E-08 3.0630E-08 6.3100E-08 4.8230E-10 -7.5350E-08 -
2.4730E-08 2.5880E-08 3.5090E-08 2.3650E-06 8.1930E-06 -5.9510E-06
29 9.2380E-08 1.0290E-07 -1.4880E-07 -1.5650E-08 -1.7390E-07 8.4340E-08
-3.2140E-08 -1.1590E-07 9.8020E-08 1.6830E-07 -9.0210E-08 -9.8430E-08 -
1.7080E-07 -5.2730E-07 2.1140E-07 7.6730E-08 4.6290E-07 -3.1080E-08 -
2.5260E-07 2.6100E-07 2.1280E-07 4.6390E-07 -1.9920E-07 -5.5590E-07 -
3.2980E-07 3.9130E-07 2.2780E-07 8.1930E-06 9.9160E-05 -7.0180E-05
30 -6.9180E-08 -6.6590E-08 1.3150E-07 1.1260E-08 1.3510E-07 -4.8980E-08
2.3720E-08 9.4870E-08 -6.1050E-08 -1.2520E-07 6.7700E-08 9.0430E-08
1.2530E-07 3.8970E-07 -1.3830E-07 -5.5440E-08 -3.1970E-07 2.4570E-08
1.8870E-07 -1.6600E-07 -1.5960E-07 -3.4560E-07 1.2210E-07 4.4720E-07
2.4640E-07 -2.5750E-07 -1.7460E-07 -5.9510E-06 -7.0180E-05 5.3280E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000023650 0.0000081930 -0.0000059510
0.0000081930 0.0000991600 -0.0000701800
-0.0000059510 -0.0000701800 0.0000532800

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000023072 -0.0000010585 -0.0000096375
-0.0000010585 0.0000041162 0.0000158941
-0.0000096375 0.0000158941 0.0001483815

Horizontal network accuracy = 0.00451 meters.
Vertical network accuracy = 0.02388 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	8324.658	2178.350	3881.142
lwes	qcfv	-13817.526	402.241	605.672
dstr	qcfv	-16964.147	3975.640	6771.094
eng6	qcfv	25523.286	-866.717	-1430.576
houm	qcfv	-50171.954	-16207.135	-29044.849
covg	qcfv	10754.529	32379.845	55760.732
gvms	qcfv	-66978.981	24006.952	40310.459
bvhs	qcfv	77578.834	-30276.265	-53698.941
sjb1	qcfv	-86466.504	28913.739	48130.489

Covariance matrix of the 9 vectors
1 2.5429E-06 8.7138E-06 -6.3224E-06 2.3146E-06 8.0369E-06 -5.8315E-06
2.3159E-06 8.0327E-06 -5.8327E-06 2.3007E-06 8.0314E-06 -5.8182E-06
2.3262E-06 8.0612E-06 -5.8393E-06 2.3079E-06 7.9918E-06 -5.8250E-06
2.3328E-06 8.0047E-06 -5.8418E-06 2.2781E-06 8.0384E-06 -5.7826E-06
2.3387E-06 7.9947E-06 -5.8429E-06
2 8.7138E-06 1.0692E-04 -7.5568E-05 8.1276E-06 9.8241E-05 -6.9493E-05

8.1441E-06 9.8187E-05 -6.9508E-05 7.9481E-06 9.8171E-05 -6.9321E-05
8.2764E-06 9.8554E-05 -6.9594E-05 8.0411E-06 9.7659E-05 -6.9409E-05
8.3614E-06 9.7825E-05 -6.9626E-05 7.6566E-06 9.8262E-05 -6.8862E-05
8.4373E-06 9.7697E-05 -6.9640E-05
   3 -6.3224E-06 -7.5568E-05 5.7337E-05 -5.8935E-06 -6.9458E-05 5.2668E-05
-5.9053E-06 -6.9420E-05 5.2679E-05 -5.7654E-06 -6.9407E-05 5.2546E-05 -
5.9998E-06 -6.9682E-05 5.2741E-05 -5.8318E-06 -6.9043E-05 5.2609E-05 -
6.0604E-06 -6.9161E-05 5.2763E-05 -5.5576E-06 -6.9472E-05 5.2219E-05 -
6.1145E-06 -6.9070E-05 5.2774E-05
   4   2.3146E-06 8.1276E-06 -5.8935E-06 2.5761E-06 8.8848E-06 -6.4498E-06
2.3308E-06 8.1387E-06 -5.9118E-06 2.3093E-06 8.1366E-06 -5.8911E-06
2.3454E-06 8.1790E-06 -5.9213E-06 2.3196E-06 8.0806E-06 -5.9009E-06
2.3548E-06 8.0991E-06 -5.9249E-06 2.2772E-06 8.1462E-06 -5.8403E-06
2.3631E-06 8.0851E-06 -5.9266E-06
   5   8.0369E-06 9.8241E-05 -6.9458E-05 8.8848E-06 1.0759E-04 -7.6095E-05
8.1615E-06 9.8451E-05 -6.9699E-05 7.9603E-06 9.8433E-05 -6.9507E-05
8.2973E-06 9.8828E-05 -6.9788E-05 8.0558E-06 9.7909E-05 -6.9597E-05
8.3846E-06 9.8080E-05 -6.9820E-05 7.6612E-06 9.8525E-05 -6.9035E-05
8.4624E-06 9.7949E-05 -6.9835E-05
   6 -5.8315E-06 -6.9493E-05 5.2668E-05 -6.4498E-06 -7.6095E-05 5.7772E-05
-5.9224E-06 -6.9643E-05 5.2852E-05 -5.7765E-06 -6.9630E-05 5.2713E-05 -
6.0209E-06 -6.9917E-05 5.2916E-05 -5.8457E-06 -6.9250E-05 5.2778E-05 -
6.0841E-06 -6.9375E-05 5.2940E-05 -5.5598E-06 -6.9696E-05 5.2370E-05 -
6.1406E-06 -6.9280E-05 5.2951E-05
   7   2.3159E-06 8.1441E-06 -5.9053E-06 2.3308E-06 8.1615E-06 -5.9224E-06
2.5807E-06 8.8993E-06 -6.4685E-06 2.3101E-06 8.1531E-06 -5.9024E-06
2.3480E-06 8.1977E-06 -5.9342E-06 2.3209E-06 8.0944E-06 -5.9128E-06
2.3579E-06 8.1138E-06 -5.9380E-06 2.2764E-06 8.1631E-06 -5.8491E-06
2.3666E-06 8.0992E-06 -5.9398E-06
   8   8.0327E-06 9.8187E-05 -6.9420E-05 8.1387E-06 9.8451E-05 -6.9643E-05
8.8993E-06 1.0743E-04 -7.6058E-05 7.9576E-06 9.8379E-05 -6.9470E-05
8.2888E-06 9.8767E-05 -6.9746E-05 8.0514E-06 9.7864E-05 -6.9559E-05
8.3746E-06 9.8033E-05 -6.9779E-05 7.6636E-06 9.8469E-05 -6.9006E-05
8.4511E-06 9.7905E-05 -6.9793E-05
   9 -5.8327E-06 -6.9508E-05 5.2679E-05 -5.9118E-06 -6.9699E-05 5.2852E-05
-6.4685E-06 -7.6058E-05 5.7802E-05 -5.7773E-06 -6.9645E-05 5.2723E-05 -
6.0234E-06 -6.9934E-05 5.2929E-05 -5.8470E-06 -6.9263E-05 5.2790E-05 -
6.0872E-06 -6.9389E-05 5.2953E-05 -5.5590E-06 -6.9711E-05 5.2378E-05 -
6.1440E-06 -6.9294E-05 5.2964E-05
  10   2.3007E-06 7.9481E-06 -5.7654E-06 2.3093E-06 7.9603E-06 -5.7765E-06
2.3101E-06 7.9576E-06 -5.7773E-06 2.5350E-06 8.6160E-06 -6.2473E-06
2.3168E-06 7.9761E-06 -5.7816E-06 2.3049E-06 7.9309E-06 -5.7723E-06
2.3211E-06 7.9391E-06 -5.7831E-06 2.2855E-06 7.9617E-06 -5.7450E-06
2.3249E-06 7.9325E-06 -5.7837E-06
  11   8.0314E-06 9.8171E-05 -6.9407E-05 8.1366E-06 9.8433E-05 -6.9630E-05
8.1531E-06 9.8379E-05 -6.9645E-05 8.6160E-06 1.0732E-04 -7.5731E-05
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8.4637E-06 9.7954E-05 -6.9840E-05
  24 -5.7826E-06 -6.8862E-05 5.2219E-05 -5.8403E-06 -6.9035E-05 5.2370E-05
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6.0045E-06 -6.8738E-05 5.2443E-05
  25   2.3387E-06 8.4373E-06 -6.1145E-06 2.3631E-06 8.4624E-06 -6.1406E-06
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2.4129E-06 8.3755E-06 -6.1702E-06 2.2629E-06 8.4637E-06 -6.0045E-06
2.6987E-06 9.1999E-06 -6.8138E-06
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8.2115E-06 9.8216E-05 -6.9366E-05 8.0117E-06 9.7458E-05 -6.9211E-05
8.2842E-06 9.7605E-05 -6.9398E-05 7.6850E-06 9.7954E-05 -6.8738E-05
9.1999E-06 1.0625E-04 -7.5813E-05
  27 -5.8429E-06 -6.9640E-05 5.2774E-05 -5.9266E-06 -6.9835E-05 5.2951E-05
-5.9398E-06 -6.9793E-05 5.2964E-05 -5.7837E-06 -6.9776E-05 5.2813E-05 -
6.0450E-06 -7.0085E-05 5.3032E-05 -5.8580E-06 -6.9375E-05 5.2886E-05 -
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6.8138E-06 -7.5813E-05 5.8167E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 5.2846E-01 -5.2359E-01 9.0434E-01 4.8589E-01 -4.8112E-01
9.0404E-01 4.8600E-01 -4.8109E-01 9.0616E-01 4.8617E-01 -4.8162E-01
8.9956E-01 4.8487E-01 -4.8053E-01 9.0623E-01 4.8705E-01 -4.8159E-01
8.9659E-01 4.8636E-01 -4.8060E-01 9.0007E-01 4.8571E-01 -4.8192E-01
8.9274E-01 4.8638E-01 -4.8042E-01
   2   5.2846E-01 1.0000E+00 -9.6514E-01 4.8973E-01 9.1598E-01 -8.8421E-01
4.9029E-01 9.1616E-01 -8.8417E-01 4.8278E-01 9.1648E-01 -8.8496E-01
4.9360E-01 9.1420E-01 -8.8324E-01 4.8693E-01 9.1787E-01 -8.8499E-01
4.9562E-01 9.1665E-01 -8.8338E-01 4.6653E-01 9.1565E-01 -8.8507E-01
4.9671E-01 9.1662E-01 -8.8307E-01
   3 -5.2359E-01 -9.6514E-01 1.0000E+00 -4.8492E-01 -8.8435E-01 9.1511E-01
-4.8546E-01 -8.8452E-01 9.1506E-01 -4.7822E-01 -8.8482E-01 9.1602E-01 -
4.8862E-01 -8.8265E-01 9.1403E-01 -4.8224E-01 -8.8613E-01 9.1599E-01 -
4.9054E-01 -8.8497E-01 9.1415E-01 -4.6242E-01 -8.8403E-01 9.1649E-01 -
4.9155E-01 -8.8493E-01 9.1382E-01
   4   9.0434E-01 4.8973E-01 -4.8492E-01 1.0000E+00 5.3369E-01 -5.2869E-01
9.0399E-01 4.8923E-01 -4.8447E-01 9.0366E-01 4.8936E-01 -4.8450E-01
9.0112E-01 4.8878E-01 -4.8414E-01 9.0491E-01 4.8928E-01 -4.8471E-01
8.9920E-01 4.8892E-01 -4.8429E-01 8.9391E-01 4.8904E-01 -4.8359E-01
8.9624E-01 4.8870E-01 -4.8416E-01
   5   4.8589E-01 9.1598E-01 -8.8435E-01 5.3369E-01 1.0000E+00 -9.6520E-01
4.8980E-01 9.1576E-01 -8.8384E-01 4.8201E-01 9.1606E-01 -8.8456E-01
4.9329E-01 9.1388E-01 -8.8293E-01 4.8630E-01 9.1735E-01 -8.8463E-01
4.9544E-01 9.1618E-01 -8.8309E-01 4.6536E-01 9.1525E-01 -8.8452E-01
4.9664E-01 9.1613E-01 -8.8279E-01
   6 -4.8112E-01 -8.8421E-01 9.1511E-01 -5.2869E-01 -9.6520E-01 1.0000E+00
-4.8503E-01 -8.8402E-01 9.1460E-01 -4.7733E-01 -8.8431E-01 9.1545E-01 -
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4.9060E-01 -8.8435E-01 9.1375E-01 -4.6086E-01 -8.8353E-01 9.1569E-01 -
4.9179E-01 -8.8427E-01 9.1343E-01
   7   9.0404E-01 4.9029E-01 -4.8546E-01 9.0399E-01 4.8980E-01 -4.8503E-01

1.0000E+00 5.3448E-01 -5.2962E-01 9.0319E-01 4.8992E-01 -4.8500E-01
9.0133E-01 4.8946E-01 -4.8476E-01 9.0464E-01 4.8968E-01 -4.8526E-01
8.9959E-01 4.8937E-01 -4.8493E-01 8.9281E-01 4.8962E-01 -4.8388E-01
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5.3448E-01 1.0000E+00 -9.6520E-01 4.8221E-01 9.1625E-01 -8.8475E-01
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8.7516E-01 4.6879E-01 -4.5896E-01 1.0000E+00 4.9882E-01 -5.0084E-01
8.6787E-01 4.6973E-01 -4.5863E-01
23 4.8571E-01 9.1565E-01 -8.8403E-01 4.8904E-01 9.1525E-01 -8.8353E-01
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4.9643E-01 9.1565E-01 -8.8235E-01
24 -4.8192E-01 -8.8507E-01 9.1649E-01 -4.8359E-01 -8.8452E-01 9.1569E-01
-4.8388E-01 -8.8481E-01 9.1559E-01 -4.7953E-01 -8.8519E-01 9.1716E-01 -
4.8515E-01 -8.8212E-01 9.1428E-01 -4.8215E-01 -8.8761E-01 9.1680E-01 -
4.8581E-01 -8.8602E-01 9.1424E-01 -5.0084E-01 -9.6349E-01 1.0000E+00 -
4.8576E-01 -8.8625E-01 9.1384E-01
25 8.9274E-01 4.9671E-01 -4.9155E-01 8.9624E-01 4.9664E-01 -4.9179E-01
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8.9892E-01 4.9799E-01 -4.9228E-01 8.9379E-01 4.9334E-01 -4.9140E-01
9.0025E-01 4.9399E-01 -4.9275E-01 8.6787E-01 4.9643E-01 -4.8576E-01
1.0000E+00 5.4331E-01 -5.4385E-01
26 4.8638E-01 9.1662E-01 -8.8493E-01 4.8870E-01 9.1613E-01 -8.8427E-01
4.8911E-01 9.1640E-01 -8.8421E-01 4.8335E-01 9.1669E-01 -8.8532E-01
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4.9258E-01 9.1746E-01 -8.8326E-01 4.6973E-01 9.1565E-01 -8.8625E-01
5.4331E-01 1.0000E+00 -9.6437E-01
27 -4.8042E-01 -8.8307E-01 9.1382E-01 -4.8416E-01 -8.8279E-01 9.1343E-01
-4.8480E-01 -8.8292E-01 9.1342E-01 -4.7630E-01 -8.8315E-01 9.1407E-01 -
4.8877E-01 -8.8141E-01 9.1250E-01 -4.8095E-01 -8.8401E-01 9.1422E-01 -
4.9126E-01 -8.8308E-01 9.1273E-01 -4.5863E-01 -8.8235E-01 9.1384E-01 -
5.4385E-01 -9.6437E-01 1.0000E+00

G-FILE for the vectors

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C00100005 -501719539 16 -162071351 104 -290448489 76
C00100006 107545291 15 323798450 102 557607315 75
C00100007 -669789813 16 240069522 103 403104591 76
C00100008 775788340 15 -302762650 103 -536989406 75
C00100009 -864665042 16 289137385 103 481304893 76
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1 7 9040378 1 8 4860028 1 9 -4810921 1 10 9061575 1 11 4861727 D 1
12 -4816171 1 13 8995571 1 14 4848653 1 15 -4805341 1 16 9062305 D 1
17 4870515 1 18 -4815936 1 19 8965888 1 20 4863605 1 21 -4805984 D 1
22 9000707 1 23 4857072 1 24 -4819214 1 25 8927398 1 26 4863776 D 1
27 -4804219 2 3 -9651445 2 4 4897284 2 5 9159807 2 6 -8842068 D 2
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4589610 21 23 -8826777 21 24 9142384 21 25 -4927485 21 26 -8832564 D 21 27
9127338 22 23 4988219 22 24 -5008360 22 25 8678690 22 26 4697304 D 22 27 -
4586268 23 24 -9634947 23 25 4964343 23 26 9156546 23 27 -8823498 D 24 25 -
4857575 24 26 -8862507 24 27 9138390 25 26 5433087 25 27 -5438455 D 26 27 -
9643686

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-19928.689	-5534055.208	3160189.782
lwes	-19928.697	-5534055.203	3160189.783
dstr	-19928.691	-5534055.186	3160189.767
eng6	-19928.690	-5534055.202	3160189.770
houm	-19928.685	-5534055.208	3160189.765
covg	-19928.692	-5534055.208	3160189.778
gvms	-19928.688	-5534055.192	3160189.769
bvhs	-19928.691	-5534055.199	3160189.782
sjb1	-19928.691	-5534055.210	3160189.784

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.002	-0.015	0.011	0.002	0.002	0.019
lwes	-0.006	-0.010	0.013	-0.006	0.006	0.015
dstr	-0.001	0.007	-0.003	-0.001	0.001	-0.007
eng6	0.000	-0.009	-0.001	0.000	- 0.005	0.008

houm	0.005	-0.016	-0.005	0.005	-
0.012	0.011				
covg	-0.002	-0.015	0.008	-0.002	-
0.001	0.017				
gvms	0.002	0.001	-0.002	0.002	-
0.001	-0.002				
bvhs	-0.001	-0.007	0.012	-0.001	
0.007	0.012				
sjb1	-0.001	-0.017	0.014	-0.001	
0.004	0.022				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 508742.887
Easting (X) [feet] 3637942.168
Convergence [degrees] 0.56352130
Point Scale 0.99992747
Combined Factor 0.99993171

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -1.216 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.346
scatter (mean square distance from rover) is 4034.915
average edop for rover is 0.780
average ndop for rover is 0.870
average hdop for rover is 1.168
average vdop for rover is 1.620
average gdop for rover is 2.310

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:23 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA14.O00 OP1335485990269

FILE: QCFVA14.O00 OP1335485990269

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069w.12o TIME: 00:22:03 UTC

SOFTWARE: rsgps 1.37 RS11.prl 1.73 START: 2012/03/09 22:30:56
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 22:51:01
NAV FILE: brdc0690.12n OBS USED: 1314 / 1458 : 90%
ANT NAME: LEIAT502 NONE QUALITY IND. 7.30/ 13.14
ARP HEIGHT: 1.617 NORMALIZED RMS: 0.330

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18837)

X:	-13881.046(m)	0.006(m)	-13881.778(m)	0.006(m)
Y:	-5534359.491(m)	0.026(m)	-5534357.999(m)	0.026(m)
Z:	3159695.995(m)	0.016(m)	3159695.786(m)	0.016(m)

LAT:	29 53 20.30692	0.004(m)	29 53 20.32515	0.004(m)
E LON:	269 51 22.65644	0.006(m)	269 51 22.62902	0.006(m)
W LON:	90 8 37.34356	0.006(m)	90 8 37.37098	0.006(m)
EL HGT:	-26.646(m)	0.031(m)	-28.042(m)	0.031(m)
ORTHO HGT:	-0.799(m)	0.033(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3309911.005	154556.369
Easting (X) [meters]	775846.955	1114899.839
Convergence [degrees]	1.42425112	0.59482849
Point Scale	1.00053893	0.99992764
Combined Factor	1.00054311	0.99993182

US NATIONAL GRID DESIGNATOR: 15RYP7584609911(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	5521.4

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 19507.0
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 24507.1
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 65028.2
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 71427.3
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 87113.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 94053.1
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 108520.4
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 131603.6

NEAREST NGS PUBLISHED CONTROL POINT
AU2763 WESTWEGO WATER TANK N295411.210 W0900826.930 1598.6

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.030	-5531876.840	3164070.914
eng6	5594.598	-5534921.916	3158759.197
dstr	-36892.837	-5530079.554	3166960.864
houm	-70100.645	-5550262.348	3131144.933
gris	4149.692	-5568493.931	3099600.298
gvms	-86907.670	-5510048.237	3200500.228
bvhs	57650.146	-5564331.440	3106490.823
sjb1	-106395.195	-5505141.454	3208320.257
fshs	-145211.080	-5537098.016	3151657.543
qcfv	-13881.778	-5534357.999	3159695.786

Covariance matrix of the stations:
1 3.3730E-07 8.0100E-07 -3.8560E-07 -1.1480E-08 -8.0060E-08 3.7450E-08
-2.5500E-08 -1.0490E-07 5.4440E-08 -3.5110E-08 -1.1130E-07 4.8480E-08 -
9.9070E-09 -6.2650E-08 1.1720E-08 -4.2570E-08 -1.3260E-07 8.0530E-08
6.9000E-09 -2.8950E-08 -5.9860E-09 -4.8920E-08 -1.3980E-07 8.7120E-08 -
5.9620E-08 -1.4070E-07 7.1740E-08 5.6530E-08 4.4970E-07 -2.5610E-07
2 8.0100E-07 1.3410E-05 -7.7720E-06 -8.5850E-08 -1.6630E-06 9.7340E-07
-9.8160E-08 -1.6750E-06 9.8250E-07 -1.0610E-07 -1.6580E-06 9.6310E-07 -
8.4350E-08 -1.6290E-06 9.3710E-07 -1.1290E-07 -1.6940E-06 1.0040E-06 -
6.9230E-08 -1.6160E-06 9.3140E-07 -1.1820E-07 -1.6960E-06 1.0070E-06 -
1.2620E-07 -1.6660E-06 9.7370E-07 -9.7980E-09 -1.3820E-07 8.8460E-08
3 -3.8560E-07 -7.7720E-06 4.8880E-06 4.3530E-08 9.7330E-07 -5.9840E-07
4.7810E-08 9.8240E-07 -6.0450E-07 4.9180E-08 9.6000E-07 -5.8810E-07
4.1560E-08 9.3290E-07 -5.6970E-07 5.3940E-08 1.0070E-06 -6.2270E-07
3.7140E-08 9.3020E-07 -5.6870E-07 5.6070E-08 1.0120E-06 -6.2660E-07
5.6340E-08 9.7420E-07 -5.9840E-07 1.6290E-08 1.9990E-07 -9.9410E-08
4 -1.1480E-08 -8.5850E-08 4.3530E-08 3.4310E-07 7.5400E-07 -3.5950E-07
-2.4050E-08 -1.0220E-07 5.4710E-08 -3.8270E-08 -1.0510E-07 4.1560E-08 -
2.2620E-10 -4.6620E-08 -6.3120E-09 -4.9680E-08 -1.3350E-07 8.8570E-08
2.5420E-08 -6.1490E-09 -2.7360E-08 -5.9100E-08 -1.4020E-07 9.6280E-08 -
7.4600E-08 -1.3410E-07 6.8400E-08 7.8480E-08 7.3270E-07 -4.1860E-07
5 -8.0060E-08 -1.6630E-06 9.7330E-07 7.5400E-07 1.3410E-05 -7.7570E-06
-9.0660E-08 -1.6780E-06 9.8330E-07 -1.0180E-07 -1.6600E-06 9.5940E-07 -

7.1190E-08 -1.6220E-06 9.2470E-07 -1.1130E-07 -1.7010E-06 1.0110E-06 -
5.0090E-08 -1.6040E-06 9.1620E-07 -1.1880E-07 -1.7040E-06 1.0150E-06 -
1.3010E-07 -1.6690E-06 9.7350E-07 1.3430E-08 -7.9730E-08 5.3570E-08
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6.3840E-08 9.7380E-07 -5.9710E-07 -6.0510E-09 7.1510E-08 -2.9280E-08
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3.4150E-07 8.8290E-07 -4.3390E-07 -3.0930E-08 -1.2110E-07 5.8830E-08 -
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3.8620E-08 -1.5100E-07 7.6930E-08 1.6820E-08 4.7760E-08 -2.7110E-08
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8.8290E-07 1.3500E-05 -7.8390E-06 -1.1480E-07 -1.6700E-06 9.7350E-07 -
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9.2060E-08 -1.6450E-06 9.5450E-07 -1.2190E-07 -1.7000E-06 1.0050E-06 -
1.2680E-07 -1.6740E-06 9.7930E-07 -3.5720E-08 -4.3470E-07 2.6060E-07
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5.4360E-08 9.5190E-07 -5.8700E-07 5.5570E-08 1.0140E-06 -6.2340E-07
5.2910E-08 9.8010E-07 -6.0250E-07 3.6210E-08 4.3730E-07 -2.4080E-07
  10 -3.5110E-08 -1.0610E-07 4.9180E-08 -3.8270E-08 -1.0180E-07 4.7990E-08
-3.0930E-08 -1.1480E-07 5.3150E-08 3.6300E-07 9.6820E-07 -4.6900E-07 -
3.9870E-08 -1.1240E-07 6.4980E-08 -2.2520E-08 -1.3180E-07 5.6010E-08 -
4.9380E-08 -9.9010E-08 5.7290E-08 -1.9700E-08 -1.4030E-07 5.9310E-08 -
1.6120E-08 -1.6210E-07 8.1130E-08 -2.3470E-08 -3.9360E-07 2.2370E-07
  11 -1.1130E-07 -1.6580E-06 9.6000E-07 -1.0510E-07 -1.6600E-06 9.5880E-07
-1.2110E-07 -1.6700E-06 9.6800E-07 9.6820E-07 1.3350E-05 -7.6480E-06 -
1.0320E-07 -1.6220E-06 9.1520E-07 -1.4000E-07 -1.6860E-06 9.9050E-07 -
8.3350E-08 -1.6090E-06 9.0980E-07 -1.4680E-07 -1.6860E-06 9.9370E-07 -
1.5720E-07 -1.6510E-06 9.5230E-07 -1.8010E-08 -7.9980E-08 4.3660E-08
  12   4.8480E-08 9.6310E-07 -5.8810E-07 4.1560E-08 9.5940E-07 -5.8360E-07
5.8830E-08 9.7350E-07 -5.9570E-07 -4.6900E-07 -7.6480E-06 4.7680E-06
3.7730E-08 9.0250E-07 -5.2890E-07 8.0310E-08 1.0020E-06 -6.2640E-07
1.7170E-08 8.8970E-07 -5.2310E-07 8.7950E-08 1.0050E-06 -6.3160E-07
9.6900E-08 9.5290E-07 -5.7990E-07 -1.8380E-08 -2.6780E-07 1.7020E-07
  13 -9.9070E-09 -8.4350E-08 4.1560E-08 -2.2620E-10 -7.1190E-08 3.0990E-08
-2.4000E-08 -1.0150E-07 5.3430E-08 -3.9870E-08 -1.0320E-07 3.7730E-08
3.5000E-07 7.6570E-07 -3.8180E-07 -5.2710E-08 -1.3430E-07 9.0180E-08
3.1610E-08 2.1030E-09 -3.6570E-08 -6.3240E-08 -1.4090E-07 9.8320E-08 -
8.0460E-08 -1.3220E-07 6.5980E-08 8.7020E-08 8.3210E-07 -4.7690E-07
  14 -6.2650E-08 -1.6290E-06 9.3290E-07 -4.6620E-08 -1.6220E-06 9.2350E-07
-8.6690E-08 -1.6510E-06 9.4920E-07 -1.1240E-07 -1.6220E-06 9.0250E-07
7.6570E-07 1.3150E-05 -7.4620E-06 -1.3470E-07 -1.6880E-06 1.0030E-06
8.2260E-09 -1.5080E-06 8.1130E-07 -1.5200E-07 -1.6890E-06 1.0110E-06 -
1.7850E-07 -1.6320E-06 9.2950E-07 9.2890E-08 8.2820E-07 -4.8920E-07
  15   1.1720E-08 9.3710E-07 -5.6970E-07 -6.3120E-09 9.2470E-07 -5.5650E-07
3.7940E-08 9.5680E-07 -5.8530E-07 6.4980E-08 9.1520E-07 -5.2890E-07 -
3.8180E-07 -7.4620E-06 4.6450E-06 9.1810E-08 1.0030E-06 -6.4770E-07 -
6.7840E-08 7.8980E-07 -4.2740E-07 1.1110E-07 1.0060E-06 -6.5810E-07
1.3810E-07 9.2890E-07 -5.6020E-07 -1.2730E-07 -1.3110E-06 7.7430E-07
  16 -4.2570E-08 -1.1290E-07 5.3940E-08 -4.9680E-08 -1.1130E-07 5.5670E-08

-3.2770E-08 -1.1870E-07 5.5380E-08 -2.2520E-08 -1.4000E-07 8.0310E-08 -
5.2710E-08 -1.3470E-07 9.1810E-08 3.8730E-07 1.0580E-06 -5.6280E-07 -
7.3960E-08 -1.3060E-07 8.8740E-08 -6.0200E-09 -1.3950E-07 4.9350E-08
3.9370E-09 -1.7060E-07 8.7750E-08 -5.6920E-08 -7.6680E-07 4.3950E-07
  17 -1.3260E-07 -1.6940E-06 1.0070E-06 -1.3350E-07 -1.7010E-06 1.0120E-06
-1.3230E-07 -1.6980E-06 1.0100E-06 -1.3180E-07 -1.6860E-06 1.0020E-06 -
1.3430E-07 -1.6880E-06 1.0030E-06 1.0580E-06 1.3650E-05 -8.0500E-06 -
1.3530E-07 -1.6940E-06 1.0070E-06 -1.2970E-07 -1.7000E-06 1.0100E-06 -
1.2880E-07 -1.6810E-06 9.9820E-07 -8.4480E-08 -7.5040E-07 4.5610E-07
  18   8.0530E-08 1.0040E-06 -6.2270E-07 8.8570E-08 1.0110E-06 -6.2940E-07
6.9540E-08 1.0030E-06 -6.2060E-07 5.6010E-08 9.9050E-07 -6.2640E-07
9.0180E-08 1.0030E-06 -6.4770E-07 -5.6280E-07 -8.0500E-06 5.1480E-06
1.1420E-07 1.0250E-06 -6.5970E-07 3.9620E-08 1.0150E-06 -6.0960E-07
2.4340E-08 9.9880E-07 -6.2100E-07 1.1260E-07 1.1680E-06 -6.6760E-07
  19   6.9000E-09 -6.9230E-08 3.7140E-08 2.5420E-08 -5.0090E-08 2.0180E-08
-1.9750E-08 -9.2060E-08 5.4360E-08 -4.9380E-08 -8.3350E-08 1.7170E-08
3.1610E-08 8.2260E-09 -6.7840E-08 -7.3960E-08 -1.3530E-07 1.1420E-07
4.0930E-07 6.7330E-07 -3.5710E-07 -9.3670E-08 -1.4040E-07 1.2560E-07 -
1.2520E-07 -1.1080E-07 5.5950E-08 1.6260E-07 1.6780E-06 -9.5930E-07
  20 -2.8950E-08 -1.6160E-06 9.3020E-07 -6.1490E-09 -1.6040E-06 9.1530E-07
-6.2710E-08 -1.6450E-06 9.5190E-07 -9.9010E-08 -1.6090E-06 8.8970E-07
2.1030E-09 -1.5080E-06 7.8980E-07 -1.3060E-07 -1.6940E-06 1.0250E-06
6.7330E-07 1.3110E-05 -7.4680E-06 -1.5510E-07 -1.6960E-06 1.0380E-06 -
1.9270E-07 -1.6250E-06 9.2820E-07 1.6980E-07 1.4520E-06 -8.4350E-07
  21 -5.9860E-09 9.3140E-07 -5.6870E-07 -2.7360E-08 9.1620E-07 -5.5280E-07
2.5040E-08 9.5450E-07 -5.8700E-07 5.7290E-08 9.0980E-07 -5.2310E-07 -
3.6570E-08 8.1130E-07 -4.2740E-07 8.8740E-08 1.0070E-06 -6.5970E-07 -
3.5710E-07 -7.4680E-06 4.6620E-06 1.1160E-07 1.0110E-06 -6.7180E-07
1.4400E-07 9.2630E-07 -5.6040E-07 -1.6610E-07 -1.6160E-06 9.4710E-07
  22 -4.8920E-08 -1.1820E-07 5.6070E-08 -5.9100E-08 -1.1880E-07 6.0070E-08
-3.4740E-08 -1.2190E-07 5.5570E-08 -1.9700E-08 -1.4680E-07 8.7950E-08 -
6.3240E-08 -1.5200E-07 1.1110E-07 -6.0200E-09 -1.2970E-07 3.9620E-08 -
9.3670E-08 -1.5510E-07 1.1160E-07 4.1730E-07 1.1200E-06 -6.1340E-07
1.9060E-08 -1.7750E-07 9.1510E-08 -8.3650E-08 -1.0600E-06 6.0720E-07
  23 -1.3980E-07 -1.6960E-06 1.0120E-06 -1.4020E-07 -1.7040E-06 1.0170E-06
-1.4010E-07 -1.7000E-06 1.0140E-06 -1.4030E-07 -1.6860E-06 1.0050E-06 -
1.4090E-07 -1.6890E-06 1.0060E-06 -1.3950E-07 -1.7000E-06 1.0150E-06 -
1.4040E-07 -1.6960E-06 1.0110E-06 1.1200E-06 1.3660E-05 -8.0810E-06 -
1.3900E-07 -1.6780E-06 1.0000E-06 -8.7370E-08 -6.9260E-07 4.2660E-07
  24   8.7120E-08 1.0070E-06 -6.2660E-07 9.6280E-08 1.0150E-06 -6.3420E-07
7.4550E-08 1.0050E-06 -6.2340E-07 5.9310E-08 9.9370E-07 -6.3160E-07
9.8320E-08 1.0110E-06 -6.5810E-07 4.9350E-08 1.0100E-06 -6.0960E-07
1.2560E-07 1.0380E-06 -6.7180E-07 -6.1340E-07 -8.0810E-06 5.1900E-06
2.3080E-08 1.0000E-06 -6.2380E-07 1.2600E-07 1.2680E-06 -7.2650E-07
  25 -5.9620E-08 -1.2620E-07 5.6340E-08 -7.4600E-08 -1.3010E-07 6.3840E-08
-3.8620E-08 -1.2680E-07 5.2910E-08 -1.6120E-08 -1.5720E-07 9.6900E-08 -
8.0460E-08 -1.7850E-07 1.3810E-07 3.9370E-09 -1.2880E-07 2.4340E-08 -
1.2520E-07 -1.9270E-07 1.4400E-07 1.9060E-08 -1.3900E-07 2.3080E-08
4.8260E-07 1.1790E-06 -5.9930E-07 -1.2620E-07 -1.5190E-06 8.6700E-07
  26 -1.4070E-07 -1.6660E-06 9.7420E-07 -1.3410E-07 -1.6690E-06 9.7380E-07
-1.5100E-07 -1.6740E-06 9.8010E-07 -1.6210E-07 -1.6510E-06 9.5290E-07 -
1.3220E-07 -1.6320E-06 9.2890E-07 -1.7060E-07 -1.6810E-06 9.9880E-07 -
1.1080E-07 -1.6250E-06 9.2630E-07 -1.7750E-07 -1.6780E-06 1.0000E-06
1.1790E-06 1.3390E-05 -7.7350E-06 -4.0640E-08 7.0750E-09 3.5730E-09

27 7.1740E-08 9.7370E-07 -5.9840E-07 6.8400E-08 9.7350E-07 -5.9710E-07
7.6930E-08 9.7930E-07 -6.0250E-07 8.1130E-08 9.5230E-07 -5.7990E-07
6.5980E-08 9.2950E-07 -5.6020E-07 8.7750E-08 9.9820E-07 -6.2100E-07
5.5950E-08 9.2820E-07 -5.6040E-07 9.1510E-08 1.0000E-06 -6.2380E-07 -
5.9930E-07 -7.7350E-06 4.8540E-06 2.6610E-08 4.9660E-08 -1.6840E-08
28 5.6530E-08 -9.7980E-09 1.6290E-08 7.8480E-08 1.3430E-08 -6.0510E-09
1.6820E-08 -3.5720E-08 3.6210E-08 -2.3470E-08 -1.8010E-08 -1.8380E-08
8.7020E-08 9.2890E-08 -1.2730E-07 -5.6920E-08 -8.4480E-08 1.1260E-07
1.6260E-07 1.6980E-07 -1.6610E-07 -8.3650E-08 -8.7370E-08 1.2600E-07 -
1.2620E-07 -4.0640E-08 2.6610E-08 3.6250E-06 1.2660E-05 -6.5130E-06
29 4.4970E-07 -1.3820E-07 1.9990E-07 7.3270E-07 -7.9730E-08 7.1510E-08
4.7760E-08 -4.3470E-07 4.3730E-07 -3.9360E-07 -7.9980E-08 -2.6780E-07
8.3210E-07 8.2820E-07 -1.3110E-06 -7.6680E-07 -7.5040E-07 1.1680E-06
1.6780E-06 1.4520E-06 -1.6160E-06 -1.0600E-06 -6.9260E-07 1.2680E-06 -
1.5190E-06 7.0750E-09 4.9660E-08 1.2660E-05 1.9120E-04 -1.1050E-04
30 -2.5610E-07 8.8460E-08 -9.9410E-08 -4.1860E-07 5.3570E-08 -2.9280E-08
-2.7110E-08 2.6060E-07 -2.4080E-07 2.2370E-07 4.3660E-08 1.7020E-07 -
4.7690E-07 -4.8920E-07 7.7430E-07 4.3950E-07 4.5610E-07 -6.6760E-07 -
9.5930E-07 -8.4350E-07 9.4710E-07 6.0720E-07 4.2660E-07 -7.2650E-07
8.6700E-07 3.5730E-09 -1.6840E-08 -6.5130E-06 -1.1050E-04 6.7630E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000036250 0.0000126600 -0.0000065130
0.0000126600 0.0001912000 -0.0001105000
-0.0000065130 -0.0001105000 0.0000676300

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000035627 0.0000006282 -0.0000136774
0.0000006282 0.0000028510 0.0000029479
-0.0000136774 0.0000029479 0.0002560413

Horizontal network accuracy = 0.00441 meters.
Vertical network accuracy = 0.03138 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	2277.748	2481.159	4375.128
eng6	qcfv	19476.376	-563.917	-936.589
dstr	qcfv	-23011.058	4278.445	7265.078
houm	qcfv	-56218.867	-15904.349	-28550.853
gris	qcfv	18031.470	-34135.932	-60095.489
gvms	qcfv	-73025.892	24309.761	40804.442
bvhs	qcfv	71531.924	-29973.441	-53204.963
sjb1	qcfv	-92513.417	29216.544	48624.471
fshs	qcfv	-131329.302	-2740.017	-8038.244

Covariance matrix of the 9 vectors
1 3.8492E-06 1.3021E-05 -6.6588E-06 3.4785E-06 1.2117E-05 -6.2134E-06
3.5262E-06 1.2141E-05 -6.2387E-06 3.5568E-06 1.2117E-05 -6.1900E-06
3.4715E-06 1.2055E-05 -6.1179E-06 3.5828E-06 1.2162E-05 -6.2890E-06
3.4128E-06 1.2012E-05 -6.0968E-06 3.6032E-06 1.2158E-05 -6.2958E-06
3.6351E-06 1.2110E-05 -6.2118E-06
2 1.3021E-05 2.0489E-04 -1.1856E-04 1.1851E-05 1.8975E-04 -1.0969E-04

1.2524E-05 1.9010E-04 -1.1004E-04 1.2957E-05 1.8976E-04 -1.0936E-04
1.1753E-05 1.8888E-04 -1.0834E-04 1.3324E-05 1.9039E-04 -1.1075E-04
1.0923E-05 1.8827E-04 -1.0804E-04 1.3612E-05 1.9033E-04 -1.1085E-04
1.4063E-05 1.8967E-04 -1.0966E-04
3 -6.6588E-06 -1.1856E-04 7.2717E-05 -6.0672E-06 -1.0978E-04 6.7160E-05
-6.4544E-06 -1.0998E-04 6.7366E-05 -6.7038E-06 -1.0978E-04 6.6971E-05 -
6.0108E-06 -1.0928E-04 6.6385E-05 -6.9149E-06 -1.1015E-04 6.7774E-05 -
5.5328E-06 -1.0893E-04 6.6214E-05 -7.0804E-06 -1.1011E-04 6.7829E-05 -
7.3399E-06 -1.0973E-04 6.7148E-05
4 3.4785E-06 1.1851E-05 -6.0672E-06 3.8111E-06 1.2668E-05 -6.4478E-06
3.5057E-06 1.1861E-05 -6.0759E-06 3.5317E-06 1.1840E-05 -6.0345E-06
3.4593E-06 1.1788E-05 -5.9734E-06 3.5538E-06 1.1878E-05 -6.1184E-06
3.4093E-06 1.1751E-05 -5.9557E-06 3.5711E-06 1.1874E-05 -6.1241E-06
3.5981E-06 1.1834E-05 -6.0526E-06
5 1.2117E-05 1.8975E-04 -1.0978E-04 1.2668E-05 2.0477E-04 -1.1838E-04
1.2508E-05 1.9004E-04 -1.1001E-04 1.2938E-05 1.8970E-04 -1.0933E-04
1.1743E-05 1.8883E-04 -1.0832E-04 1.3302E-05 1.9033E-04 -1.1071E-04
1.0918E-05 1.8822E-04 -1.0802E-04 1.3588E-05 1.9027E-04 -1.1081E-04
1.4035E-05 1.8960E-04 -1.0963E-04
6 -6.2134E-06 -1.0969E-04 6.7160E-05 -6.4478E-06 -1.1838E-04 7.2557E-05
-6.4366E-06 -1.0985E-04 6.7295E-05 -6.6827E-06 -1.0966E-04 6.6905E-05 -
5.9991E-06 -1.0916E-04 6.6328E-05 -6.8908E-06 -1.1002E-04 6.7697E-05 -
5.5275E-06 -1.0881E-04 6.6159E-05 -7.0541E-06 -1.0998E-04 6.7752E-05 -
7.3101E-06 -1.0960E-04 6.7079E-05
7 3.5262E-06 1.2524E-05 -6.4544E-06 3.5057E-06 1.2508E-05 -6.4366E-06
3.9329E-06 1.3531E-05 -6.9560E-06 3.6007E-06 1.2509E-05 -6.4087E-06
3.4972E-06 1.2433E-05 -6.3207E-06 3.6323E-06 1.2564E-05 -6.5290E-06
3.4258E-06 1.2380E-05 -6.2948E-06 3.6571E-06 1.2560E-05 -6.5373E-06
3.6958E-06 1.2502E-05 -6.4356E-06
8 1.2141E-05 1.9010E-04 -1.0998E-04 1.1861E-05 1.9004E-04 -1.0985E-04
1.3531E-05 2.0557E-04 -1.1904E-04 1.2975E-05 1.9004E-04 -1.0952E-04
1.1762E-05 1.8916E-04 -1.0849E-04 1.3344E-05 1.9069E-04 -1.1093E-04
1.0926E-05 1.8854E-04 -1.0819E-04 1.3634E-05 1.9063E-04 -1.1102E-04
1.4088E-05 1.8995E-04 -1.0983E-04
9 -6.2387E-06 -1.1004E-04 6.7366E-05 -6.0759E-06 -1.1001E-04 6.7295E-05
-6.9560E-06 -1.1904E-04 7.3047E-05 -6.7198E-06 -1.1001E-04 6.7105E-05 -
6.0189E-06 -1.0950E-04 6.6511E-05 -6.9333E-06 -1.1038E-04 6.7918E-05 -
5.5355E-06 -1.0914E-04 6.6337E-05 -7.1008E-06 -1.1035E-04 6.7974E-05 -
7.3633E-06 -1.0996E-04 6.7285E-05
10 3.5568E-06 1.2957E-05 -6.7038E-06 3.5317E-06 1.2938E-05 -6.6827E-06
3.6007E-06 1.2975E-05 -6.7198E-06 4.0349E-06 1.4040E-05 -7.1873E-06
3.5216E-06 1.2848E-05 -6.5444E-06 3.6829E-06 1.3006E-05 -6.7933E-06
3.4365E-06 1.2785E-05 -6.5133E-06 3.7124E-06 1.3001E-05 -6.8034E-06
3.7586E-06 1.2932E-05 -6.6822E-06
11 1.2117E-05 1.8976E-04 -1.0978E-04 1.1840E-05 1.8970E-04 -1.0966E-04
1.2509E-05 1.9004E-04 -1.1001E-04 1.4040E-05 2.0471E-04 -1.1792E-04
1.1743E-05 1.8883E-04 -1.0832E-04 1.3305E-05 1.9034E-04 -1.1072E-04
1.0917E-05 1.8822E-04 -1.0802E-04 1.3591E-05 1.9029E-04 -1.1082E-04
1.4040E-05 1.8962E-04 -1.0964E-04
12 -6.1900E-06 -1.0936E-04 6.6971E-05 -6.0345E-06 -1.0933E-04 6.6905E-05
-6.4087E-06 -1.0952E-04 6.7105E-05 -7.1873E-06 -1.1792E-04 7.2058E-05 -
5.9800E-06 -1.0884E-04 6.6157E-05 -6.8538E-06 -1.0969E-04 6.7501E-05 -
5.5181E-06 -1.0850E-04 6.5990E-05 -7.0139E-06 -1.0965E-04 6.7555E-05 -
7.2647E-06 -1.0928E-04 6.6897E-05

13 3.4715E-06 1.1753E-05 -6.0108E-06 3.4593E-06 1.1743E-05 -5.9991E-06
3.4972E-06 1.1762E-05 -6.0189E-06 3.5216E-06 1.1743E-05 -5.9800E-06
3.8010E-06 1.2501E-05 -6.2906E-06 3.5422E-06 1.1778E-05 -6.0585E-06
3.4070E-06 1.1660E-05 -5.9066E-06 3.5584E-06 1.1774E-05 -6.0638E-06
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1.4127E-05 1.9021E-04 -1.0998E-04
  24 -6.2958E-06 -1.1085E-04 6.7829E-05 -6.1241E-06 -1.1081E-04 6.7752E-05
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7.4829E-06 -1.1077E-04 6.7750E-05
  25   3.6351E-06 1.4063E-05 -7.3399E-06 3.5981E-06 1.4035E-05 -7.3101E-06
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3.4634E-06 1.3817E-05 -7.0699E-06 3.8539E-06 1.4127E-05 -7.4829E-06
4.3600E-06 1.5399E-05 -8.0059E-06
  26   1.2110E-05 1.8967E-04 -1.0973E-04 1.1834E-05 1.8960E-04 -1.0960E-04
1.2502E-05 1.8995E-04 -1.0996E-04 1.2932E-05 1.8962E-04 -1.0928E-04
1.1736E-05 1.8873E-04 -1.0826E-04 1.3297E-05 1.9026E-04 -1.1067E-04
1.0912E-05 1.8812E-04 -1.0796E-04 1.3583E-05 1.9021E-04 -1.1077E-04
1.5399E-05 2.0458E-04 -1.1829E-04
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-6.4356E-06 -1.0983E-04 6.7285E-05 -6.6822E-06 -1.0964E-04 6.6897E-05 -
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8.0059E-06 -1.1829E-04 7.2518E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 4.6366E-01 -3.9801E-01 9.0819E-01 4.3159E-01 -3.7179E-01
9.0627E-01 4.3161E-01 -3.7205E-01 9.0252E-01 4.3166E-01 -3.7168E-01
9.0759E-01 4.3157E-01 -3.7079E-01 8.9901E-01 4.3154E-01 -3.7234E-01
9.0320E-01 4.3140E-01 -3.7037E-01 8.9512E-01 4.3150E-01 -3.7235E-01
8.8732E-01 4.3156E-01 -3.7180E-01
   2   4.6366E-01 1.0000E+00 -9.7133E-01 4.2411E-01 9.2641E-01 -8.9962E-01
4.4119E-01 9.2628E-01 -8.9951E-01 4.5065E-01 9.2657E-01 -9.0002E-01
4.2117E-01 9.2685E-01 -9.0000E-01 4.5824E-01 9.2597E-01 -8.9877E-01
3.9622E-01 9.2681E-01 -8.9961E-01 4.6348E-01 9.2591E-01 -8.9859E-01
4.7051E-01 9.2641E-01 -8.9968E-01
   3 -3.9801E-01 -9.7133E-01 1.0000E+00 -3.6445E-01 -8.9965E-01 9.2461E-01
-3.8166E-01 -8.9952E-01 9.2432E-01 -3.9137E-01 -8.9981E-01 9.2519E-01 -
3.6155E-01 -9.0011E-01 9.2569E-01 -3.9920E-01 -8.9921E-01 9.2321E-01 -
3.3690E-01 -9.0008E-01 9.2544E-01 -4.0469E-01 -8.9916E-01 9.2296E-01 -
4.1222E-01 -8.9966E-01 9.2468E-01
   4   9.0819E-01 4.2411E-01 -3.6445E-01 1.0000E+00 4.5346E-01 -3.8775E-01
9.0550E-01 4.2375E-01 -3.6415E-01 9.0062E-01 4.2390E-01 -3.6414E-01
9.0889E-01 4.2412E-01 -3.6383E-01 8.9617E-01 4.2357E-01 -3.6405E-01
9.0679E-01 4.2415E-01 -3.6360E-01 8.9156E-01 4.2354E-01 -3.6400E-01
8.8268E-01 4.2381E-01 -3.6408E-01
   5   4.3159E-01 9.2641E-01 -8.9965E-01 4.5346E-01 1.0000E+00 -9.7121E-01
4.4076E-01 9.2624E-01 -8.9948E-01 4.5012E-01 9.2654E-01 -9.0002E-01
4.2093E-01 9.2687E-01 -9.0007E-01 4.5763E-01 9.2591E-01 -8.9869E-01
3.9618E-01 9.2684E-01 -8.9970E-01 4.6280E-01 9.2585E-01 -8.9850E-01
4.6973E-01 9.2638E-01 -8.9965E-01
   6 -3.7179E-01 -8.9962E-01 9.2461E-01 -3.8775E-01 -9.7121E-01 1.0000E+00
-3.8103E-01 -8.9945E-01 9.2437E-01 -3.9056E-01 -8.9976E-01 9.2530E-01 -
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4.1100E-01 -8.9960E-01 9.2475E-01
   7   9.0627E-01 4.4119E-01 -3.8166E-01 9.0550E-01 4.4076E-01 -3.8103E-01

1.0000E+00 4.7587E-01 -4.1040E-01 9.0389E-01 4.4086E-01 -3.8069E-01
9.0451E-01 4.4034E-01 -3.7898E-01 9.0169E-01 4.4105E-01 -3.8242E-01
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8.9250E-01 4.4075E-01 -3.8108E-01
   8 4.3161E-01 9.2628E-01 -8.9952E-01 4.2375E-01 9.2624E-01 -8.9945E-01
4.7587E-01 1.0000E+00 -9.7141E-01 4.5050E-01 9.2642E-01 -8.9985E-01
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9.0389E-01 4.5050E-01 -3.9141E-01 1.0000E+00 4.8851E-01 -4.2151E-01
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4.0986E-01 -9.0009E-01 9.2543E-01
  13 9.0759E-01 4.2117E-01 -3.6155E-01 9.0889E-01 4.2093E-01 -3.6124E-01
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4.2022E-01 1.0000E+00 -9.7006E-01 4.6003E-01 9.2608E-01 -8.9845E-01
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22 8.9512E-01 4.6348E-01 -4.0469E-01 8.9156E-01 4.6280E-01 -4.0363E-01
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4.1583E-01 -8.9864E-01 9.2314E-01
25 8.8732E-01 4.7051E-01 -4.1222E-01 8.8268E-01 4.6973E-01 -4.1100E-01
8.9250E-01 4.7057E-01 -4.1260E-01 8.9610E-01 4.6995E-01 -4.0986E-01
8.8033E-01 4.6783E-01 -4.0515E-01 8.9876E-01 4.7124E-01 -4.1546E-01
8.6124E-01 4.6625E-01 -4.0354E-01 8.9958E-01 4.7111E-01 -4.1583E-01
1.0000E+00 5.1560E-01 -4.5024E-01
26 4.3156E-01 9.2641E-01 -8.9966E-01 4.2381E-01 9.2638E-01 -8.9960E-01
4.4075E-01 9.2628E-01 -8.9952E-01 4.5012E-01 9.2660E-01 -9.0009E-01
4.2088E-01 9.2683E-01 -9.0005E-01 4.5767E-01 9.2602E-01 -8.9881E-01
3.9613E-01 9.2675E-01 -8.9962E-01 4.6286E-01 9.2599E-01 -8.9864E-01
5.1560E-01 1.0000E+00 -9.7116E-01
27 -3.7180E-01 -8.9968E-01 9.2468E-01 -3.6408E-01 -8.9965E-01 9.2475E-01
-3.8108E-01 -8.9955E-01 9.2448E-01 -3.9064E-01 -8.9987E-01 9.2543E-01 -
3.6120E-01 -9.0013E-01 9.2594E-01 -3.9839E-01 -8.9929E-01 9.2337E-01 -
3.3684E-01 -9.0008E-01 9.2567E-01 -4.0381E-01 -8.9926E-01 9.2314E-01 -
4.5024E-01 -9.7116E-01 1.0000E+00

G-FILE for the vectors

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C00100009-1313293019 20 -27400166 143 -80382438 85
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17 4315397 1 18 -3723439 1 19 9032027 1 20 4313952 1 21 -3703683 D 1
22 8951183 1 23 4314972 1 24 -3723458 1 25 8873187 1 26 4315569 D 1
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9260755 20 24 -8984473 20 25 4662497 20 26 9267491 20 27 -9000834 D 21 22 -
3974796 21 23 -8987841 21 24 9229444 21 25 -4035436 21 26 -8996244 D 21 27
9256746 22 23 5066067 22 24 -4444926 22 25 8995760 22 26 4628631 D 22 27 -
4038063 23 24 -9717848 23 25 4711141 23 26 9259948 23 27 -8992595 D 24 25 -
4158267 24 26 -8986398 24 27 9231428 25 26 5155988 25 27 -4502414 D 26 27 -
9711636

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-13881.775	-5534357.993	3159695.784
eng6	-13881.773	-5534357.976	3159695.766
dstr	-13881.773	-5534357.952	3159695.759
houm	-13881.771	-5534357.985	3159695.771
gris	-13881.776	-5534357.998	3159695.788
gvms	-13881.772	-5534357.970	3159695.767
bvhs	-13881.775	-5534357.988	3159695.782
sjb1	-13881.779	-5534358.023	3159695.801
fshs	-13881.770	-5534357.966	3159695.776

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.003	0.006	-0.003	0.003	0.001	-0.007
eng6	0.006	0.023	-0.020	0.006	-0.006	-0.030
dstr	0.005	0.047	-0.028	0.005	-0.001	-0.054
houm	0.007	0.014	-0.015	0.007	-0.006	-0.020

gris 0.002 0.001 0.002 0.002
0.002 0.000
gvms 0.007 0.029 -0.019 0.006 -
0.002 -0.034
bvhs 0.004 0.011 -0.004 0.004
0.002 -0.012
sjb1 -0.001 -0.024 0.015 -0.001
0.001 0.028
fshs 0.009 0.033 -0.010 0.009
0.007 -0.034

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 507073.688
Easting (X) [feet] 3657800.554
Convergence [degrees] 0.59482849
Point Scale 0.99992764
Combined Factor 0.99993182

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.905 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.413
scatter (mean square distance from rover) is 6207.691
average edop for rover is 0.870
average ndop for rover is 1.000
average hdop for rover is 1.325
average vdop for rover is 2.530
average gdop for rover is 3.440

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:23 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA15.O00 OP1335486028320

FILE: QCFVA15.O00 OP1335486028320

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069v.12o TIME: 00:23:08 UTC

SOFTWARE: rsgps 1.37 RS1.prl 1.73 START: 2012/03/09 21:10:25
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 21:31:36
NAV FILE: brdc0690.12n OBS USED: 1728 / 2259 : 76%
ANT NAME: LEIAT502 NONE QUALITY IND. 32.10/ 19.17
ARP HEIGHT: 1.488 NORMALIZED RMS: 0.333

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18822)

X:	-13544.176(m)	0.003(m)	-13544.908(m)	0.003(m)
Y:	-5530583.277(m)	0.014(m)	-5530581.786(m)	0.014(m)
Z:	3166263.041(m)	0.009(m)	3166262.833(m)	0.009(m)

LAT:	29 57 26.33809	0.004(m)	29 57 26.35638	0.004(m)
E LON:	269 51 34.86680	0.003(m)	269 51 34.83936	0.003(m)
W LON:	90 8 25.13320	0.003(m)	90 8 25.16064	0.003(m)
EL HGT:	-24.295(m)	0.016(m)	-25.689(m)	0.016(m)
ORTHO HGT:	1.733(m)	0.020(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3317496.688	162134.597
Easting (X) [meters]	775985.833	1115148.553
Convergence [degrees]	1.42890144	0.59652442
Point Scale	1.00053986	0.99992603
Combined Factor	1.00054368	0.99992985

US NATIONAL GRID DESIGNATOR: 15RYP7598517496(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	3201.3

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 21011.0
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 57650.2
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 83522.0
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 92775.5
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 98896.2
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 132227.0
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 132633.9
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 151942.3

NEAREST NGS PUBLISHED CONTROL POINT
AU2766 NEW ORLEANS SHIP COMPRESS TK N295738.806 W0900809.621 566.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.034	-5531876.846	3164070.917
eng6	5594.596	-5534921.904	3158759.188
covg	-9174.162	-5501675.352	3215950.513
gvms	-86907.673	-5510048.240	3200500.229
lmcn	-64275.993	-5568696.889	3098580.617
bvhs	57650.146	-5564331.458	3106490.833
mspk	82001.476	-5483970.039	3244889.896
fshs	-145211.081	-5537098.009	3151657.543
msga	130192.489	-5504708.302	3208174.555
qcfv	-13544.908	-5530581.786	3166262.833

Covariance matrix of the stations:
1 2.6690E-07 -5.1090E-07 3.2920E-07 -1.9760E-08 6.8820E-08 -4.2880E-08
-1.8410E-08 6.4440E-08 -4.3780E-08 -1.3360E-08 3.9530E-08 -2.9090E-08 -
1.5270E-08 4.5940E-08 -2.7530E-08 -2.4000E-08 8.3880E-08 -4.7890E-08 -
2.5190E-08 8.9040E-08 -5.9330E-08 -1.0440E-08 1.8570E-08 -1.5350E-08 -
2.9300E-08 1.0070E-07 -6.3290E-08 1.9030E-08 -2.9930E-08 1.8070E-08
2 -5.1090E-07 9.6870E-06 -5.1930E-06 6.5660E-08 -1.2040E-06 6.5110E-07
6.2970E-08 -1.1880E-06 6.5040E-07 5.4160E-08 -1.1910E-06 6.5000E-07
5.8080E-08 -1.2180E-06 6.5090E-07 7.2820E-08 -1.2190E-06 6.5210E-07
7.2020E-08 -1.1760E-06 6.4650E-07 4.7510E-08 -1.1970E-06 6.4690E-07
7.7680E-08 -1.1820E-06 6.4470E-07 6.1370E-09 1.1620E-08 -5.2530E-11
3 3.2920E-07 -5.1930E-06 3.0520E-06 -4.2470E-08 6.4960E-07 -3.6530E-07
-4.1450E-08 6.6250E-07 -3.8210E-07 -3.0670E-08 6.5880E-07 -3.7790E-07 -
3.2570E-08 6.3590E-07 -3.4880E-07 -4.8070E-08 6.3730E-07 -3.5040E-07 -
5.3470E-08 6.6020E-07 -3.8510E-07 -2.2230E-08 6.4190E-07 -3.6050E-07 -
5.8200E-08 6.4640E-07 -3.7050E-07 1.5470E-09 -5.5720E-08 4.7760E-08
4 -1.9760E-08 6.5660E-08 -4.2470E-08 2.7310E-07 -5.5300E-07 3.4950E-07
-1.8930E-08 6.6210E-08 -3.8450E-08 -2.4070E-08 3.9490E-08 -2.5410E-08 -
2.4000E-08 4.8370E-08 -3.9070E-08 -1.7480E-08 9.2180E-08 -6.0540E-08 -
1.4580E-08 1.0020E-07 -5.4890E-08 -2.9340E-08 2.2000E-08 -2.0960E-08 -
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5 6.8820E-08 -1.2040E-06 6.4960E-07 -5.5300E-07 9.7060E-06 -5.1910E-06
6.8740E-08 -1.1930E-06 6.5420E-07 5.5330E-08 -1.1970E-06 6.5370E-07

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9.0550E-08 -1.1780E-06 6.4290E-07 1.2300E-08 -1.2860E-07 7.4460E-08
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6.2500E-08 6.5640E-07 -3.8750E-07 -1.5370E-08 6.4410E-07 -3.5850E-07 -
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  8 6.4440E-08 -1.1880E-06 6.6250E-07 6.6210E-08 -1.1930E-06 6.6450E-07
-5.1810E-07 9.6170E-06 -5.3000E-06 5.7230E-08 -1.1790E-06 6.6180E-07
6.0830E-08 -1.2090E-06 6.6680E-07 7.2170E-08 -1.2100E-06 6.6790E-07
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7.4800E-08 -1.1740E-06 6.5750E-07 1.2140E-08 -1.8140E-07 1.2500E-07
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3.4060E-07 -5.3000E-06 3.2150E-06 -6.8040E-08 6.5120E-07 -3.7240E-07 -
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3.5730E-08 -1.2000E-06 6.6130E-07 -7.2310E-09 -2.7570E-07 1.7200E-07
 12 -2.9090E-08 6.5000E-07 -3.7790E-07 -2.5410E-08 6.5370E-07 -3.8070E-07
-2.7980E-08 6.6180E-07 -3.7240E-07 2.0900E-07 -5.2870E-06 3.1730E-06 -
4.2410E-08 6.3530E-07 -3.8620E-07 -1.4940E-08 6.5800E-07 -3.9340E-07 -
8.6740E-09 6.8950E-07 -3.7970E-07 -6.0880E-08 6.4100E-07 -3.7930E-07
1.9810E-10 6.9770E-07 -3.9160E-07 -7.6140E-09 3.2940E-07 -1.7950E-07
 13 -1.5270E-08 5.8080E-08 -3.2570E-08 -2.4000E-08 6.0120E-08 -3.1210E-08
-1.8080E-08 6.0830E-08 -6.2870E-08 2.2950E-08 4.2420E-08 -4.2410E-08
2.8890E-07 -3.7860E-07 2.9120E-07 -4.8450E-08 5.6910E-08 -3.3020E-09 -
6.4120E-08 5.2210E-08 -7.5230E-08 5.4800E-08 9.2770E-09 4.1270E-09 -
8.5450E-08 3.8590E-08 -4.7570E-08 3.8720E-08 -3.8050E-07 2.1500E-07
 14 4.5940E-08 -1.2180E-06 6.3590E-07 4.8370E-08 -1.2240E-06 6.3810E-07
4.5600E-08 -1.2090E-06 6.3810E-07 3.5960E-08 -1.2070E-06 6.3530E-07 -
3.7860E-07 9.8270E-06 -5.0890E-06 5.6010E-08 -1.2400E-06 6.3930E-07
5.5810E-08 -1.2010E-06 6.3700E-07 2.8750E-08 -1.2090E-06 6.2970E-07
6.2000E-08 -1.2080E-06 6.3550E-07 -8.1860E-09 -1.8420E-07 8.3510E-08
 15 -2.7530E-08 6.5090E-07 -3.4880E-07 -3.9070E-08 6.4740E-07 -3.4330E-07
-3.2330E-08 6.6680E-07 -3.9880E-07 2.3640E-08 6.6940E-07 -3.8620E-07
2.9120E-07 -5.0890E-06 2.9470E-06 -7.0070E-08 6.1270E-07 -2.8750E-07 -
9.3770E-08 6.2520E-07 -3.9900E-07 6.8360E-08 6.3550E-07 -3.2690E-07 -
1.2020E-07 5.8030E-07 -3.4530E-07 3.7830E-08 -3.9210E-07 2.4770E-07
 16 -2.4000E-08 7.2820E-08 -4.8070E-08 -1.7480E-08 8.1690E-08 -5.4900E-08

-2.0980E-08 7.2170E-08 -2.3440E-08 -5.3960E-08 4.0590E-08 -1.4940E-08 -
4.8450E-08 5.6010E-08 -7.0070E-08 3.1610E-07 -6.5720E-07 3.6880E-07
1.3740E-08 1.3170E-07 -4.2280E-08 -8.1600E-08 3.2550E-08 -3.5850E-08
2.7850E-08 1.6980E-07 -7.9490E-08 -1.3550E-08 3.5180E-07 -1.9610E-07
  17   8.3880E-08 -1.2190E-06 6.3730E-07 9.2180E-08 -1.2200E-06 6.3530E-07
8.5880E-08 -1.2100E-06 6.6100E-07 4.7400E-08 -1.2220E-06 6.5800E-07
5.6910E-08 -1.2400E-06 6.1270E-07 -6.5720E-07 9.7570E-06 -5.1070E-06
1.2710E-07 -1.1660E-06 6.5190E-07 1.6730E-08 -1.2210E-06 6.2890E-07
1.4660E-07 -1.1480E-06 6.2220E-07 1.2370E-08 1.0240E-07 -7.3510E-08
  18 -4.7890E-08 6.5210E-07 -3.5040E-07 -6.0540E-08 6.4710E-07 -3.4370E-07
-5.3150E-08 6.6790E-07 -4.0450E-07 8.3790E-09 6.7580E-07 -3.9340E-07 -
3.3020E-09 6.3930E-07 -2.8750E-07 3.6880E-07 -5.1070E-06 2.9630E-06 -
1.2040E-07 6.1600E-07 -4.0140E-07 5.7720E-08 6.4320E-07 -3.3040E-07 -
1.4930E-07 5.6480E-07 -3.4130E-07 2.0980E-08 -4.4970E-07 2.7840E-07
  19 -2.5190E-08 7.2020E-08 -5.3470E-08 -1.4580E-08 8.2760E-08 -6.2500E-08
-2.0570E-08 7.0190E-08 -1.3910E-08 -7.3460E-08 3.5110E-08 -8.6740E-09 -
6.4120E-08 5.5810E-08 -9.3770E-08 1.3740E-08 1.2710E-07 -1.2040E-07
3.5260E-07 -6.7690E-07 4.8950E-07 -1.1710E-07 3.4010E-08 -4.7840E-08
5.9480E-08 2.0010E-07 -8.9170E-08 -2.6500E-08 5.4320E-07 -3.0760E-07
  20   8.9040E-08 -1.1760E-06 6.6020E-07 1.0020E-07 -1.1750E-06 6.5640E-07
9.1940E-08 -1.1650E-06 6.9290E-07 3.9720E-08 -1.1820E-06 6.8950E-07
5.2210E-08 -1.2010E-06 6.2520E-07 1.3170E-07 -1.1660E-06 6.1600E-07 -
6.7690E-07 9.4340E-06 -5.2290E-06 -2.0280E-09 -1.1800E-06 6.4970E-07
1.7410E-07 -1.0770E-06 6.3850E-07 9.6160E-09 2.7950E-07 -1.2450E-07
  21 -5.9330E-08 6.4650E-07 -3.8510E-07 -5.4890E-08 6.4920E-07 -3.8750E-07
-5.7940E-08 6.5710E-07 -3.7670E-07 -7.9530E-08 6.5130E-07 -3.7970E-07 -
7.5230E-08 6.3700E-07 -3.9900E-07 -4.2280E-08 6.5190E-07 -4.0140E-07
4.8950E-07 -5.2290E-06 3.2270E-06 -9.7020E-08 6.4840E-07 -3.9330E-07 -
2.3540E-08 6.8760E-07 -3.9300E-07 -3.9710E-08 3.5410E-07 -2.0240E-07
  22 -1.0440E-08 4.7510E-08 -2.2230E-08 -2.9340E-08 4.4930E-08 -1.5370E-08
-1.7140E-08 5.2450E-08 -8.9190E-08 7.3330E-08 4.3100E-08 -6.0880E-08
5.4800E-08 2.8750E-08 6.8360E-08 -8.1600E-08 1.6730E-08 5.7720E-08 -
1.1710E-07 -2.0280E-09 -9.7020E-08 4.0090E-07 -1.8150E-07 1.8500E-07 -
1.6210E-07 -5.0260E-08 -2.5980E-08 7.2630E-08 -8.7070E-07 4.8980E-07
  23   1.8570E-08 -1.1970E-06 6.4190E-07 2.2000E-08 -1.2030E-06 6.4410E-07
1.8490E-08 -1.1870E-06 6.4700E-07 4.1820E-09 -1.1820E-06 6.4100E-07
9.2770E-09 -1.2090E-06 6.3550E-07 3.2550E-08 -1.2210E-06 6.4320E-07
3.4010E-08 -1.1800E-06 6.4840E-07 -1.8150E-07 9.6770E-06 -5.1460E-06
4.2790E-08 -1.1870E-06 6.4470E-07 -3.7850E-08 -1.2410E-07 6.7950E-08
  24 -1.5350E-08 6.4690E-07 -3.6050E-07 -2.0960E-08 6.4670E-07 -3.5850E-07
-1.7810E-08 6.6130E-07 -3.8870E-07 9.2360E-09 6.5590E-07 -3.7930E-07
4.1270E-09 6.2970E-07 -3.2690E-07 -3.5850E-08 6.2890E-07 -3.3040E-07 -
4.7840E-08 6.4970E-07 -3.9330E-07 1.8500E-07 -5.1460E-06 3.0150E-06 -
6.0610E-08 6.2700E-07 -3.6610E-07 3.2640E-08 -1.0960E-07 7.8180E-08
  25 -2.9300E-08 7.7680E-08 -5.8200E-08 -1.3820E-08 9.0550E-08 -6.9830E-08
-2.2840E-08 7.4800E-08 -1.0900E-09 -9.9410E-08 3.5730E-08 1.9810E-10 -
8.5450E-08 6.2000E-08 -1.2020E-07 2.7850E-08 1.4660E-07 -1.4930E-07
5.9480E-08 1.7410E-07 -2.3540E-08 -1.6210E-07 4.2790E-08 -6.0610E-08
4.3650E-07 -7.0400E-07 4.8210E-07 -4.4550E-08 7.7870E-07 -4.3900E-07
  26   1.0070E-07 -1.1820E-06 6.4640E-07 1.1890E-07 -1.1780E-06 6.3840E-07
1.0640E-07 -1.1740E-06 7.0520E-07 1.9500E-08 -1.2000E-06 6.9770E-07
3.8590E-08 -1.2080E-06 5.8030E-07 1.6980E-07 -1.1480E-06 5.6480E-07
2.0010E-07 -1.0770E-06 6.8760E-07 -5.0260E-08 -1.1870E-06 6.2700E-07 -
7.0400E-07 9.4650E-06 -5.1470E-06 6.7010E-10 6.1200E-07 -3.2510E-07

27 -6.3290E-08 6.4470E-07 -3.7050E-07 -6.7770E-08 6.4290E-07 -3.6800E-07
-6.5360E-08 6.5750E-07 -3.9470E-07 -4.3500E-08 6.6130E-07 -3.9160E-07 -
4.7570E-08 6.3550E-07 -3.4530E-07 -7.9490E-08 6.2220E-07 -3.4130E-07 -
8.9170E-08 6.3850E-07 -3.9300E-07 -2.5980E-08 6.4470E-07 -3.6610E-07
4.8210E-07 -5.1470E-06 3.0810E-06 -1.7930E-08 -7.1850E-08 4.5900E-08
28 1.9030E-08 6.1370E-09 1.5470E-09 7.0470E-09 1.2300E-08 -8.6600E-10
1.2080E-08 1.2140E-08 -2.6840E-08 4.6270E-08 -7.2310E-09 -7.6140E-09
3.8720E-08 -8.1860E-09 3.7830E-08 -1.3550E-08 1.2370E-08 2.0980E-08 -
2.6500E-08 9.6160E-09 -3.9710E-08 7.2630E-08 -3.7850E-08 3.2640E-08 -
4.4550E-08 6.7010E-10 -1.7930E-08 2.6270E-06 -6.0170E-06 3.7950E-06
29 -2.9930E-08 1.1620E-08 -5.5720E-08 7.4490E-08 -1.2860E-07 -8.2430E-09
1.0560E-08 -1.8140E-07 4.0350E-07 -4.7820E-07 -2.7570E-07 3.2940E-07 -
3.8050E-07 -1.8420E-07 -3.9210E-07 3.5180E-07 1.0240E-07 -4.4970E-07
5.4320E-07 2.7950E-07 3.5410E-07 -8.7070E-07 -1.2410E-07 -1.0960E-07
7.7870E-07 6.1200E-07 -7.1850E-08 -6.0170E-06 1.1170E-04 -6.0200E-05
30 1.8070E-08 -5.2530E-11 4.7760E-08 -4.1600E-08 7.4460E-08 1.9710E-08
-6.8160E-09 1.2500E-07 -2.2450E-07 2.6860E-07 1.7200E-07 -1.7950E-07
2.1500E-07 8.3510E-08 2.4770E-07 -1.9610E-07 -7.3510E-08 2.7840E-07 -
3.0760E-07 -1.2450E-07 -2.0240E-07 4.8980E-07 6.7950E-08 7.8180E-08 -
4.3900E-07 -3.2510E-07 4.5900E-08 3.7950E-06 -6.0200E-05 3.5020E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000026270 -0.0000060170 0.0000037950
-0.0000060170 0.0001117000 -0.0000602000
0.0000037950 -0.0000602000 0.0000350200

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000026571 0.0000002992 0.0000074123
0.0000002992 0.0000020353 -0.0000025752
0.0000074123 -0.0000025752 0.0001446546

Horizontal network accuracy = 0.00376 meters.
Vertical network accuracy = 0.02358 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	1940.875	-1295.060	-2191.917
eng6	qcfv	19139.504	-4340.118	-7503.646
covg	qcfv	4370.747	28906.434	49687.679
gvms	qcfv	-73362.764	20533.546	34237.396
lmcn	qcfv	-50731.084	-38115.103	-67682.217
bvhs	qcfv	71195.054	-33749.672	-59772.000
mspk	qcfv	95546.384	46611.747	78627.062
fshs	qcfv	-131666.172	-6516.223	-14605.290
msga	qcfv	143737.397	25873.484	41911.722

Covariance matrix of the 9 vectors
1 2.8558E-06 -6.5041E-06 4.1046E-06 2.5812E-06 -5.9306E-06 3.7349E-06
2.5775E-06 -5.9348E-06 3.7600E-06 2.5483E-06 -5.9403E-06 3.7555E-06
2.5540E-06 -5.9329E-06 3.7116E-06 2.5975E-06 -5.9156E-06 3.7081E-06
2.6093E-06 -5.9076E-06 3.7573E-06 2.5249E-06 -5.9307E-06 3.7289E-06
2.6232E-06 -5.8870E-06 3.7316E-06
2 -6.5041E-06 1.2136E-04 -6.5337E-05 -6.0320E-06 1.1061E-04 -5.9541E-05

-5.9707E-06 1.1068E-04 -5.9953E-05 -5.4908E-06 1.1077E-04 -5.9879E-05 -
5.5846E-06 1.1065E-04 -5.9157E-05 -6.3021E-06 1.1037E-04 -5.9098E-05 -
6.4943E-06 1.1023E-04 -5.9908E-05 -5.1049E-06 1.1062E-04 -5.9443E-05 -
6.7242E-06 1.0989E-04 -5.9483E-05
   3   4.1046E-06 -6.5337E-05 3.7976E-05 3.7926E-06 -5.9569E-05 3.4587E-05
3.7588E-06 -5.9607E-05 3.4815E-05 3.4942E-06 -5.9657E-05 3.4774E-05
3.5459E-06 -5.9592E-05 3.4376E-05 3.9415E-06 -5.9433E-05 3.4343E-05
4.0476E-06 -5.9360E-05 3.4790E-05 3.2814E-06 -5.9570E-05 3.4534E-05
4.1743E-06 -5.9173E-05 3.4556E-05
   4   2.5812E-06 -6.0320E-06 3.7926E-06 2.8860E-06 -6.6568E-06 4.1870E-06
2.5889E-06 -6.0374E-06 3.8250E-06 2.5496E-06 -6.0448E-06 3.8188E-06
2.5572E-06 -6.0349E-06 3.7597E-06 2.6160E-06 -6.0117E-06 3.7551E-06
2.6319E-06 -6.0009E-06 3.8214E-06 2.5180E-06 -6.0316E-06 3.7830E-06
2.6507E-06 -5.9733E-06 3.7868E-06
   5 -5.9306E-06 1.1061E-04 -5.9569E-05 -6.6568E-06 1.2166E-04 -6.5457E-05
-5.9711E-06 1.1082E-04 -6.0024E-05 -5.4958E-06 1.1091E-04 -5.9950E-05 -
5.5887E-06 1.1079E-04 -5.9235E-05 -6.2994E-06 1.1051E-04 -5.9178E-05 -
6.4897E-06 1.1037E-04 -5.9979E-05 -5.1137E-06 1.1075E-04 -5.9518E-05 -
6.7175E-06 1.1004E-04 -5.9560E-05
   6   3.7349E-06 -5.9541E-05 3.4587E-05 4.1870E-06 -6.5457E-05 3.8024E-05
3.7582E-06 -5.9652E-05 3.4839E-05 3.4990E-06 -5.9701E-05 3.4799E-05
3.5497E-06 -5.9637E-05 3.4409E-05 3.9371E-06 -5.9483E-05 3.4378E-05
4.0410E-06 -5.9411E-05 3.4815E-05 3.2907E-06 -5.9616E-05 3.4564E-05
4.1650E-06 -5.9228E-05 3.4586E-05
   7   2.5775E-06 -5.9707E-06 3.7588E-06 2.5889E-06 -5.9711E-06 3.7582E-06
2.8677E-06 -6.5578E-06 4.1693E-06 2.5517E-06 -5.9822E-06 3.7815E-06
2.5581E-06 -5.9738E-06 3.7317E-06 2.6075E-06 -5.9541E-06 3.7277E-06
2.6209E-06 -5.9452E-06 3.7836E-06 2.5251E-06 -5.9712E-06 3.7514E-06
2.6366E-06 -5.9218E-06 3.7544E-06
   8 -5.9348E-06 1.1068E-04 -5.9607E-05 -6.0374E-06 1.1082E-04 -5.9652E-05
-6.5578E-06 1.2168E-04 -6.6028E-05 -5.4937E-06 1.1098E-04 -5.9993E-05 -
5.5878E-06 1.1086E-04 -5.9266E-05 -6.3088E-06 1.1057E-04 -5.9207E-05 -
6.5022E-06 1.1044E-04 -6.0022E-05 -5.1060E-06 1.1082E-04 -5.9554E-05 -
6.7330E-06 1.1010E-04 -5.9596E-05
   9   3.7600E-06 -5.9953E-05 3.4815E-05 3.8250E-06 -6.0024E-05 3.4839E-05
4.1693E-06 -6.6028E-05 3.8684E-05 3.4852E-06 -6.0124E-05 3.5052E-05
3.5440E-06 -6.0049E-05 3.4598E-05 3.9945E-06 -5.9869E-05 3.4562E-05
4.1155E-06 -5.9786E-05 3.5070E-05 3.2429E-06 -6.0024E-05 3.4778E-05
4.2598E-06 -5.9573E-05 3.4804E-05
  10   2.5483E-06 -5.4908E-06 3.4942E-06 2.5496E-06 -5.4958E-06 3.4990E-06
2.5517E-06 -5.4937E-06 3.4852E-06 2.8305E-06 -5.8453E-06 3.7430E-06
2.5650E-06 -5.4947E-06 3.5122E-06 2.5403E-06 -5.5038E-06 3.5138E-06
2.5338E-06 -5.5087E-06 3.4866E-06 2.5814E-06 -5.4968E-06 3.5030E-06
2.5259E-06 -5.5200E-06 3.5008E-06
  11 -5.9403E-06 1.1077E-04 -5.9657E-05 -6.0448E-06 1.1091E-04 -5.9701E-05
-5.9822E-06 1.1098E-04 -6.0124E-05 -5.8453E-06 1.2192E-04 -6.5988E-05 -
5.5868E-06 1.1095E-04 -5.9311E-05 -6.3210E-06 1.1065E-04 -5.9247E-05 -
6.5179E-06 1.1051E-04 -6.0075E-05 -5.0960E-06 1.1092E-04 -5.9606E-05 -
6.7527E-06 1.1016E-04 -5.9639E-05
  12   3.7555E-06 -5.9879E-05 3.4774E-05 3.8188E-06 -5.9950E-05 3.4799E-05
3.7815E-06 -5.9993E-05 3.5052E-05 3.7430E-06 -6.5988E-05 3.8552E-05
3.5452E-06 -5.9978E-05 3.4566E-05 3.9838E-06 -5.9798E-05 3.4528E-05
4.1015E-06 -5.9715E-05 3.5022E-05 3.2519E-06 -5.9956E-05 3.4742E-05
4.2418E-06 -5.9507E-05 3.4762E-05

13 2.5540E-06 -5.5846E-06 3.5459E-06 2.5572E-06 -5.5887E-06 3.5497E-06
2.5581E-06 -5.5878E-06 3.5440E-06 2.5650E-06 -5.5868E-06 3.5452E-06
2.8385E-06 -6.0069E-06 3.8334E-06 2.5534E-06 -5.5920E-06 3.5557E-06
2.5507E-06 -5.5939E-06 3.5445E-06 2.5705E-06 -5.5894E-06 3.5515E-06
2.5474E-06 -5.5986E-06 3.5504E-06
14 -5.9329E-06 1.1065E-04 -5.9592E-05 -6.0349E-06 1.1079E-04 -5.9637E-05
-5.9738E-06 1.1086E-04 -6.0049E-05 -5.4947E-06 1.1095E-04 -5.9978E-05 -
6.0069E-06 1.2190E-04 -6.4980E-05 -6.3046E-06 1.1054E-04 -5.9195E-05 -
6.4962E-06 1.1040E-04 -6.0001E-05 -5.1094E-06 1.1080E-04 -5.9544E-05 -
6.7255E-06 1.1006E-04 -5.9576E-05
15 3.7116E-06 -5.9157E-05 3.4376E-05 3.7597E-06 -5.9235E-05 3.4409E-05
3.7317E-06 -5.9266E-05 3.4598E-05 3.5122E-06 -5.9311E-05 3.4566E-05
3.8334E-06 -6.4980E-05 3.7472E-05 3.8832E-06 -5.9122E-05 3.4206E-05
3.9710E-06 -5.9058E-05 3.4576E-05 3.3357E-06 -5.9240E-05 3.4367E-05
4.0760E-06 -5.8903E-05 3.4381E-05
16 2.5975E-06 -6.3021E-06 3.9415E-06 2.6160E-06 -6.2994E-06 3.9371E-06
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3.9612E-06 -5.9010E-05 3.4543E-05 3.3419E-06 -5.9175E-05 3.4333E-05
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4.1408E-06 -5.9138E-05 3.4530E-05
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  26 -5.8870E-06 1.0989E-04 -5.9173E-05 -5.9733E-06 1.1004E-04 -5.9228E-05
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3.5504E-06 -5.9576E-05 3.4381E-05 3.9295E-06 -5.9432E-05 3.4354E-05
4.0314E-06 -5.9365E-05 3.4784E-05 3.2972E-06 -5.9551E-05 3.4530E-05
4.7340E-06 -6.4950E-05 3.8009E-05

Correlation matrix of the 9 vectors
  1 1.0000E+00 -3.4936E-01 3.9413E-01 8.9908E-01 -3.1816E-01 3.5842E-01
9.0066E-01 -3.1837E-01 3.5773E-01 8.9632E-01 -3.1835E-01 3.5791E-01
8.9703E-01 -3.1799E-01 3.5879E-01 8.9186E-01 -3.1790E-01 3.5867E-01
8.8664E-01 -3.1836E-01 3.5762E-01 8.8000E-01 -3.1822E-01 3.5853E-01
8.7425E-01 -3.1809E-01 3.5816E-01
  2 -3.4936E-01 1.0000E+00 -9.6241E-01 -3.2230E-01 9.1029E-01 -8.7648E-01
-3.2005E-01 9.1080E-01 -8.7499E-01 -2.9625E-01 9.1065E-01 -8.7541E-01 -
3.0089E-01 9.0977E-01 -8.7722E-01 -3.3193E-01 9.0981E-01 -8.7688E-01 -
3.3852E-01 9.1125E-01 -8.7469E-01 -2.7293E-01 9.1046E-01 -8.7672E-01 -
3.4376E-01 9.1085E-01 -8.7580E-01
  3 3.9413E-01 -9.6241E-01 1.0000E+00 3.6227E-01 -8.7636E-01 9.1019E-01
3.6018E-01 -8.7686E-01 9.0832E-01 3.3702E-01 -8.7673E-01 9.0881E-01
3.4153E-01 -8.7586E-01 9.1126E-01 3.7112E-01 -8.7585E-01 9.1096E-01
3.7716E-01 -8.7721E-01 9.0804E-01 3.1362E-01 -8.7652E-01 9.1051E-01
3.8149E-01 -8.7676E-01 9.0954E-01
  4 8.9908E-01 -3.2230E-01 3.6227E-01 1.0000E+00 -3.5525E-01 3.9969E-01
8.9992E-01 -3.2218E-01 3.6201E-01 8.9207E-01 -3.2225E-01 3.6204E-01
8.9347E-01 -3.2176E-01 3.6154E-01 8.9351E-01 -3.2137E-01 3.6131E-01
8.8963E-01 -3.2169E-01 3.6182E-01 8.7299E-01 -3.2194E-01 3.6182E-01
8.7877E-01 -3.2105E-01 3.6156E-01
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  7 9.0066E-01 -3.2005E-01 3.6018E-01 8.9992E-01 -3.1967E-01 3.5990E-01

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  12   3.5791E-01 -8.7541E-01 9.0881E-01 3.6204E-01 -8.7536E-01 9.0890E-01
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3.7549E-01 -8.7692E-01 9.0749E-01 3.1499E-01 -8.7586E-01 9.1002E-01
4.3247E-01 -9.6195E-01 1.0000E+00

G-FILE for the vectors

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C00100007 955463839 17 466117467 109 786270622 62
C00100008-1316661721 16 -65162229 110 -146052901 61
C00100009 1437373970 17 258734841 109 419117218 61
D 1 2 -3493624 1 3 3941347 1 4 8990831 1 5 -3181620 1 6 3584160 D
1 7 9006550 1 8 -3183667 1 9 3577289 1 10 8963175 1 11 -3183480 D 1
12 3579085 1 13 8970345 1 14 -3179872 1 15 3587893 1 16 8918649 D 1
17 -3178953 1 18 3586674 1 19 8866376 1 20 -3183602 1 21 3576228 D 1
22 8799987 1 23 -3182171 1 24 3585265 1 25 8742453 1 26 -3180872 D 1
27 3581626 2 3 -9624071 2 4 -3223041 2 5 9102945 2 6 -8764804 D 2
7 -3200463 2 8 9107986 2 9 -8749859 2 10 -2962516 2 11 9106463 D 2 12
-8754051 2 13 -3008865 2 14 9097691 2 15 -8772232 2 16 -3319319 D 2 17
9098081 2 18 -8768826 2 19 -3385177 2 20 9112509 2 21 -8746859 D 2 22 -
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2962559 10 24 3383093 10 25 8455670 10 26 -2995879 10 27 3375189 D 11 12 -
9625076 11 13 -3003209 11 14 9101333 11 15 -8774866 11 16 -3321632 D 11 17
9100635 11 18 -8770712 11 19 -3389670 11 20 9114849 11 21 -8751197 D 11 22 -
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8754561 18 19 3718206 18 20 -8784309 18 21 9082016 18 22 3217477 D 18 23 -
8770795 18 24 9118574 18 25 3741118 18 26 -8785197 18 27 9108568 D 19 20 -
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8918221 19 26 -3335172 19 27 3754911 20 21 -9617852 20 22 -2766640 D 20 23
9113587 20 24 -8777028 20 25 -3401183 20 26 9124705 20 27 -8769171 D 21 22
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9074946 22 23 -2825169 22 24 3308851 22 25 8083395 22 26 -2795071 D 22 27
3149917 23 24 -9621286 23 25 -3429285 23 26 9109533 23 27 -8758622 D 24 25
3789198 24 26 -8773801 24 27 9100238 25 26 -3857131 25 27 4324662 D 26 27 -
9619473

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-13544.906	-5530581.791	3166262.837
eng6	-13544.907	-5530581.804	3166262.842
covg	-13544.909	-5530581.793	3166262.828
gvms	-13544.906	-5530581.774	3166262.827
lmcn	-13544.906	-5530581.787	3166262.841
bvhs	-13544.913	-5530581.793	3166262.837
mspk	-13544.913	-5530581.795	3166262.837
fshs	-13544.904	-5530581.802	3166262.846
msga	-13544.908	-5530581.812	3166262.848

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.002	-0.005	0.003	0.002	0.000	0.006
eng6	0.002	-0.018	0.009	0.002	-0.001	0.020
covg	-0.001	-0.007	-0.005	-0.000	-0.008	0.004
gvms	0.002	0.012	-0.007	0.002	-0.000	-0.014

lmcn	0.002	-0.001	0.008	0.002		
0.006	0.005					
bvhs	-0.005	-0.007	0.004	-0.005		
0.000	0.008					
mspk	-0.005	-0.009	0.004	-0.005	-	
0.001	0.010					
fshs	0.005	-0.016	0.013	0.005		
0.003	0.020					
msga	0.001	-0.026	0.015	0.001		
0.000	0.030					

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 531936.592
Easting (X) [feet] 3658616.545
Convergence [degrees] 0.59652442
Point Scale 0.99992603
Combined Factor 0.99992985

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.622 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.337
scatter (mean square distance from rover) is 9699.118
average edop for rover is 0.690
average ndop for rover is 0.730
average hdop for rover is 1.004
average vdop for rover is 2.110
average gdop for rover is 2.690

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:23 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA16.O00 OP1335489566349

FILE: QCFVA16.O00 OP1335489566349

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv080o.12o TIME: 01:22:03 UTC

SOFTWARE: rsgps 1.37 RS1.prl 1.73 START: 2012/03/20 14:55:24
EPHEMERIS: igs16802.eph [precise] STOP: 2012/03/20 15:15:19
NAV FILE: brdc0800.12n OBS USED: 2070 / 2205 : 94%
ANT NAME: LEIAT502 NONE QUALITY IND. 25.98/ 10.77
ARP HEIGHT: 1.632 NORMALIZED RMS: 0.355

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.21756)

X:	-12509.988(m)	0.004(m)	-12510.721(m)	0.004(m)
Y:	-5528142.240(m)	0.026(m)	-5528140.749(m)	0.026(m)
Z:	3170492.391(m)	0.014(m)	3170492.183(m)	0.014(m)

LAT:	30 0 4.96493	0.007(m)	30 0 4.98326	0.007(m)
E LON:	269 52 13.23092	0.004(m)	269 52 13.20345	0.004(m)
W LON:	90 7 46.76908	0.004(m)	90 7 46.79655	0.004(m)
EL HGT:	-27.485(m)	0.028(m)	-28.878(m)	0.028(m)
ORTHO HGT:	-1.347(m)	0.031(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3322408.014	167029.199
Easting (X) [meters]	776892.332	1116125.783
Convergence [degrees]	1.43614554	0.60185290
Point Scale	1.00054603	0.99992574
Combined Factor	1.00055035	0.99993006

US NATIONAL GRID DESIGNATOR: 15RYP7689222408(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	7484.2

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 22615.3
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 52706.8
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 82235.8
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 97446.0
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 101629.2
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 128135.2
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 134329.3
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 149443.1

NEAREST NGS PUBLISHED CONTROL POINT
AU1925 T 193 N295959.838 W0900722.439 670.5

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.034	-5531876.860	3164070.923
eng6	5594.597	-5534921.920	3158759.203
covg	-9174.165	-5501675.372	3215950.520
gvms	-86907.673	-5510048.210	3200500.217
lmcn	-64275.989	-5568696.882	3098580.619
bvhs	57650.147	-5564331.440	3106490.824
mspk	82001.470	-5483970.031	3244889.890
fshs	-145211.079	-5537098.010	3151657.537
msga	130192.488	-5504708.313	3208174.558
qcfv	-12510.721	-5528140.749	3170492.183

Covariance matrix of the stations:
1 3.4390E-07 1.5090E-06 -7.5930E-07 -2.8270E-08 -1.8120E-07 9.2200E-08
-2.8540E-08 -1.9460E-07 9.5800E-08 -2.9420E-08 -2.2930E-07 1.1580E-07 -
2.9170E-08 -2.1440E-07 1.1320E-07 -2.8230E-08 -1.4960E-07 7.8960E-08 -
2.8920E-08 -1.5720E-07 7.2520E-08 -3.0870E-08 -2.5600E-07 1.3230E-07 -
2.9340E-08 -1.2730E-07 5.8520E-08 5.7530E-09 -1.4490E-07 7.5890E-08
2 1.5090E-06 2.1860E-05 -1.1110E-05 -1.8870E-07 -2.7450E-06 1.4030E-06
-1.8040E-07 -2.5980E-06 1.3330E-06 -1.9390E-07 -2.6900E-06 1.3750E-06 -
2.1260E-07 -2.9720E-06 1.5040E-06 -1.8870E-07 -2.8560E-06 1.4540E-06 -
1.6540E-07 -2.4720E-06 1.2740E-06 -2.1500E-07 -2.8760E-06 1.4600E-06 -
1.6470E-07 -2.5360E-06 1.3070E-06 -4.4720E-08 -4.1770E-07 2.2510E-07
3 -7.5930E-07 -1.1110E-05 5.9790E-06 9.4670E-08 1.4050E-06 -7.3980E-07
9.2700E-08 1.3360E-06 -7.1570E-07 1.0420E-07 1.3660E-06 -7.2380E-07
1.0890E-07 1.4870E-06 -7.6420E-07 8.9110E-08 1.4520E-06 -7.5410E-07
7.8780E-08 1.2920E-06 -7.0310E-07 1.1680E-07 1.4400E-06 -7.4890E-07
7.4060E-08 1.3320E-06 -7.1880E-07 1.1430E-08 6.2730E-08 -1.6560E-08
4 -2.8270E-08 -1.8870E-07 9.4670E-08 3.3610E-07 1.4680E-06 -7.3770E-07
-2.7050E-08 -1.7090E-07 8.8830E-08 -3.3570E-08 -2.0670E-07 1.0590E-07 -
3.4160E-08 -2.3390E-07 1.1250E-07 -2.3680E-08 -1.7300E-07 8.3270E-08 -
2.0220E-08 -1.2680E-07 6.7540E-08 -4.0320E-08 -2.5080E-07 1.2440E-07 -
1.7690E-08 -1.1720E-07 6.0550E-08 1.4440E-08 2.3660E-08 -1.2710E-08
5 -1.8120E-07 -2.7450E-06 1.4050E-06 1.4680E-06 2.2100E-05 -1.1220E-05
-1.7700E-07 -2.6880E-06 1.3610E-06 -1.7300E-07 -2.7780E-06 1.4130E-06 -

1.8830E-07 -2.9210E-06 1.5100E-06 -1.9400E-07 -2.7880E-06 1.4420E-06 -
1.8440E-07 -2.5820E-06 1.2950E-06 -1.7750E-07 -2.9080E-06 1.4910E-06 -
1.9270E-07 -2.5790E-06 1.3040E-06 -9.2600E-08 -1.2790E-06 6.5960E-07
   6   9.2200E-08 1.4030E-06 -7.3980E-07 -7.3770E-07 -1.1220E-05 6.0300E-06
9.0600E-08 1.3750E-06 -7.2820E-07 9.4940E-08 1.4040E-06 -7.4060E-07
9.8120E-08 1.4670E-06 -7.6710E-07 9.0500E-08 1.4260E-06 -7.4960E-07
8.5870E-08 1.3400E-06 -7.1280E-07 1.0070E-07 1.4560E-06 -7.6280E-07
8.4780E-08 1.3510E-06 -7.1840E-07 3.0290E-08 4.3590E-07 -2.0850E-07
   7 -2.8540E-08 -1.8040E-07 9.2700E-08 -2.7050E-08 -1.7700E-07 9.0600E-08
3.3600E-07 1.4090E-06 -7.2350E-07 -3.5000E-08 -1.8960E-07 1.0040E-07 -
3.6240E-08 -2.3400E-07 1.1170E-07 -2.2700E-08 -1.7500E-07 8.4480E-08 -
1.7560E-08 -1.0730E-07 6.3760E-08 -4.3580E-08 -2.4050E-07 1.2010E-07 -
1.4210E-08 -1.0550E-07 5.9740E-08 1.8350E-08 8.4380E-08 -4.0830E-08
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1.4090E-06 2.0590E-05 -1.0590E-05 -2.8130E-07 -2.0950E-06 1.1400E-06 -
3.2110E-07 -3.2730E-06 1.4750E-06 -1.0390E-07 -3.2440E-06 1.5310E-06
7.6340E-09 -1.7210E-06 1.1400E-06 -4.1130E-07 -2.6470E-06 1.2720E-06
6.6620E-08 -2.2120E-06 1.3240E-06 2.2140E-07 2.9530E-06 -1.4870E-06
   9   9.5800E-08 1.3330E-06 -7.1570E-07 8.8830E-08 1.3610E-06 -7.2820E-07
-7.2350E-07 -1.0590E-05 5.8210E-06 1.2250E-07 1.1920E-06 -6.6170E-07
1.3290E-07 1.5300E-06 -7.5420E-07 6.8000E-08 1.5170E-06 -7.6960E-07
3.6280E-08 1.0820E-06 -6.6470E-07 1.6090E-07 1.3550E-06 -6.9880E-07
1.8160E-08 1.2240E-06 -7.1700E-07 -4.9240E-08 -6.7130E-07 3.4140E-07
  10 -2.9420E-08 -1.9390E-07 1.0420E-07 -3.3570E-08 -1.7300E-07 9.4940E-08
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6.1530E-08 -2.6830E-07 9.1980E-08 2.3020E-09 -2.7640E-07 1.6240E-07 -
7.2630E-08 -1.6530E-07 5.2790E-08 -5.2720E-08 -8.0560E-07 4.1780E-07
  11 -2.2930E-07 -2.6900E-06 1.3660E-06 -2.0670E-07 -2.7780E-06 1.4040E-06
-1.8960E-07 -2.0950E-06 1.1920E-06 1.5710E-06 2.1240E-05 -1.0850E-05 -
3.5180E-07 -3.3480E-06 1.5030E-06 -1.4260E-07 -3.3210E-06 1.5580E-06 -
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2.2320E-08 -2.3170E-06 1.3540E-06 1.7570E-07 2.7220E-06 -1.3870E-06
  12   1.1580E-07 1.3750E-06 -7.2380E-07 1.0590E-07 1.4130E-06 -7.4060E-07
1.0040E-07 1.1400E-06 -6.6170E-07 -8.1190E-07 -1.0850E-05 5.8880E-06
1.6600E-07 1.6250E-06 -7.6510E-07 7.6480E-08 1.6270E-06 -7.9550E-07
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8.0800E-09 1.2450E-06 -7.3670E-07 -6.5950E-08 -1.0870E-06 5.6670E-07
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-3.6240E-08 -3.2110E-07 1.3290E-07 -1.2290E-08 -3.5180E-07 1.6600E-07
4.1200E-07 1.9400E-06 -8.9680E-07 -4.8780E-08 -6.1180E-08 6.2730E-08 -
6.8430E-08 -3.1370E-07 1.0090E-07 9.8640E-09 -2.9970E-07 1.7270E-07 -
8.1610E-08 -1.9200E-07 5.4630E-08 -6.2910E-08 -9.5480E-07 4.8790E-07
  14 -2.1440E-07 -2.9720E-06 1.4870E-06 -2.3390E-07 -2.9210E-06 1.4670E-06
-2.3400E-07 -3.2730E-06 1.5300E-06 -1.4610E-07 -3.3480E-06 1.6250E-06
1.9400E-06 2.4680E-05 -1.1970E-05 -2.9270E-07 -2.6280E-06 1.4210E-06 -
3.4900E-07 -3.2720E-06 1.4360E-06 -6.9930E-08 -3.2030E-06 1.6670E-06 -
3.9980E-07 -2.9540E-06 1.3340E-06 -3.3310E-07 -4.0940E-06 2.0540E-06
  15   1.1320E-07 1.5040E-06 -7.6420E-07 1.1250E-07 1.5100E-06 -7.6710E-07
1.1170E-07 1.4750E-06 -7.5420E-07 1.1780E-07 1.5030E-06 -7.6510E-07 -
8.9680E-07 -1.1970E-05 6.2050E-06 1.0930E-07 1.5260E-06 -7.7140E-07
1.0480E-07 1.4400E-06 -7.4050E-07 1.2460E-07 1.5540E-06 -7.8490E-07
1.0240E-07 1.4540E-06 -7.4620E-07 4.5260E-08 4.6150E-07 -1.9160E-07
  16 -2.8230E-08 -1.8870E-07 8.9110E-08 -2.3680E-08 -1.9400E-07 9.0500E-08

-2.2700E-08 -1.0390E-07 6.8000E-08 -4.5890E-08 -1.4260E-07 7.6480E-08 -
4.8780E-08 -2.9270E-07 1.0930E-07 3.2650E-07 1.2900E-06 -6.5310E-07
5.4690E-09 -4.0000E-08 5.2670E-08 -6.8280E-08 -2.3770E-07 1.0060E-07
1.6740E-08 -8.9810E-08 6.6140E-08 5.6720E-08 5.5080E-07 -2.8770E-07
  17 -1.4960E-07 -2.8560E-06 1.4520E-06 -1.7300E-07 -2.7880E-06 1.4260E-06
-1.7500E-07 -3.2440E-06 1.5170E-06 -6.6940E-08 -3.3210E-06 1.6270E-06 -
6.1180E-08 -2.6280E-06 1.5260E-06 1.2900E-06 2.4190E-05 -1.1900E-05 -
3.1620E-07 -3.2620E-06 1.4120E-06 2.8590E-08 -3.1150E-06 1.6610E-06 -
3.7740E-07 -2.8620E-06 1.2800E-06 -3.1980E-07 -4.6190E-06 2.3470E-06
  18   7.8960E-08 1.4540E-06 -7.5410E-07 8.3270E-08 1.4420E-06 -7.4960E-07
8.4480E-08 1.5310E-06 -7.6960E-07 6.5500E-08 1.5580E-06 -7.9550E-07
6.2730E-08 1.4210E-06 -7.7140E-07 -6.5310E-07 -1.1900E-05 6.2190E-06
1.0980E-07 1.5230E-06 -7.4510E-07 4.8460E-08 1.5310E-06 -8.0640E-07
1.2030E-07 1.4410E-06 -7.1620E-07 7.4110E-08 1.1990E-06 -5.8250E-07
  19 -2.8920E-08 -1.6540E-07 7.8780E-08 -2.0220E-08 -1.8440E-07 8.5870E-08
-1.7560E-08 7.6340E-09 3.6280E-08 -6.1530E-08 -3.4250E-08 3.3700E-08 -
6.8430E-08 -3.4900E-07 1.0480E-07 5.4690E-09 -3.1620E-07 1.0980E-07
3.4690E-07 1.2700E-06 -5.8550E-07 -1.0380E-07 -1.9650E-07 6.6490E-08
5.9140E-08 -3.1350E-08 6.9580E-08 1.0780E-07 1.2210E-06 -6.2690E-07
  20 -1.5720E-07 -2.4720E-06 1.2920E-06 -1.2680E-07 -2.5820E-06 1.3400E-06
-1.0730E-07 -1.7210E-06 1.0820E-06 -2.6830E-07 -1.8400E-06 1.0480E-06 -
3.1370E-07 -3.2720E-06 1.4400E-06 -4.0000E-08 -3.2620E-06 1.5230E-06
1.2700E-06 1.9780E-05 -1.0220E-05 -4.3010E-07 -2.5000E-06 1.1930E-06
1.7290E-07 -2.0240E-06 1.2990E-06 3.4110E-07 4.1070E-06 -2.0550E-06
  21   7.2520E-08 1.2740E-06 -7.0310E-07 6.7540E-08 1.2950E-06 -7.1280E-07
6.3760E-08 1.1400E-06 -6.6470E-07 9.1980E-08 1.1740E-06 -6.6480E-07
1.0090E-07 1.4360E-06 -7.4050E-07 5.2670E-08 1.4120E-06 -7.4510E-07 -
5.8550E-07 -1.0220E-05 5.7370E-06 1.2110E-07 1.3070E-06 -6.9920E-07
1.5450E-08 1.1780E-06 -6.9580E-07 -4.7010E-08 -4.1210E-07 1.9100E-07
  22 -3.0870E-08 -2.1500E-07 1.1680E-07 -4.0320E-08 -1.7750E-07 1.0070E-07
-4.3580E-08 -4.1130E-07 1.6090E-07 2.3020E-09 -4.3800E-07 2.0510E-07
9.8640E-09 -6.9930E-08 1.2460E-07 -6.8280E-08 2.8590E-08 4.8460E-08 -
1.0380E-07 -4.3010E-07 1.2110E-07 5.1430E-07 1.9430E-06 -9.2560E-07 -
1.2850E-07 -2.3060E-07 4.8140E-08 -1.2020E-07 -1.6510E-06 8.5090E-07
  23 -2.5600E-07 -2.8760E-06 1.4400E-06 -2.5080E-07 -2.9080E-06 1.4560E-06
-2.4050E-07 -2.6470E-06 1.3550E-06 -2.7640E-07 -2.7380E-06 1.3820E-06 -
2.9970E-07 -3.2030E-06 1.5540E-06 -2.3770E-07 -3.1150E-06 1.5310E-06 -
1.9650E-07 -2.5000E-06 1.3070E-06 1.9430E-06 2.2750E-05 -1.1400E-05 -
1.8440E-07 -2.6540E-06 1.3730E-06 -6.6670E-08 -1.5460E-07 5.5580E-08
  24   1.3230E-07 1.4600E-06 -7.4890E-07 1.2440E-07 1.4910E-06 -7.6280E-07
1.2010E-07 1.2720E-06 -6.9880E-07 1.6240E-07 1.3030E-06 -6.8900E-07
1.7270E-07 1.6670E-06 -7.8490E-07 1.0060E-07 1.6610E-06 -8.0640E-07
6.6490E-08 1.1930E-06 -6.9920E-07 -9.2560E-07 -1.1400E-05 6.0580E-06
4.5860E-08 1.3500E-06 -7.5660E-07 -2.5130E-08 -6.9860E-07 3.8880E-07
  25 -2.9340E-08 -1.6470E-07 7.4060E-08 -1.7690E-08 -1.9270E-07 8.4780E-08
-1.4210E-08 6.6620E-08 1.8160E-08 -7.2630E-08 2.2320E-08 8.0800E-09 -
8.1610E-08 -3.9980E-07 1.0240E-07 1.6740E-08 -3.7740E-07 1.2030E-07
5.9140E-08 1.7290E-07 1.5450E-08 -1.2850E-07 -1.8440E-07 4.5860E-08
3.7920E-07 1.0580E-06 -4.6940E-07 1.4400E-07 1.6790E-06 -8.6510E-07
  26 -1.2730E-07 -2.5360E-06 1.3320E-06 -1.1720E-07 -2.5790E-06 1.3510E-06
-1.0550E-07 -2.2120E-06 1.2240E-06 -1.6530E-07 -2.3170E-06 1.2450E-06 -
1.9200E-07 -2.9540E-06 1.4540E-06 -8.9810E-08 -2.8620E-06 1.4410E-06 -
3.1350E-08 -2.0240E-06 1.1780E-06 -2.3060E-07 -2.6540E-06 1.3500E-06
1.0580E-06 2.0250E-05 -1.0570E-05 1.1870E-07 8.9450E-07 -4.1290E-07

27 5.8520E-08 1.3070E-06 -7.1880E-07 6.0550E-08 1.3040E-06 -7.1840E-07
5.9740E-08 1.3240E-06 -7.1700E-07 5.2790E-08 1.3540E-06 -7.3670E-07
5.4630E-08 1.3340E-06 -7.4620E-07 6.6140E-08 1.2800E-06 -7.1620E-07
6.9580E-08 1.2990E-06 -6.9580E-07 4.8140E-08 1.3730E-06 -7.5660E-07 -
4.6940E-07 -1.0570E-05 5.9170E-06 2.6260E-08 7.1010E-07 -3.7780E-07
28 5.7530E-09 -4.4720E-08 1.1430E-08 1.4440E-08 -9.2600E-08 3.0290E-08
1.8350E-08 2.2140E-07 -4.9240E-08 -5.2720E-08 1.7570E-07 -6.5950E-08 -
6.2910E-08 -3.3310E-07 4.5260E-08 5.6720E-08 -3.1980E-07 7.4110E-08
1.0780E-07 3.4110E-07 -4.7010E-08 -1.2020E-07 -6.6670E-08 -2.5130E-08
1.4400E-07 1.1870E-07 2.6260E-08 3.4620E-06 1.6860E-05 -8.3860E-06
29 -1.4490E-07 -4.1770E-07 6.2730E-08 2.3660E-08 -1.2790E-06 4.3590E-07
8.4380E-08 2.9530E-06 -6.7130E-07 -8.0560E-07 2.7220E-06 -1.0870E-06 -
9.5480E-07 -4.0940E-06 4.6150E-07 5.5080E-07 -4.6190E-06 1.1990E-06
1.2210E-06 4.1070E-06 -4.1210E-07 -1.6510E-06 -1.5460E-07 -6.9860E-07
1.6790E-06 8.9450E-07 7.1010E-07 1.6860E-05 2.4090E-04 -1.2090E-04
30 7.5890E-08 2.2510E-07 -1.6560E-08 -1.2710E-08 6.5960E-07 -2.0850E-07
-4.0830E-08 -1.4870E-06 3.4140E-07 4.1780E-07 -1.3870E-06 5.6670E-07
4.8790E-07 2.0540E-06 -1.9160E-07 -2.8770E-07 2.3470E-06 -5.8250E-07 -
6.2690E-07 -2.0550E-06 1.9100E-07 8.5090E-07 5.5580E-08 3.8880E-07 -
8.6510E-07 -4.1290E-07 -3.7780E-07 -8.3860E-06 -1.2090E-04 6.3430E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000034620	0.0000168600	-0.0000083860
0.0000168600	0.0002409000	-0.0001209000
-0.0000083860	-0.0001209000	0.0000634300

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000033869	0.0000010833	-0.0000181951
0.0000010833	0.0000030055	-0.0000155610
-0.0000181951	-0.0000155610	0.0003013996

Horizontal network accuracy = 0.00445 meters.
Vertical network accuracy = 0.03404 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	906.687	-3736.111	-6421.261
eng6	qcfv	18105.318	-6781.171	-11732.980
covg	qcfv	3336.555	26465.377	45458.336
gvms	qcfv	-74396.953	18092.539	30008.033
lmcn	qcfv	-51765.269	-40556.133	-71911.564
bvhs	qcfv	70160.867	-36190.691	-64001.359
mspk	qcfv	94512.191	44170.719	74397.707
fshs	qcfv	-132700.358	-8957.261	-18834.646
msga	qcfv	142703.208	23432.436	37682.375

Covariance matrix of the 9 vectors
1 3.7944E-06 1.8559E-05 -9.2326E-06 3.4135E-06 1.6916E-05 -8.4000E-06
3.4094E-06 1.6589E-05 -8.3169E-06 3.4795E-06 1.6600E-05 -8.2801E-06
3.4900E-06 1.7124E-05 -8.3940E-06 3.3713E-06 1.7175E-05 -8.4570E-06
3.3195E-06 1.6507E-05 -8.3424E-06 3.5456E-06 1.6816E-05 -8.3045E-06
3.2829E-06 1.6759E-05 -8.4296E-06
2 1.8559E-05 2.6360E-04 -1.3230E-04 1.6692E-05 2.3985E-04 -1.2016E-04

1.6640E-05 2.3577E-04 -1.1912E-04 1.7516E-05 2.3591E-04 -1.1866E-04
1.7647E-05 2.4244E-04 -1.2008E-04 1.6165E-05 2.4308E-04 -1.2087E-04
1.5518E-05 2.3474E-04 -1.1944E-04 1.8341E-05 2.3860E-04 -1.1897E-04
1.5061E-05 2.3789E-04 -1.2053E-04
   3 -9.2326E-06 -1.3230E-04 6.9442E-05 -8.2901E-06 -1.2022E-04 6.2915E-05
-8.2639E-06 -1.1814E-04 6.2389E-05 -8.7110E-06 -1.1821E-04 6.2156E-05 -
8.7764E-06 -1.2153E-04 6.2874E-05 -8.0206E-06 -1.2186E-04 6.3275E-05 -
7.6918E-06 -1.1762E-04 6.2552E-05 -9.1315E-06 -1.1958E-04 6.2309E-05 -
7.4583E-06 -1.1922E-04 6.3106E-05
   4   3.4135E-06 1.6692E-05 -8.2901E-06 3.7692E-06 1.8397E-05 -9.1413E-06
3.4022E-06 1.6444E-05 -8.2352E-06 3.4667E-06 1.6454E-05 -8.2014E-06
3.4763E-06 1.6936E-05 -8.3060E-06 3.3672E-06 1.6983E-05 -8.3641E-06
3.3195E-06 1.6368E-05 -8.2587E-06 3.5274E-06 1.6652E-05 -8.2238E-06
3.2859E-06 1.6600E-05 -8.3390E-06
   5   1.6916E-05 2.3985E-04 -1.2022E-04 1.8397E-05 2.6556E-04 -1.3322E-04
1.6691E-05 2.3654E-04 -1.1953E-04 1.7585E-05 2.3668E-04 -1.1906E-04
1.7719E-05 2.4335E-04 -1.2051E-04 1.6208E-05 2.4401E-04 -1.2132E-04
1.5547E-05 2.3549E-04 -1.1985E-04 1.8426E-05 2.3943E-04 -1.1937E-04
1.5081E-05 2.3871E-04 -1.2097E-04
   6 -8.4000E-06 -1.2016E-04 6.2915E-05 -9.1413E-06 -1.3322E-04 6.9877E-05
-8.2849E-06 -1.1847E-04 6.2569E-05 -8.7392E-06 -1.1854E-04 6.2331E-05 -
8.8061E-06 -1.2192E-04 6.3063E-05 -8.0381E-06 -1.2226E-04 6.3471E-05 -
7.7035E-06 -1.1794E-04 6.2735E-05 -9.1665E-06 -1.1994E-04 6.2487E-05 -
7.4664E-06 -1.1957E-04 6.3298E-05
   7   3.4094E-06 1.6640E-05 -8.2639E-06 3.4022E-06 1.6691E-05 -8.2849E-06
3.7613E-06 1.7963E-05 -9.0194E-06 3.4614E-06 1.6410E-05 -8.1788E-06
3.4703E-06 1.6875E-05 -8.2787E-06 3.3642E-06 1.6920E-05 -8.3348E-06
3.3183E-06 1.6327E-05 -8.2344E-06 3.5203E-06 1.6602E-05 -8.1999E-06
3.2854E-06 1.6551E-05 -8.3117E-06
   8   1.6589E-05 2.3577E-04 -1.1814E-04 1.6444E-05 2.3654E-04 -1.1847E-04
1.7963E-05 2.5558E-04 -1.2933E-04 1.7163E-05 2.3313E-04 -1.1719E-04
1.7272E-05 2.3877E-04 -1.1840E-04 1.5984E-05 2.3932E-04 -1.1908E-04
1.5425E-05 2.3212E-04 -1.1786E-04 1.7878E-05 2.3545E-04 -1.1744E-04
1.5026E-05 2.3484E-04 -1.1880E-04
   9 -8.3169E-06 -1.1912E-04 6.2389E-05 -8.2352E-06 -1.1953E-04 6.2569E-05
-9.0194E-06 -1.2933E-04 6.8568E-05 -8.6321E-06 -1.1765E-04 6.1860E-05 -
8.6918E-06 -1.2075E-04 6.2526E-05 -7.9811E-06 -1.2106E-04 6.2901E-05 -
7.6736E-06 -1.1709E-04 6.2233E-05 -9.0268E-06 -1.1893E-04 6.2001E-05 -
7.4535E-06 -1.1859E-04 6.2749E-05
  10   3.4795E-06 1.7516E-05 -8.7110E-06 3.4667E-06 1.7585E-05 -8.7392E-06
3.4614E-06 1.7163E-05 -8.6321E-06 3.9665E-06 1.9061E-05 -9.5498E-06
3.5653E-06 1.7853E-05 -8.7313E-06 3.4121E-06 1.7918E-05 -8.8124E-06
3.3454E-06 1.7056E-05 -8.6648E-06 3.6372E-06 1.7456E-05 -8.6163E-06
3.2981E-06 1.7382E-05 -8.7773E-06
  11   1.6600E-05 2.3591E-04 -1.1821E-04 1.6454E-05 2.3668E-04 -1.1854E-04
1.6410E-05 2.3313E-04 -1.1765E-04 1.9061E-05 2.5670E-04 -1.2928E-04
1.7287E-05 2.3892E-04 -1.1847E-04 1.5991E-05 2.3948E-04 -1.1915E-04
1.5429E-05 2.3223E-04 -1.1793E-04 1.7897E-05 2.3559E-04 -1.1751E-04
1.5028E-05 2.3497E-04 -1.1887E-04
  12 -8.2801E-06 -1.1866E-04 6.2156E-05 -8.2014E-06 -1.1906E-04 6.2331E-05
-8.1788E-06 -1.1719E-04 6.1860E-05 -9.5498E-06 -1.2928E-04 6.8185E-05 -
8.6420E-06 -1.2024E-04 6.2290E-05 -7.9559E-06 -1.2053E-04 6.2650E-05 -
7.6594E-06 -1.1671E-04 6.2007E-05 -8.9659E-06 -1.1849E-04 6.1785E-05 -
7.4469E-06 -1.1816E-04 6.2504E-05

13 3.4900E-06 1.7647E-05 -8.7764E-06 3.4763E-06 1.7719E-05 -8.8061E-06
3.4703E-06 1.7272E-05 -8.6918E-06 3.5653E-06 1.7287E-05 -8.6420E-06
3.9998E-06 2.0088E-05 -9.8160E-06 3.4194E-06 1.8073E-05 -8.8853E-06
3.3487E-06 1.7160E-05 -8.7260E-06 3.6550E-06 1.7582E-05 -8.6761E-06
3.2993E-06 1.7504E-05 -8.8455E-06
14 1.7124E-05 2.4244E-04 -1.2153E-04 1.6936E-05 2.4335E-04 -1.2192E-04
1.6875E-05 2.3877E-04 -1.2075E-04 1.7853E-05 2.3892E-04 -1.2024E-04
2.0088E-05 2.7377E-04 -1.3539E-04 1.6350E-05 2.4699E-04 -1.2273E-04
1.5623E-05 2.3761E-04 -1.2111E-04 1.8774E-05 2.4195E-04 -1.2059E-04
1.5114E-05 2.4115E-04 -1.2233E-04
15 -8.3940E-06 -1.2008E-04 6.2874E-05 -8.3060E-06 -1.2051E-04 6.3063E-05
-8.2787E-06 -1.1840E-04 6.2526E-05 -8.7313E-06 -1.1847E-04 6.2290E-05 -
9.8160E-06 -1.3539E-04 7.0018E-05 -8.0343E-06 -1.2218E-04 6.3433E-05 -
7.6996E-06 -1.1787E-04 6.2690E-05 -9.1576E-06 -1.1986E-04 6.2448E-05 -
7.4638E-06 -1.1949E-04 6.3253E-05
16 3.3713E-06 1.6165E-05 -8.0206E-06 3.3672E-06 1.6208E-05 -8.0381E-06
3.3642E-06 1.5984E-05 -7.9811E-06 3.4121E-06 1.5991E-05 -7.9559E-06
3.4194E-06 1.6350E-05 -8.0343E-06 3.6751E-06 1.7919E-05 -8.8255E-06
3.3029E-06 1.5928E-05 -7.9986E-06 3.4572E-06 1.6138E-05 -7.9726E-06
3.2780E-06 1.6101E-05 -8.0584E-06
17 1.7175E-05 2.4308E-04 -1.2186E-04 1.6983E-05 2.4401E-04 -1.2226E-04
1.6920E-05 2.3932E-04 -1.2106E-04 1.7918E-05 2.3948E-04 -1.2053E-04
1.8073E-05 2.4699E-04 -1.2218E-04 1.7919E-05 2.7433E-04 -1.3635E-04
1.5643E-05 2.3815E-04 -1.2142E-04 1.8859E-05 2.4256E-04 -1.2089E-04
1.5123E-05 2.4176E-04 -1.2268E-04
18 -8.4570E-06 -1.2087E-04 6.3275E-05 -8.3641E-06 -1.2132E-04 6.3471E-05
-8.3348E-06 -1.1908E-04 6.2901E-05 -8.8124E-06 -1.1915E-04 6.2650E-05 -
8.8853E-06 -1.2273E-04 6.3433E-05 -8.8255E-06 -1.3635E-04 7.0814E-05 -
7.7234E-06 -1.1852E-04 6.3076E-05 -9.2625E-06 -1.2062E-04 6.2817E-05 -
7.4747E-06 -1.2025E-04 6.3674E-05
19 3.3195E-06 1.5518E-05 -7.6918E-06 3.3195E-06 1.5547E-05 -7.7035E-06
3.3183E-06 1.5425E-05 -7.6736E-06 3.3454E-06 1.5429E-05 -7.6594E-06
3.3487E-06 1.5623E-05 -7.6996E-06 3.3029E-06 1.5643E-05 -7.7234E-06
3.5933E-06 1.6568E-05 -8.2976E-06 3.3706E-06 1.5509E-05 -7.6675E-06
3.2693E-06 1.5489E-05 -7.7158E-06
20 1.6507E-05 2.3474E-04 -1.1762E-04 1.6368E-05 2.3549E-04 -1.1794E-04
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3.3097E-06 1.8162E-05 -9.2150E-06
23 1.6816E-05 2.3860E-04 -1.1958E-04 1.6652E-05 2.3943E-04 -1.1994E-04
1.6602E-05 2.3545E-04 -1.1893E-04 1.7456E-05 2.3559E-04 -1.1849E-04
1.7582E-05 2.4195E-04 -1.1986E-04 1.6138E-05 2.4256E-04 -1.2062E-04
1.5509E-05 2.3445E-04 -1.1924E-04 2.0521E-05 2.6396E-04 -1.3166E-04

1.5063E-05 2.3751E-04 -1.2029E-04
  24 -8.3045E-06 -1.1897E-04 6.2309E-05 -8.2238E-06 -1.1937E-04 6.2487E-05
-8.1999E-06 -1.1744E-04 6.2001E-05 -8.6163E-06 -1.1751E-04 6.1785E-05 -
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7.6675E-06 -1.1695E-04 6.2151E-05 -1.0137E-05 -1.3166E-04 6.8710E-05 -
7.4499E-06 -1.1844E-04 6.2662E-05
  25   3.2829E-06 1.5061E-05 -7.4583E-06 3.2859E-06 1.5081E-05 -7.4664E-06
3.2854E-06 1.5026E-05 -7.4535E-06 3.2981E-06 1.5028E-05 -7.4469E-06
3.2993E-06 1.5114E-05 -7.4638E-06 3.2780E-06 1.5123E-05 -7.4747E-06
3.2693E-06 1.5013E-05 -7.4584E-06 3.3097E-06 1.5063E-05 -7.4499E-06
3.5532E-06 1.6120E-05 -8.0166E-06
  26   1.6759E-05 2.3789E-04 -1.1922E-04 1.6600E-05 2.3871E-04 -1.1957E-04
1.6551E-05 2.3484E-04 -1.1859E-04 1.7382E-05 2.3497E-04 -1.1816E-04
1.7504E-05 2.4115E-04 -1.1949E-04 1.6101E-05 2.4176E-04 -1.2025E-04
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8.0166E-06 -1.3177E-04 7.0103E-05

Correlation matrix of the 9 vectors
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9.0247E-01 5.3270E-01 -5.1562E-01 8.9690E-01 5.3189E-01 -5.1478E-01
8.9584E-01 5.3129E-01 -5.1498E-01 9.0280E-01 5.3234E-01 -5.1593E-01
8.9900E-01 5.3332E-01 -5.1638E-01 8.8640E-01 5.3134E-01 -5.1431E-01
8.9408E-01 5.3422E-01 -5.1686E-01
   2   5.8682E-01 1.0000E+00 -9.7785E-01 5.2957E-01 9.0656E-01 -8.8535E-01
5.2846E-01 9.0834E-01 -8.8605E-01 5.4171E-01 9.0690E-01 -8.8512E-01
5.4348E-01 9.0249E-01 -8.8391E-01 5.1937E-01 9.0395E-01 -8.8469E-01
5.0423E-01 9.0994E-01 -8.8701E-01 5.5012E-01 9.0454E-01 -8.8398E-01
4.9213E-01 9.0981E-01 -8.8665E-01
   3 -5.6878E-01 -9.7785E-01 1.0000E+00 -5.1241E-01 -8.8527E-01 9.0319E-01
-5.1133E-01 -8.8678E-01 9.0415E-01 -5.2487E-01 -8.8539E-01 9.0329E-01 -
5.2661E-01 -8.8141E-01 9.0168E-01 -5.0207E-01 -8.8289E-01 9.0232E-01 -
4.8693E-01 -8.8829E-01 9.0508E-01 -5.3364E-01 -8.8323E-01 9.0204E-01 -
4.7481E-01 -8.8834E-01 9.0446E-01
   4   9.0263E-01 5.2957E-01 -5.1241E-01 1.0000E+00 5.8149E-01 -5.6327E-01
9.0357E-01 5.2980E-01 -5.1226E-01 8.9657E-01 5.2897E-01 -5.1159E-01
8.9531E-01 5.2721E-01 -5.1129E-01 9.0470E-01 5.2815E-01 -5.1196E-01
9.0200E-01 5.3062E-01 -5.1291E-01 8.8480E-01 5.2793E-01 -5.1101E-01
8.9787E-01 5.3094E-01 -5.1300E-01
   5   5.3291E-01 9.0656E-01 -8.8527E-01 5.8149E-01 1.0000E+00 -9.7793E-01
5.2813E-01 9.0793E-01 -8.8578E-01 5.4183E-01 9.0651E-01 -8.8479E-01
5.4368E-01 9.0253E-01 -8.8378E-01 5.1881E-01 9.0405E-01 -8.8467E-01
5.0330E-01 9.0948E-01 -8.8679E-01 5.5064E-01 9.0432E-01 -8.8370E-01
4.9095E-01 9.0956E-01 -8.8658E-01
   6 -5.1587E-01 -8.8535E-01 9.0319E-01 -5.6327E-01 -9.7793E-01 1.0000E+00
-5.1103E-01 -8.8652E-01 9.0392E-01 -5.2492E-01 -8.8513E-01 9.0302E-01 -
5.2674E-01 -8.8151E-01 9.0158E-01 -5.0160E-01 -8.8302E-01 9.0230E-01 -
4.8616E-01 -8.8797E-01 9.0489E-01 -5.3401E-01 -8.8310E-01 9.0180E-01 -
4.7384E-01 -8.8820E-01 9.0439E-01
   7   9.0247E-01 5.2846E-01 -5.1133E-01 9.0357E-01 5.2813E-01 -5.1103E-01

1.0000E+00 5.7936E-01 -5.6163E-01 8.9613E-01 5.2813E-01 -5.1071E-01
8.9471E-01 5.2587E-01 -5.1014E-01 9.0487E-01 5.2675E-01 -5.1070E-01
9.0261E-01 5.2984E-01 -5.1194E-01 8.8394E-01 5.2689E-01 -5.1007E-01
8.9870E-01 5.2992E-01 -5.1186E-01
   8 5.3270E-01 9.0834E-01 -8.8678E-01 5.2980E-01 9.0793E-01 -8.8652E-01
5.7936E-01 1.0000E+00 -9.7696E-01 5.3904E-01 9.1017E-01 -8.8770E-01
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4.9862E-01 9.1212E-01 -8.8752E-01
   9 -5.1562E-01 -8.8605E-01 9.0415E-01 -5.1226E-01 -8.8578E-01 9.0392E-01
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  10 8.9690E-01 5.4171E-01 -5.2487E-01 8.9657E-01 5.4183E-01 -5.2492E-01
8.9613E-01 5.3904E-01 -5.2342E-01 1.0000E+00 5.9735E-01 -5.8069E-01
8.9511E-01 5.4176E-01 -5.2392E-01 8.9369E-01 5.4320E-01 -5.2581E-01
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8.7851E-01 5.4192E-01 -5.2636E-01
  11 5.3189E-01 9.0690E-01 -8.8539E-01 5.2897E-01 9.0651E-01 -8.8513E-01
5.2813E-01 9.1017E-01 -8.8679E-01 5.9735E-01 1.0000E+00 -9.7716E-01
5.3951E-01 9.0128E-01 -8.8369E-01 5.2063E-01 9.0244E-01 -8.8377E-01
5.0802E-01 9.1224E-01 -8.8748E-01 5.4399E-01 9.0508E-01 -8.8483E-01
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-5.1071E-01 -8.8770E-01 9.0470E-01 -5.8069E-01 -9.7716E-01 1.0000E+00 -
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  13 8.9584E-01 5.4348E-01 -5.2661E-01 8.9531E-01 5.4368E-01 -5.2674E-01
8.9471E-01 5.4021E-01 -5.2484E-01 8.9511E-01 5.3951E-01 -5.2330E-01
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4.9811E-01 9.0382E-01 -8.8253E-01 5.5256E-01 9.0003E-01 -8.7923E-01
4.8460E-01 9.0497E-01 -8.8303E-01
  15 -5.1498E-01 -8.8391E-01 9.0168E-01 -5.1129E-01 -8.8378E-01 9.0158E-01
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4.7320E-01 -8.8673E-01 9.0284E-01
  16 9.0280E-01 5.1937E-01 -5.0207E-01 9.0470E-01 5.1881E-01 -5.0160E-01
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21 -5.1638E-01 -8.8701E-01 9.0508E-01 -5.1291E-01 -8.8679E-01 9.0489E-01
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22 8.8640E-01 5.5012E-01 -5.3364E-01 8.8480E-01 5.5064E-01 -5.3401E-01
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5.2825E-01 -8.8303E-01 9.0284E-01 -5.0205E-01 -8.8463E-01 9.0372E-01 -
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G-FILE for the vectors

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1 7 9024689 1 8 5326961 1 9 -5156158 1 10 8969032 1 11 5318935 D 1
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22 8863992 1 23 5313393 1 24 -5143147 1 25 8940823 1 26 5342222 D 1
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7 5284621 2 8 9083364 2 9 -8860481 2 10 5417145 2 11 9069011 D 2 12
-8851230 2 13 5434752 2 14 9024922 2 15 -8839052 2 16 5193743 D 2 17
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5266064 3 14 -8814135 3 15 9016829 3 16 -5020699 3 17 -8828898 D 3 18
9023205 3 19 -4869304 3 20 -8882852 3 21 9050780 3 22 -5336367 D 3 23 -
8832273 3 24 9020426 3 25 -4748066 3 26 -8883362 3 27 9044594 D 4 5
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5402106 8 14 9026470 8 15 -8850698 8 16 5215352 8 17 9038174 D 8 18 -
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4775172 9 26 -8892849 9 27 9050678 10 11 5973487 10 12 -5806881 D 10 13
8951067 10 14 5417566 10 15 -5239206 10 16 8936858 10 17 5431999 D 10 18 -
5258104 10 19 8861231 10 20 5389828 10 21 -5245733 10 22 8893598 D 10 23

5394698 10 24 -5219178 10 25 8785100 10 26 5419154 10 27 -5263643 D 11 12 -
9771589 11 13 5395073 11 14 9012782 11 15 -8836878 11 16 5206323 D 11 17
9024380 11 18 -8837705 11 19 5080224 11 20 9122401 11 21 -8874756 D 11 22
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8861196 12 13 -5232971 12 14 -8800790 12 15 9015053 12 16 -5025882 D 12 17 -
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8822755 18 24 9005513 18 25 -4712213 18 26 -8872693 18 27 9037247 D 19 20
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9149629 19 26 5073678 19 27 -4861452 20 21 -9762729 20 22 5437019 D 20 23
9081883 20 24 -8879738 20 25 5012454 20 26 9139639 20 27 -8889043 D 21 22 -
5324957 21 23 -8848993 21 24 9040449 21 25 -4770801 21 26 -8901674 D 21 27
9061115 22 23 6150873 22 24 -5955629 22 25 8550518 22 26 5491839 D 22 27 -
5359729 23 24 -9776068 23 25 4918594 23 26 9077244 23 27 -8843083 D 24 25 -
4767930 24 26 -8872159 24 27 9028772 25 26 5310200 25 27 -5079385 D 26 27 -
9772100

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-12510.719	-5528140.728	3170492.177
eng6	-12510.720	-5528140.730	3170492.162
covg	-12510.719	-5528140.714	3170492.162
gvms	-12510.717	-5528140.800	3170492.203
lmcn	-12510.726	-5528140.752	3170492.185
bvhs	-12510.726	-5528140.732	3170492.176
mspk	-12510.722	-5528140.741	3170492.178
fshs	-12510.727	-5528140.744	3170492.193
msga	-12510.721	-5528140.733	3170492.180

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.002	0.021	-0.006	0.002	0.005	-0.021
eng6	0.000	0.019	-0.022	0.000	-0.009	-0.027
covg	0.002	0.035	-0.022	0.002	-0.002	-0.041
gvms	0.003	-0.051	0.020	0.004	-0.008	0.054

lmcn -0.006 -0.003 0.002 -0.006 -
0.000 0.003
bvhs -0.006 0.017 -0.007 -0.006
0.002 -0.019
mspk -0.002 0.008 -0.005 -0.002 -
0.000 -0.010
fshs -0.006 0.006 0.010 -0.006
0.011 -0.000
msga -0.001 0.016 -0.003 -0.001
0.005 -0.016

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 547994.965
Easting (X) [feet] 3661822.673
Convergence [degrees] 0.60185290
Point Scale 0.99992574
Combined Factor 0.99993006

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -1.460 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.335
scatter (mean square distance from rover) is 9635.568
average edop for rover is 0.860
average ndop for rover is 0.760
average hdop for rover is 1.148
average vdop for rover is 2.230
average gdop for rover is 2.940

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:24 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA17.O00 OP1335486152611

FILE: QCFVA17.O00 OP1335486152611

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069w.12o TIME: 00:24:19 UTC

SOFTWARE: rsgps 1.37 RS10.prl 1.73 START: 2012/03/09 22:25:24
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 22:46:55
NAV FILE: brdc0690.12n OBS USED: 1440 / 1458 : 99%
ANT NAME: LEIAT502 NONE QUALITY IND. 31.21/ 22.14
ARP HEIGHT: 1.577 NORMALIZED RMS: 0.300

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18837)

X:	-8270.031(m)	0.007(m)	-8270.763(m)	0.007(m)
Y:	-5533171.478(m)	0.045(m)	-5533169.986(m)	0.045(m)
Z:	3161796.866(m)	0.029(m)	3161796.658(m)	0.029(m)

LAT:	29 54 38.86834	0.005(m)	29 54 38.88663	0.005(m)
E LON:	269 54 51.71115	0.007(m)	269 54 51.68378	0.007(m)
W LON:	90 5 8.28885	0.007(m)	90 5 8.31622	0.007(m)
EL HGT:	-19.010(m)	0.053(m)	-20.406(m)	0.053(m)
ORTHO HGT:	6.887(m)	0.055(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3312471.593	157034.753
Easting (X) [meters]	781396.168	1120482.036
Convergence [degrees]	1.45420753	0.62386460
Point Scale	1.00057708	0.99992697
Combined Factor	1.00058007	0.99992996

US NATIONAL GRID DESIGNATOR: 15RYP8139612471(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	4237.4

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 14301.9
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 62652.8
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 89084.2
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 91624.3
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 91516.9
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 112153.7
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 132190.0
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 148771.8

NEAREST NGS PUBLISHED CONTROL POINT
AU3300 HARVEY LOCK N295438.896 W0900506.316 52.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.033	-5531876.859	3164070.928
eng6	5594.598	-5534921.904	3158759.192
covg	-9174.164	-5501675.364	3215950.516
awes	-94742.051	-5521868.796	3179990.043
lmcn	-64275.988	-5568696.889	3098580.614
bvhs	57650.143	-5564331.472	3106490.845
sjb1	-106395.197	-5505141.475	3208320.271
mspk	82001.471	-5483970.022	3244889.879
msga	130192.486	-5504708.289	3208174.547
qcfv	-8270.763	-5533169.986	3161796.658

Covariance matrix of the stations:
1 3.3920E-07 1.3230E-06 -7.2260E-07 -2.7510E-08 -1.6310E-07 9.1230E-08
-2.6000E-08 -1.7960E-07 9.4990E-08 -2.3730E-08 -2.5270E-07 1.4050E-07 -
2.5260E-08 -2.2300E-07 1.3030E-07 -3.2080E-08 -1.1320E-07 6.8920E-08 -
2.3360E-08 -2.6430E-07 1.4510E-07 -3.2080E-08 -8.9160E-08 3.8510E-08 -
3.8000E-08 -3.7470E-08 1.3010E-08 1.5050E-09 -2.8580E-07 1.6740E-07
2 1.3230E-06 2.5030E-05 -1.4520E-05 -1.6440E-07 -3.1040E-06 1.7900E-06
-1.8390E-07 -3.1530E-06 1.8730E-06 -2.4320E-07 -2.8640E-06 1.6710E-06 -
2.1290E-07 -2.8550E-06 1.5950E-06 -1.1130E-07 -3.1330E-06 1.7560E-06 -
2.5390E-07 -2.8610E-06 1.6930E-06 -1.0370E-07 -3.4570E-06 2.0830E-06 -
4.9220E-08 -3.4920E-06 2.0640E-06 5.6670E-09 4.8140E-07 -2.8280E-07
3 -7.2260E-07 -1.4520E-05 8.7080E-06 8.8700E-08 1.7940E-06 -1.0470E-06
1.0530E-07 1.8700E-06 -1.1320E-06 1.4840E-07 1.6510E-06 -9.7960E-07
1.2180E-07 1.5880E-06 -8.9220E-07 4.8370E-08 1.7700E-06 -9.9720E-07
1.5800E-07 1.6670E-06 -1.0080E-06 4.6420E-08 2.0970E-06 -1.2880E-06
5.4660E-09 2.0870E-06 -1.2530E-06 -1.7670E-08 -5.5810E-07 3.4740E-07
4 -2.7510E-08 -1.6440E-07 8.8700E-08 3.2750E-07 1.2350E-06 -6.7370E-07
-2.7680E-08 -1.7040E-07 9.7360E-08 -4.0110E-08 -2.1220E-07 1.1800E-07 -
3.4690E-08 -1.8720E-07 9.5060E-08 -1.7890E-08 -1.0830E-07 5.1510E-08 -
4.2170E-08 -2.2060E-07 1.2600E-07 -1.5860E-08 -1.0920E-07 6.3740E-08 -
1.0480E-08 -6.2910E-08 3.3360E-08 1.8940E-08 1.0920E-07 -6.4630E-08
5 -1.6310E-07 -3.1040E-06 1.7940E-06 1.2350E-06 2.5310E-05 -1.4650E-05
-1.6700E-07 -3.1890E-06 1.8790E-06 -2.0650E-07 -2.9460E-06 1.7120E-06 -

1.8540E-07 -2.9270E-06 1.6520E-06 -1.1580E-07 -3.1580E-06 1.7850E-06 -
2.1400E-07 -2.9470E-06 1.7310E-06 -1.1110E-07 -3.4510E-06 2.0560E-06 -
7.1980E-08 -3.4760E-06 2.0420E-06 -1.3260E-08 -2.9000E-07 1.6140E-07
   6   9.1230E-08 1.7900E-06 -1.0470E-06 -6.7370E-07 -1.4650E-05 8.7620E-06
9.6500E-08 1.8880E-06 -1.1360E-06 1.3310E-07 1.6840E-06 -9.9560E-07
1.0940E-07 1.6170E-06 -9.1300E-07 4.6540E-08 1.7830E-06 -1.0090E-06
1.4160E-07 1.7020E-06 -1.0230E-06 4.5560E-08 2.1000E-06 -1.2810E-06
9.6880E-09 2.0860E-06 -1.2470E-06 -1.3960E-08 -2.4900E-07 1.6770E-07
   7 -2.6000E-08 -1.8390E-07 1.0530E-07 -2.7680E-08 -1.6700E-07 9.6500E-08
3.4000E-07 1.3570E-06 -7.6780E-07 -2.0440E-08 -2.6190E-07 1.4800E-07 -
2.3280E-08 -2.3180E-07 1.4030E-07 -3.4420E-08 -1.1660E-07 7.5810E-08 -
1.9610E-08 -2.7390E-07 1.5180E-07 -3.4770E-08 -8.7300E-08 3.7250E-08 -
4.2770E-08 -3.4920E-08 1.2820E-08 -6.1600E-09 -3.6680E-07 2.1680E-07
   8 -1.7960E-07 -3.1530E-06 1.8700E-06 -1.7040E-07 -3.1890E-06 1.8880E-06
1.3570E-06 2.5650E-05 -1.5190E-05 -2.1870E-07 -2.9940E-06 1.7870E-06 -
2.0010E-07 -2.9850E-06 1.7360E-06 -1.3640E-07 -3.2170E-06 1.8700E-06 -
2.2530E-07 -2.9920E-06 1.8030E-06 -1.3170E-07 -3.4880E-06 2.1210E-06 -
9.5490E-08 -3.5200E-06 2.1130E-06 -3.5770E-08 -4.3850E-07 2.9540E-07
   9   9.4990E-08 1.8730E-06 -1.1320E-06 9.7360E-08 1.8790E-06 -1.1360E-06
-7.6780E-07 -1.5190E-05 9.2930E-06 8.3560E-08 1.8520E-06 -1.1180E-06
8.4380E-08 1.7760E-06 -1.0830E-06 1.0310E-07 1.8390E-06 -1.1190E-06
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1.1220E-07 2.0320E-06 -1.2240E-06 6.8020E-08 1.1760E-06 -6.9530E-07
  10 -2.3730E-08 -2.4320E-07 1.4840E-07 -4.0110E-08 -2.0650E-07 1.3310E-07
-2.0440E-08 -2.1870E-07 8.3560E-08 4.8760E-07 1.5630E-06 -8.7280E-07
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5.8340E-08 -4.5670E-07 2.2880E-07 -1.0600E-07 1.0260E-09 -7.4320E-08 -
1.6220E-07 7.6480E-08 -7.8000E-08 -9.9680E-08 -2.0730E-06 1.2150E-06
  11 -2.5270E-07 -2.8640E-06 1.6510E-06 -2.1220E-07 -2.9460E-06 1.6840E-06
-2.6190E-07 -2.9940E-06 1.8520E-06 1.5630E-06 2.4010E-05 -1.4020E-05 -
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4.5940E-07 -2.4280E-06 1.5030E-06 -4.7830E-08 -3.5300E-06 2.2420E-06
9.1550E-08 -3.6180E-06 2.1930E-06 9.6300E-08 3.3760E-06 -1.9690E-06
  12   1.4050E-07 1.6710E-06 -9.7960E-07 1.1800E-07 1.7120E-06 -9.9560E-07
1.4800E-07 1.7870E-06 -1.1180E-06 -8.7280E-07 -1.4020E-05 8.4590E-06
1.9050E-07 1.4170E-06 -7.5280E-07 3.8590E-08 1.7130E-06 -9.2370E-07
2.5710E-07 1.4610E-06 -9.1700E-07 2.9600E-08 2.1190E-06 -1.3550E-06 -
4.9040E-08 2.1340E-06 -1.3070E-06 -4.9590E-08 -1.8290E-06 1.0830E-06
  13 -2.5260E-08 -2.1290E-07 1.2180E-07 -3.4690E-08 -1.8540E-07 1.0940E-07
-2.3280E-08 -2.0010E-07 8.4380E-08 1.4740E-08 -3.4940E-07 1.9050E-07
4.0570E-07 1.4510E-06 -7.2920E-07 -6.7890E-08 -1.2260E-07 1.0580E-07
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1.0630E-07 2.6480E-08 -4.1560E-08 -5.5950E-08 -1.2660E-06 7.3780E-07
  14 -2.2300E-07 -2.8550E-06 1.5880E-06 -1.8720E-07 -2.9270E-06 1.6170E-06
-2.3180E-07 -2.9850E-06 1.7760E-06 -3.8100E-07 -2.4970E-06 1.4170E-06
1.4510E-06 2.3860E-05 -1.3600E-05 -6.1760E-08 -2.9860E-06 1.5340E-06 -
4.0660E-07 -2.4750E-06 1.4610E-06 -4.1960E-08 -3.4760E-06 2.1310E-06
8.2110E-08 -3.5440E-06 2.0820E-06 9.5740E-08 2.8590E-06 -1.7260E-06
  15   1.3030E-07 1.5950E-06 -8.9220E-07 9.5060E-08 1.6520E-06 -9.1300E-07
1.4030E-07 1.7360E-06 -1.0830E-06 2.8610E-07 1.2930E-06 -7.5280E-07 -
7.2920E-07 -1.3600E-05 8.0990E-06 -2.7690E-08 1.6650E-06 -8.0830E-07
3.1260E-07 1.2880E-06 -8.0540E-07 -4.3730E-08 2.1730E-06 -1.4020E-06 -
1.6390E-07 2.2010E-06 -1.3330E-06 -1.4280E-07 -3.3280E-06 1.9960E-06
  16 -3.2080E-08 -1.1130E-07 4.8370E-08 -1.7890E-08 -1.1580E-07 4.6540E-08

-3.4420E-08 -1.3640E-07 1.0310E-07 -9.7050E-08 -7.1120E-08 3.8590E-08 -
6.7890E-08 -6.1760E-08 -2.7690E-08 3.4700E-07 8.8730E-07 -5.1590E-07 -
1.0740E-07 -6.8560E-08 5.8450E-08 3.8480E-08 -1.7500E-07 1.4770E-07
8.2500E-08 -1.4720E-07 1.0070E-07 9.1120E-08 1.4810E-06 -8.6980E-07
  17 -1.1320E-07 -3.1330E-06 1.7700E-06 -1.0830E-07 -3.1580E-06 1.7830E-06
-1.1660E-07 -3.2170E-06 1.8390E-06 -1.3420E-07 -3.0260E-06 1.7130E-06 -
1.2260E-07 -2.9860E-06 1.6650E-06 8.8730E-07 2.5520E-05 -1.4430E-05 -
1.3840E-07 -3.0380E-06 1.7300E-06 -8.7630E-08 -3.4250E-06 1.9750E-06 -
6.5610E-08 -3.4290E-06 1.9610E-06 2.8660E-09 -9.0560E-07 4.7830E-07
  18   6.8920E-08 1.7560E-06 -9.9720E-07 5.1510E-08 1.7850E-06 -1.0090E-06
7.5810E-08 1.8700E-06 -1.1190E-06 1.4560E-07 1.5980E-06 -9.2370E-07
1.0580E-07 1.5340E-06 -8.0830E-07 -5.1590E-07 -1.4430E-05 8.5020E-06
1.5980E-07 1.6130E-06 -9.6000E-07 -1.5370E-08 2.1430E-06 -1.3120E-06 -
7.6670E-08 2.1350E-06 -1.2630E-06 -8.7110E-08 -1.1530E-06 7.2230E-07
  19 -2.3360E-08 -2.5390E-07 1.5800E-07 -4.2170E-08 -2.1400E-07 1.4160E-07
-1.9610E-08 -2.2530E-07 8.3550E-08 5.8340E-08 -4.5940E-07 2.5710E-07
2.0990E-08 -4.0660E-07 3.1260E-07 -1.0740E-07 -1.3840E-07 1.5980E-07
5.2390E-07 1.5890E-06 -9.3160E-07 -1.1780E-07 1.4850E-08 -9.0300E-08 -
1.8190E-07 9.3800E-08 -9.0390E-08 -1.1510E-07 -2.3540E-06 1.3820E-06
  20 -2.6430E-07 -2.8610E-06 1.6670E-06 -2.2060E-07 -2.9470E-06 1.7020E-06
-2.7390E-07 -2.9920E-06 1.8800E-06 -4.5670E-07 -2.4280E-06 1.4610E-06 -
3.6900E-07 -2.4750E-06 1.2880E-06 -6.8560E-08 -3.0380E-06 1.6130E-06
1.5890E-06 2.4070E-05 -1.4140E-05 -4.3120E-08 -3.5580E-06 2.2920E-06
1.0680E-07 -3.6560E-06 2.2420E-06 1.0570E-07 3.7420E-06 -2.1630E-06
  21   1.4510E-07 1.6930E-06 -1.0080E-06 1.2600E-07 1.7310E-06 -1.0230E-06
1.5180E-07 1.8030E-06 -1.1320E-06 2.2880E-07 1.5030E-06 -9.1700E-07
1.8670E-07 1.4610E-06 -8.0540E-07 5.8450E-08 1.7300E-06 -9.6000E-07 -
9.3160E-07 -1.4140E-05 8.6060E-06 5.1340E-08 2.1060E-06 -1.3460E-06 -
1.5980E-08 2.1180E-06 -1.3050E-06 -2.2390E-08 -1.4190E-06 8.3020E-07
  22 -3.2080E-08 -1.0370E-07 4.6420E-08 -1.5860E-08 -1.1110E-07 4.5560E-08
-3.4770E-08 -1.3170E-07 1.0890E-07 -1.0600E-07 -4.7830E-08 2.9600E-08 -
7.2840E-08 -4.1960E-08 -4.3730E-08 3.8480E-08 -8.7630E-08 -1.5370E-08 -
1.1780E-07 -4.3120E-08 5.1340E-08 3.5260E-07 7.3090E-07 -3.4040E-07
9.9290E-08 -1.6360E-07 1.1750E-07 1.0440E-07 1.7170E-06 -1.0040E-06
  23 -8.9160E-08 -3.4570E-06 2.0970E-06 -1.0920E-07 -3.4510E-06 2.1000E-06
-8.7300E-08 -3.4880E-06 2.0600E-06 1.0260E-09 -3.5300E-06 2.1190E-06 -
3.8780E-08 -3.4760E-06 2.1730E-06 -1.7500E-07 -3.4250E-06 2.1430E-06
1.4850E-08 -3.5580E-06 2.1060E-06 7.3090E-07 2.7950E-05 -1.6860E-05 -
2.4760E-07 -3.4560E-06 2.0560E-06 -1.3670E-07 -4.0310E-06 2.4290E-06
  24   3.8510E-08 2.0830E-06 -1.2880E-06 6.3740E-08 2.0560E-06 -1.2810E-06
3.7250E-08 2.1210E-06 -1.2380E-06 -7.4320E-08 2.2420E-06 -1.3550E-06 -
2.7660E-08 2.1310E-06 -1.4020E-06 1.4770E-07 1.9750E-06 -1.3120E-06 -
9.0300E-08 2.2920E-06 -1.3460E-06 -3.4040E-07 -1.6860E-05 1.0500E-05
2.4560E-07 1.9580E-06 -1.1600E-06 1.6130E-07 3.9610E-06 -2.3450E-06
  25 -3.8000E-08 -4.9220E-08 5.4660E-09 -1.0480E-08 -7.1980E-08 9.6880E-09
-4.2770E-08 -9.5490E-08 1.1220E-07 -1.6220E-07 9.1550E-08 -4.9040E-08 -
1.0630E-07 8.2110E-08 -1.6390E-07 8.2500E-08 -6.5610E-08 -7.6670E-08 -
1.8190E-07 1.0680E-07 -1.5980E-08 9.9290E-08 -2.4760E-07 2.4560E-07
4.7090E-07 2.4970E-07 -6.7720E-08 1.7210E-07 3.0380E-06 -1.7800E-06
  26 -3.7470E-08 -3.4920E-06 2.0870E-06 -6.2910E-08 -3.4760E-06 2.0860E-06
-3.4920E-08 -3.5200E-06 2.0320E-06 7.6480E-08 -3.6180E-06 2.1340E-06
2.6480E-08 -3.5440E-06 2.2010E-06 -1.4720E-07 -3.4290E-06 2.1350E-06
9.3800E-08 -3.6560E-06 2.1180E-06 -1.6360E-07 -3.4560E-06 1.9580E-06
2.4970E-07 2.8300E-05 -1.6750E-05 -1.2060E-07 -4.6820E-06 2.7760E-06

27 1.3010E-08 2.0640E-06 -1.2530E-06 3.3360E-08 2.0420E-06 -1.2470E-06
1.2820E-08 2.1130E-06 -1.2240E-06 -7.8000E-08 2.1930E-06 -1.3070E-06 -
4.1560E-08 2.0820E-06 -1.3330E-06 1.0070E-07 1.9610E-06 -1.2630E-06 -
9.0390E-08 2.2420E-06 -1.3050E-06 1.1750E-07 2.0560E-06 -1.1600E-06 -
6.7720E-08 -1.6750E-05 1.0200E-05 1.0410E-07 3.4000E-06 -1.9950E-06
28 1.5050E-09 5.6670E-09 -1.7670E-08 1.8940E-08 -1.3260E-08 -1.3960E-08
-6.1600E-09 -3.5770E-08 6.8020E-08 -9.9680E-08 9.6300E-08 -4.9590E-08 -
5.5950E-08 9.5740E-08 -1.4280E-07 9.1120E-08 2.8660E-09 -8.7110E-08 -
1.1510E-07 1.0570E-07 -2.2390E-08 1.0440E-07 -1.3670E-07 1.6130E-07
1.7210E-07 -1.2060E-07 1.0410E-07 3.2270E-06 1.1890E-05 -6.4720E-06
29 -2.8580E-07 4.8140E-07 -5.5810E-07 1.0920E-07 -2.9000E-07 -2.4900E-07
-3.6680E-07 -4.3850E-07 1.1760E-06 -2.0730E-06 3.3760E-06 -1.8290E-06 -
1.2660E-06 2.8590E-06 -3.3280E-06 1.4810E-06 -9.0560E-07 -1.1530E-06 -
2.3540E-06 3.7420E-06 -1.4190E-06 1.7170E-06 -4.0310E-06 3.9610E-06
3.0380E-06 -4.6820E-06 3.4000E-06 1.1890E-05 2.2860E-04 -1.3290E-04
30 1.6740E-07 -2.8280E-07 3.4740E-07 -6.4630E-08 1.6140E-07 1.6770E-07
2.1680E-07 2.9540E-07 -6.9530E-07 1.2150E-06 -1.9690E-06 1.0830E-06
7.3780E-07 -1.7260E-06 1.9960E-06 -8.6980E-07 4.7830E-07 7.2230E-07
1.3820E-06 -2.1630E-06 8.3020E-07 -1.0040E-06 2.4290E-06 -2.3450E-06 -
1.7800E-06 2.7760E-06 -1.9950E-06 -6.4720E-06 -1.3290E-04 8.0000E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000032270 0.0000118900 -0.0000064720
0.0000118900 0.0002286000 -0.0001329000
-0.0000064720 -0.0001329000 0.0000800000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000031920 0.0000002851 -0.0000131433
0.0000002851 0.0000020804 0.0000034505
-0.0000131433 0.0000034505 0.0003065546

Horizontal network accuracy = 0.00400 meters.
Vertical network accuracy = 0.03433 meters.

		Vectors		
To	From	X	Y	Z
nola	qcfv	-3333.270	1293.127	2274.270
eng6	qcfv	13865.360	-1751.919	-3037.466
covg	qcfv	-903.401	31494.622	54153.858
awes	qcfv	-86471.288	11301.189	18193.385
lmcn	qcfv	-56005.225	-35526.904	-63216.044
bvhs	qcfv	65920.906	-31161.486	-55305.813
sjb1	qcfv	-98124.434	28028.510	46523.613
mspk	qcfv	90272.234	49199.964	83093.221
msga	qcfv	138463.249	28461.697	46377.889

Covariance matrix of the 9 vectors
1 3.5632E-06 1.3493E-05 -7.3443E-06 3.1790E-06 1.2026E-05 -6.5342E-06
3.2057E-06 1.2032E-05 -6.6124E-06 3.3014E-06 1.1827E-05 -6.4493E-06
3.2562E-06 1.1857E-05 -6.3663E-06 3.1023E-06 1.2060E-05 -6.4834E-06
3.3172E-06 1.1806E-05 -6.4719E-06 3.0890E-06 1.2223E-05 -6.7622E-06
3.0154E-06 1.2259E-05 -6.7305E-06
2 1.3493E-05 2.5267E-04 -1.4658E-04 1.1611E-05 2.2530E-04 -1.3058E-04

1.2067E-05 2.2540E-04 -1.3192E-04 1.3714E-05 2.2188E-04 -1.2912E-04
1.2937E-05 2.2240E-04 -1.2769E-04 1.0292E-05 2.2589E-04 -1.2971E-04
1.3984E-05 2.2152E-04 -1.2951E-04 1.0064E-05 2.2869E-04 -1.3450E-04
8.7971E-06 2.2931E-04 -1.3395E-04
   3 -7.3443E-06 -1.4658E-04 8.8013E-05 -6.3010E-06 -1.3071E-04 7.8438E-05
-6.5658E-06 -1.3077E-04 7.9216E-05 -7.5209E-06 -1.2872E-04 7.7590E-05 -
7.0703E-06 -1.2903E-04 7.6764E-05 -5.5362E-06 -1.3105E-04 7.7933E-05 -
7.6783E-06 -1.2851E-04 7.7814E-05 -5.4039E-06 -1.3267E-04 8.0710E-05 -
4.6689E-06 -1.3303E-04 8.0395E-05
   4   3.1790E-06 1.1611E-05 -6.3010E-06 3.5166E-06 1.3029E-05 -7.0671E-06
3.1865E-06 1.1646E-05 -6.3780E-06 3.2676E-06 1.1472E-05 -6.2398E-06
3.2293E-06 1.1498E-05 -6.1695E-06 3.0991E-06 1.1670E-05 -6.2687E-06
3.2810E-06 1.1455E-05 -6.2590E-06 3.0878E-06 1.1808E-05 -6.5049E-06
3.0255E-06 1.1838E-05 -6.4781E-06
   5   1.2026E-05 2.2530E-04 -1.3071E-04 1.3029E-05 2.5449E-04 -1.4746E-04
1.2103E-05 2.2614E-04 -1.3236E-04 1.3770E-05 2.2257E-04 -1.2952E-04
1.2984E-05 2.2310E-04 -1.2808E-04 1.0306E-05 2.2664E-04 -1.3012E-04
1.4043E-05 2.2220E-04 -1.2991E-04 1.0075E-05 2.2947E-04 -1.3497E-04
8.7933E-06 2.3010E-04 -1.3442E-04
   6 -6.5342E-06 -1.3058E-04 7.8438E-05 -7.0671E-06 -1.4746E-04 8.8427E-05
-6.5783E-06 -1.3106E-04 7.9392E-05 -7.5399E-06 -1.2900E-04 7.7754E-05 -
7.0864E-06 -1.2931E-04 7.6923E-05 -5.5417E-06 -1.3135E-04 7.8101E-05 -
7.6984E-06 -1.2879E-04 7.7979E-05 -5.4085E-06 -1.3298E-04 8.0896E-05 -
4.6684E-06 -1.3334E-04 8.0580E-05
   7   3.2057E-06 1.2067E-05 -6.5658E-06 3.1865E-06 1.2103E-05 -6.5783E-06
3.5793E-06 1.3650E-05 -7.5246E-06 3.3124E-06 1.1899E-05 -6.4912E-06
3.2658E-06 1.1929E-05 -6.4057E-06 3.1076E-06 1.2137E-05 -6.5259E-06
3.3287E-06 1.1877E-05 -6.5146E-06 3.0940E-06 1.2306E-05 -6.8129E-06
3.0183E-06 1.2342E-05 -6.7801E-06
   8   1.2032E-05 2.2540E-04 -1.3077E-04 1.1646E-05 2.2614E-04 -1.3106E-04
1.3650E-05 2.5513E-04 -1.4956E-04 1.3780E-05 2.2267E-04 -1.2958E-04
1.2992E-05 2.2319E-04 -1.2813E-04 1.0308E-05 2.2673E-04 -1.3017E-04
1.4054E-05 2.2230E-04 -1.2997E-04 1.0077E-05 2.2958E-04 -1.3504E-04
8.7923E-06 2.3020E-04 -1.3448E-04
   9 -6.6124E-06 -1.3192E-04 7.9216E-05 -6.3780E-06 -1.3236E-04 7.9392E-05
-7.5246E-06 -1.4956E-04 9.0684E-05 -7.6715E-06 -1.3025E-04 7.8494E-05 -
7.1934E-06 -1.3057E-04 7.7616E-05 -5.5671E-06 -1.3272E-04 7.8854E-05 -
7.8385E-06 -1.3003E-04 7.8733E-05 -5.4271E-06 -1.3445E-04 8.1802E-05 -
4.6478E-06 -1.3482E-04 8.1466E-05
  10   3.3014E-06 1.3714E-05 -7.5209E-06 3.2676E-06 1.3770E-05 -7.5399E-06
3.3124E-06 1.3780E-05 -7.6715E-06 3.9140E-06 1.5430E-05 -8.5102E-06
3.3974E-06 1.3486E-05 -7.2581E-06 3.1385E-06 1.3826E-05 -7.4543E-06
3.5001E-06 1.3401E-05 -7.4358E-06 3.1163E-06 1.4101E-05 -7.9226E-06
2.9924E-06 1.4160E-05 -7.8691E-06
  11   1.1827E-05 2.2188E-04 -1.2872E-04 1.1472E-05 2.2257E-04 -1.2900E-04
1.1899E-05 2.2267E-04 -1.3025E-04 1.5430E-05 2.4586E-04 -1.4312E-04
1.2710E-05 2.1987E-04 -1.2631E-04 1.0242E-05 2.2310E-04 -1.2818E-04
1.3688E-05 2.1905E-04 -1.2801E-04 1.0029E-05 2.2572E-04 -1.3265E-04
8.8472E-06 2.2629E-04 -1.3214E-04
  12 -6.4493E-06 -1.2912E-04 7.7590E-05 -6.2398E-06 -1.2952E-04 7.7754E-05
-6.4912E-06 -1.2958E-04 7.8494E-05 -8.5102E-06 -1.4312E-04 8.6293E-05 -
6.9697E-06 -1.2793E-04 7.6168E-05 -5.5140E-06 -1.2984E-04 7.7271E-05 -
7.5473E-06 -1.2745E-04 7.7170E-05 -5.3888E-06 -1.3138E-04 7.9907E-05 -
4.6914E-06 -1.3171E-04 7.9605E-05

13 3.2562E-06 1.2937E-05 -7.0703E-06 3.2293E-06 1.2984E-05 -7.0864E-06
3.2658E-06 1.2992E-05 -7.1934E-06 3.3974E-06 1.2710E-05 -6.9697E-06
3.7446E-06 1.4511E-05 -7.7962E-06 3.1239E-06 1.3031E-05 -7.0169E-06
3.4190E-06 1.2681E-05 -7.0007E-06 3.1057E-06 1.3254E-05 -7.3988E-06
3.0046E-06 1.3303E-05 -7.3555E-06
14 1.1857E-05 2.2240E-04 -1.2903E-04 1.1498E-05 2.2310E-04 -1.2931E-04
1.1929E-05 2.2319E-04 -1.3057E-04 1.3486E-05 2.1987E-04 -1.2793E-04
1.4511E-05 2.4674E-04 -1.4145E-04 1.0252E-05 2.2366E-04 -1.2849E-04
1.3742E-05 2.1952E-04 -1.2829E-04 1.0035E-05 2.2630E-04 -1.3300E-04
8.8384E-06 2.2688E-04 -1.3249E-04
15 -6.3663E-06 -1.2769E-04 7.6764E-05 -6.1695E-06 -1.2808E-04 7.6923E-05
-6.4057E-06 -1.2813E-04 7.7616E-05 -7.2581E-06 -1.2631E-04 7.6168E-05 -
7.7962E-06 -1.4145E-04 8.4107E-05 -5.4871E-06 -1.2839E-04 7.6473E-05 -
7.3986E-06 -1.2612E-04 7.6368E-05 -5.3689E-06 -1.2983E-04 7.8947E-05 -
4.7131E-06 -1.3015E-04 7.8666E-05
16 3.1023E-06 1.0292E-05 -5.5362E-06 3.0991E-06 1.0306E-05 -5.5417E-06
3.1076E-06 1.0308E-05 -5.5671E-06 3.1385E-06 1.0242E-05 -5.5140E-06
3.1239E-06 1.0252E-05 -5.4871E-06 3.3918E-06 1.1293E-05 -6.0310E-06
3.1436E-06 1.0235E-05 -5.5214E-06 3.0700E-06 1.0371E-05 -5.6158E-06
3.0463E-06 1.0382E-05 -5.6056E-06
17 1.2060E-05 2.2589E-04 -1.3105E-04 1.1670E-05 2.2664E-04 -1.3135E-04
1.2137E-05 2.2673E-04 -1.3272E-04 1.3826E-05 2.2310E-04 -1.2984E-04
1.3031E-05 2.2366E-04 -1.2839E-04 1.1293E-05 2.5593E-04 -1.4666E-04
1.4103E-05 2.2273E-04 -1.3023E-04 1.0083E-05 2.3011E-04 -1.3536E-04
8.7835E-06 2.3076E-04 -1.3482E-04
18 -6.4834E-06 -1.2971E-04 7.7933E-05 -6.2687E-06 -1.3012E-04 7.8101E-05
-6.5259E-06 -1.3017E-04 7.8854E-05 -7.4543E-06 -1.2818E-04 7.7271E-05 -
7.0169E-06 -1.2849E-04 7.6473E-05 -6.0310E-06 -1.4666E-04 8.7057E-05 -
7.6071E-06 -1.2797E-04 7.7488E-05 -5.3963E-06 -1.3203E-04 8.0311E-05 -
4.6816E-06 -1.3239E-04 8.0010E-05
19 3.3172E-06 1.3984E-05 -7.6783E-06 3.2810E-06 1.4043E-05 -7.6984E-06
3.3287E-06 1.4054E-05 -7.8385E-06 3.5001E-06 1.3688E-05 -7.5473E-06
3.4190E-06 1.3742E-05 -7.3986E-06 3.1436E-06 1.4103E-05 -7.6071E-06
3.9811E-06 1.5727E-05 -8.7632E-06 3.1199E-06 1.4396E-05 -8.1056E-06
2.9881E-06 1.4458E-05 -8.0485E-06
20 1.1806E-05 2.2152E-04 -1.2851E-04 1.1455E-05 2.2220E-04 -1.2879E-04
1.1877E-05 2.2230E-04 -1.3003E-04 1.3401E-05 2.1905E-04 -1.2745E-04
1.2681E-05 2.1952E-04 -1.2612E-04 1.0235E-05 2.2273E-04 -1.2797E-04
1.5727E-05 2.4519E-04 -1.4346E-04 1.0024E-05 2.2533E-04 -1.3241E-04
8.8531E-06 2.2588E-04 -1.3190E-04
21 -6.4719E-06 -1.2951E-04 7.7814E-05 -6.2590E-06 -1.2991E-04 7.7979E-05
-6.5146E-06 -1.2997E-04 7.8733E-05 -7.4358E-06 -1.2801E-04 7.7170E-05 -
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3.3537E-06 9.2223E-06 -4.8638E-06
  26   1.2259E-05 2.2931E-04 -1.3303E-04 1.1838E-05 2.3010E-04 -1.3334E-04
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4.8638E-06 -1.5583E-04 9.4190E-05

Correlation matrix of the 9 vectors
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8.9143E-01 3.9989E-01 -3.6775E-01 8.9238E-01 3.9935E-01 -3.6811E-01
8.8076E-01 3.9942E-01 -3.6770E-01 8.9132E-01 3.9808E-01 -3.6717E-01
8.7229E-01 3.9799E-01 -3.6739E-01
   2   4.4970E-01 1.0000E+00 -9.8293E-01 3.8951E-01 8.8851E-01 -8.7358E-01
4.0127E-01 8.8779E-01 -8.7151E-01 4.3610E-01 8.9022E-01 -8.7442E-01
4.2060E-01 8.9073E-01 -8.7595E-01 3.5157E-01 8.8831E-01 -8.7456E-01
4.4093E-01 8.8998E-01 -8.7375E-01 3.4484E-01 8.8445E-01 -8.6723E-01
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-3.6993E-01 -8.7266E-01 8.8669E-01 -4.0522E-01 -8.7506E-01 8.9032E-01 -
3.8946E-01 -8.7556E-01 8.9222E-01 -3.2042E-01 -8.7318E-01 8.9032E-01 -
4.1020E-01 -8.7483E-01 8.8953E-01 -3.1374E-01 -8.6937E-01 8.8177E-01 -
2.7175E-01 -8.6901E-01 8.8298E-01
   4   8.9808E-01 3.8951E-01 -3.5816E-01 1.0000E+00 4.3553E-01 -4.0076E-01
8.9817E-01 3.8881E-01 -3.5716E-01 8.8077E-01 3.9016E-01 -3.5819E-01
8.8991E-01 3.9033E-01 -3.5873E-01 8.9733E-01 3.8899E-01 -3.5827E-01
8.7688E-01 3.9009E-01 -3.5795E-01 8.9685E-01 3.8710E-01 -3.5554E-01
8.8099E-01 3.8688E-01 -3.5595E-01
   5   3.9936E-01 8.8851E-01 -8.7337E-01 4.3553E-01 1.0000E+00 -9.8300E-01
4.0101E-01 8.8749E-01 -8.7127E-01 4.3630E-01 8.8979E-01 -8.7401E-01
4.2060E-01 8.9033E-01 -8.7546E-01 3.5080E-01 8.8805E-01 -8.7421E-01
4.4120E-01 8.8953E-01 -8.7335E-01 3.4399E-01 8.8427E-01 -8.6715E-01
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   6 -3.6811E-01 -8.7358E-01 8.8912E-01 -4.0076E-01 -9.8300E-01 1.0000E+00
-3.6976E-01 -8.7256E-01 8.8658E-01 -4.0529E-01 -8.7488E-01 8.9011E-01 -
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8.9205E-01 4.0141E-01 -3.6919E-01 8.9190E-01 4.0102E-01 -3.6969E-01
8.8179E-01 4.0093E-01 -3.6929E-01 8.9074E-01 3.9987E-01 -3.6909E-01
8.7116E-01 3.9980E-01 -3.6926E-01
   8 3.9906E-01 8.8779E-01 -8.7266E-01 3.8881E-01 8.8749E-01 -8.7256E-01
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4.4100E-01 8.8884E-01 -8.7267E-01 3.4363E-01 8.8360E-01 -8.6651E-01
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   9 -3.6786E-01 -8.7151E-01 8.8669E-01 -3.5716E-01 -8.7127E-01 8.8658E-01
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G-FILE for the vectors

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8901061 6 13 -3894340 6 14 -8754117 6 15 8919702 6 16 -3199919 D 6 17 -
8731015 6 18 8901481 6 19 -4103077 6 20 -8746400 6 21 8893300 D 6 22 -
3132688 6 23 -8693408 6 24 8817420 6 25 -2710878 6 26 -8689924 D 6 27
8829477 7 8 4516900 7 9 -4176571 7 10 8849817 7 11 4011007 D 7 12 -
3693495 7 13 8920528 7 14 4014132 7 15 -3691902 7 16 8918977 D 7 17
4010157 7 18 -3696885 7 19 8817923 7 20 4009276 7 21 -3692872 D 7 22
8907424 7 23 3998701 7 24 -3690905 7 25 8711613 7 26 3998029 D 7 27 -
3692599 8 9 -9832793 8 10 4360788 8 11 8890750 8 12 -8733130 D 8 13
4203238 8 14 8895773 8 15 -8747043 8 16 3504283 8 17 8872859 D 8 18 -
8734496 8 19 4409960 8 20 8888371 8 21 -8726748 8 22 3436288 D 8 23
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4071978 9 11 -8723441 9 12 8873316 9 13 -3903637 9 14 -8729126 D 9 15
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2665157 9 26 -8676283 9 27 8814774 10 11 4974015 10 12 -4630675 D 10 13
8874255 10 14 4339720 10 15 -4000356 10 16 8613958 10 17 4368422 D 10 18 -
4038269 10 19 8866928 10 20 4325817 10 21 -4030846 10 22 8579496 D 10 23

4381557 10 24 -4104544 10 25 8259360 10 26 4386329 10 27 -4098401 D 11 12 -
9825992 11 13 4189005 11 14 8926851 11 15 -8783740 11 16 3546600 D 11 17
8894116 11 18 -8761435 11 19 4375279 11 20 8921978 11 21 -8755370 D 11 22
3483720 11 23 8849785 11 24 -8671004 11 25 3081087 11 26 8844293 D 11 27 -
8683267 12 13 -3877253 12 14 -8767106 12 15 8940665 12 16 -3223057 D 12 17 -
8736686 12 18 8915093 12 19 -4071953 12 20 -8761813 12 21 8909140 D 12 22 -
3159647 12 23 -8694407 12 24 8816604 12 25 -2757764 12 26 -8689296 D 12 27
8829785 13 14 4773982 13 15 -4393030 13 16 8765716 13 17 4209183 D 13 18 -
3886324 13 19 8855231 13 20 4185171 13 21 -3879855 13 22 8741615 D 13 23
4210530 13 24 -3918867 13 25 8478413 13 26 4213017 13 27 -3916559 D 14 15 -
9818678 14 16 3543670 14 17 8900334 14 18 -8766672 14 19 4384460 D 14 20
8925090 14 21 -8759130 14 22 3479704 14 23 8856264 14 24 -8678556 D 14 25
3072476 14 26 8851493 14 27 -8690919 15 16 -3248728 15 17 -8750595 D 15 18
8936994 15 19 -4043262 15 20 -8782608 15 21 8930459 15 22 -3188637 D 15 23 -
8702570 15 24 8823154 15 25 -2806263 15 26 -8696847 15 27 8838297 D 16 17
3833114 16 18 -3509725 16 19 8554810 16 20 3549085 16 21 -3215212 D 16 22
9079327 16 23 3461710 16 24 -3125384 16 25 9032233 16 26 3454848 D 16 27 -
3136224 17 18 -9825016 17 19 4418146 17 20 8891206 17 21 -8730181 D 17 22
3432735 17 23 8842440 17 24 -8672550 17 25 2998092 17 26 8839751 D 17 27 -
8683236 18 19 -4086148 18 20 -8759128 18 21 8906457 18 22 -3150094 D 18 23 -
8699111 18 24 8822159 18 25 -2739842 18 26 -8695399 18 27 8835627 D 19 20
5033902 19 21 -4710183 19 22 8516725 19 23 4435289 19 24 -4163781 D 19 25
8177705 19 26 4440812 19 27 -4156334 20 21 -9825465 20 22 3486860 D 20 23
8846436 20 24 -8666907 20 25 3087346 20 26 8840593 20 27 -8679168 D 21 22 -
3150956 21 23 -8689604 21 24 8812231 21 25 -2743963 21 26 -8684623 D 21 27
8824741 22 23 3696761 22 24 -3332654 22 25 9070711 22 26 3381323 D 22 27 -
3061216 23 24 -9838786 23 25 2934264 23 26 8810273 23 27 -8657162 D 24 25 -
2578852 24 26 -8648002 24 27 8784577 25 26 3086177 25 27 -2736610 D 26 27 -
9839687

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-8270.756	-5533169.944	3161796.631
eng6	-8270.755	-5533169.942	3161796.623
covg	-8270.758	-5533169.945	3161796.628
awes	-8270.753	-5533169.922	3161796.615
lmcn	-8270.759	-5533169.925	3161796.627
bvhs	-8270.756	-5533169.938	3161796.630
sjb1	-8270.762	-5533169.981	3161796.659
mspk	-8270.756	-5533169.964	3161796.647
msga	-8270.751	-5533169.965	3161796.644

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.006	0.042	-0.027	0.006	-0.002	-0.050
eng6	0.008	0.044	-0.035	0.007	-0.008	-0.055
covg	0.005	0.040	-0.030	0.005	-0.006	-0.050
awes	0.010	0.064	-0.043	0.010	-0.005	-0.076

lmcn	0.004	0.061	-0.031	0.004		
0.003	-0.068					
bvhs	0.006	0.048	-0.028	0.006	-	
0.001	-0.055					
sjb1	0.001	0.005	0.001	0.001		
0.003	-0.004					
mspk	0.007	0.022	-0.011	0.007		
0.001	-0.024					
msga	0.011	0.021	-0.014	0.011	-	
0.002	-0.025					

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 515204.853
Easting (X) [feet] 3676114.812
Convergence [degrees] 0.62386460
Point Scale 0.99992697
Combined Factor 0.99992996

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 6.789 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.349
scatter (mean square distance from rover) is 9003.494
average edop for rover is 0.900
average ndop for rover is 0.950
average hdop for rover is 1.309
average vdop for rover is 2.750
average gdop for rover is 3.680

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:27 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA18.O00 OP1335486262160

FILE: QCFVA18.O00 OP1335486262160

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069v.12o TIME: 00:26:50 UTC

SOFTWARE: rsgps 1.37 RS40.prl 1.73 START: 2012/03/09 21:05:28
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 21:25:30
NAV FILE: brdc0690.12n OBS USED: 1845 / 1854 : 100%
ANT NAME: LEIAT502 NONE QUALITY IND. 24.78/ 30.37
ARP HEIGHT: 1.573 NORMALIZED RMS: 0.315

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18821)

X:	-9811.207(m)	0.005(m)	-9811.939(m)	0.005(m)
Y:	-5536458.928(m)	0.021(m)	-5536457.435(m)	0.021(m)
Z:	3156058.098(m)	0.013(m)	3156057.889(m)	0.013(m)

LAT:	29 51 4.03992	0.003(m)	29 51 4.05814	0.003(m)
E LON:	269 53 54.47673	0.005(m)	269 53 54.44936	0.005(m)
W LON:	90 6 5.52327	0.005(m)	90 6 5.55064	0.005(m)
EL HGT:	-25.459(m)	0.025(m)	-26.857(m)	0.025(m)
ORTHO HGT:	0.267(m)	0.027(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3305816.116	150404.051
Easting (X) [meters]	780027.331	1119017.988
Convergence [degrees]	1.44364612	0.61591518
Point Scale	1.00056761	0.99992914
Combined Factor	1.00057161	0.99993314

US NATIONAL GRID DESIGNATOR: 15RYP8002705816(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	9402.2

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 15716.8
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 24559.3
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 66398.2
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 88232.6
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 92824.1
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 114194.4
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 135472.1
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 152726.5

NEAREST NGS PUBLISHED CONTROL POINT
AU3310 MEDIAN AZ MK N295101.305 W0900616.459 305.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.033	-5531876.845	3164070.917
eng6	5594.595	-5534921.901	3158759.187
lwes	-33746.213	-5533652.943	3160795.445
gris	4149.694	-5568493.928	3099600.300
bvhs	57650.147	-5564331.465	3106490.837
gvms	-86907.674	-5510048.252	3200500.237
sjb1	-106395.200	-5505141.442	3208320.255
fshs	-145211.080	-5537098.000	3151657.539
msga	130192.491	-5504708.318	3208174.566
qcfv	-9811.939	-5536457.435	3156057.889

Covariance matrix of the stations:
1 2.7680E-07 -4.9120E-07 3.1390E-07 -1.9030E-08 6.6560E-08 -4.2230E-08
-2.0420E-08 5.3180E-08 -3.4710E-08 -1.9940E-08 6.4980E-08 -4.4810E-08 -
1.8460E-08 8.6760E-08 -5.6120E-08 -2.2210E-08 3.9320E-08 -2.4330E-08 -
2.3060E-08 3.4690E-08 -2.1170E-08 -2.6070E-08 2.3150E-08 -1.8980E-08 -
1.6540E-08 1.2260E-07 -7.1640E-08 1.5290E-08 6.5670E-08 -3.7760E-08
2 -4.9120E-07 1.3510E-05 -7.6810E-06 6.6160E-08 -1.7140E-06 9.8240E-07
5.4440E-08 -1.6400E-06 9.4040E-07 6.7580E-08 -1.7610E-06 9.8760E-07
8.6740E-08 -1.8730E-06 1.0530E-06 4.0510E-08 -1.5240E-06 8.8600E-07
3.6220E-08 -1.4900E-06 8.6860E-07 2.8910E-08 -1.4680E-06 8.3960E-07
1.1060E-07 -1.9240E-06 1.1240E-06 -7.9370E-10 -4.3240E-08 3.6950E-08
3 3.1390E-07 -7.6810E-06 4.5970E-06 -4.1060E-08 9.7970E-07 -5.7120E-07
-3.5860E-08 9.4100E-07 -5.4960E-07 -4.0980E-08 9.6940E-07 -5.5590E-07 -
4.9390E-08 1.0310E-06 -5.9110E-07 -2.9840E-08 9.0040E-07 -5.3250E-07 -
2.7940E-08 8.8610E-07 -5.2540E-07 -2.5210E-08 8.4530E-07 -4.9450E-07 -
6.3650E-08 1.1280E-06 -6.6590E-07 5.3100E-11 7.6670E-08 -3.1700E-08
4 -1.9030E-08 6.6160E-08 -4.1060E-08 2.8540E-07 -5.6580E-07 3.5490E-07
-2.3840E-08 6.7150E-08 -4.2990E-08 -1.7830E-08 5.7840E-08 -5.5020E-08 -
6.2160E-09 5.5680E-08 -5.0830E-08 -3.3640E-08 7.8480E-08 -3.8540E-08 -
3.7410E-08 8.1900E-08 -3.8500E-08 -4.7530E-08 8.0090E-08 -5.5060E-08
1.1150E-08 7.8570E-08 -3.2970E-08 5.4230E-09 2.9680E-07 -1.7280E-07
5 6.6560E-08 -1.7140E-06 9.7970E-07 -5.6580E-07 1.3890E-05 -7.8790E-06
7.0980E-08 -1.7030E-06 9.7510E-07 6.9100E-08 -1.7670E-06 1.0280E-06

6.0670E-08 -1.8150E-06 1.0500E-06 7.8850E-08 -1.6560E-06 9.3690E-07
8.2480E-08 -1.6450E-06 9.2800E-07 9.4520E-08 -1.6480E-06 9.5000E-07
4.2520E-08 -1.8310E-06 1.0310E-06 2.8420E-08 -8.6850E-07 5.1140E-07
   6 -4.2230E-08 9.8240E-07 -5.7120E-07 3.5490E-07 -7.8790E-06 4.6960E-06
-4.4150E-08 9.7270E-07 -5.6650E-07 -4.2660E-08 9.7580E-07 -5.7500E-07 -
3.8910E-08 1.0090E-06 -5.9170E-07 -4.7740E-08 9.6230E-07 -5.5650E-07 -
4.9320E-08 9.5770E-07 -5.5310E-07 -5.5120E-08 9.2840E-07 -5.4460E-07 -
3.4660E-08 1.0900E-06 -6.2660E-07 -1.5440E-08 4.6820E-07 -2.5930E-07
   7 -2.0420E-08 5.4440E-08 -3.5860E-08 -2.3840E-08 7.0980E-08 -4.4150E-08
2.7670E-07 -4.2380E-07 2.7570E-07 -2.3000E-08 7.5390E-08 -3.1920E-08 -
3.4780E-08 1.2850E-07 -6.3500E-08 -7.5750E-09 -1.0730E-08 -6.2450E-09 -
4.6280E-09 -2.5880E-08 1.0010E-09 1.6530E-09 -5.0170E-08 2.7720E-08 -
5.3030E-08 1.8130E-07 -1.2270E-07 1.7850E-08 -2.1830E-07 1.2710E-07
   8   5.3180E-08 -1.6400E-06 9.4100E-07 6.7150E-08 -1.7030E-06 9.7270E-07
-4.2380E-07 1.3210E-05 -7.4990E-06 6.4750E-08 -1.7630E-06 9.4550E-07
1.1260E-07 -1.9430E-06 1.0540E-06 -5.4870E-10 -1.3950E-06 8.3310E-07 -
1.3060E-08 -1.3390E-06 8.0690E-07 -4.0500E-08 -1.2890E-06 7.2460E-07
1.8020E-07 -2.0320E-06 1.2210E-06 -1.7930E-08 4.1260E-07 -2.3380E-07
   9 -3.4710E-08 9.4040E-07 -5.4960E-07 -4.2990E-08 9.7510E-07 -5.6650E-07
2.7570E-07 -7.4990E-06 4.4850E-06 -4.0270E-08 9.7350E-07 -5.2870E-07 -
6.8530E-08 1.0830E-06 -5.9440E-07 -2.6580E-09 8.1440E-07 -4.9790E-07
4.9350E-09 7.8430E-07 -4.8460E-07 2.1600E-08 7.2410E-07 -4.1680E-07 -
1.1310E-07 1.2050E-06 -7.3510E-07 1.0840E-08 -2.5980E-07 1.6390E-07
  10 -1.9940E-08 6.7580E-08 -4.0980E-08 -1.7830E-08 6.9100E-08 -4.2660E-08
-2.3000E-08 6.4750E-08 -4.0270E-08 2.8590E-07 -5.6530E-07 3.3430E-07 -
1.2400E-08 7.3410E-08 -5.4140E-08 -2.9210E-08 6.4830E-08 -3.3200E-08 -
3.1670E-08 6.4630E-08 -3.1750E-08 -3.8580E-08 5.8190E-08 -3.9720E-08 -
2.0440E-09 1.0280E-07 -5.1720E-08 7.2210E-09 2.0090E-07 -1.1580E-07
  11   6.4980E-08 -1.7610E-06 9.6940E-07 5.7840E-08 -1.7670E-06 9.7580E-07
7.5390E-08 -1.7630E-06 9.7350E-07 -5.6530E-07 1.4300E-05 -7.7830E-06
4.0550E-08 -1.8000E-06 1.0250E-06 9.5750E-08 -1.7570E-06 9.4590E-07
1.0390E-07 -1.7580E-06 9.4190E-07 1.2690E-07 -1.7720E-06 9.9000E-07 -
5.7610E-10 -1.8080E-06 9.6180E-07 3.5880E-08 -1.2550E-06 6.9970E-07
  12 -4.4810E-08 9.8760E-07 -5.5590E-07 -5.5020E-08 1.0280E-06 -5.7500E-07
-3.1920E-08 9.4550E-07 -5.2870E-07 3.3430E-07 -7.7830E-06 4.5250E-06 -
8.6160E-08 1.1510E-06 -6.0430E-07 -5.0250E-09 8.4060E-07 -4.9700E-07
4.4670E-09 8.0530E-07 -4.8180E-07 2.5800E-08 7.3630E-07 -4.0020E-07 -
1.4130E-07 1.2880E-06 -7.7080E-07 4.9210E-09 -3.5660E-07 2.4200E-07
  13 -1.8460E-08 8.6740E-08 -4.9390E-08 -6.2160E-09 6.0670E-08 -3.8910E-08
-3.4780E-08 1.1260E-07 -6.8530E-08 -1.2400E-08 4.0550E-08 -8.6160E-08
3.5170E-07 -9.3040E-07 4.9790E-07 -6.8350E-08 1.9860E-07 -8.1690E-08 -
8.0740E-08 2.2590E-07 -9.0910E-08 -1.1190E-07 2.5270E-07 -1.6290E-07
9.2300E-08 -4.7280E-08 8.0280E-08 -1.1730E-08 9.6430E-07 -5.6000E-07
  14   8.6760E-08 -1.8730E-06 1.0310E-06 5.5680E-08 -1.8150E-06 1.0090E-06
1.2850E-07 -1.9430E-06 1.0830E-06 7.3410E-08 -1.8000E-06 1.1510E-06 -
9.3040E-07 1.5700E-05 -8.5140E-06 2.1340E-07 -2.1390E-06 1.1020E-06
2.4490E-07 -2.2050E-06 1.1230E-06 3.2520E-07 -2.2980E-06 1.3230E-06 -
1.9820E-07 -1.5200E-06 6.9140E-07 1.0560E-07 -3.1180E-06 1.7870E-06
  15 -5.6120E-08 1.0530E-06 -5.9110E-07 -5.0830E-08 1.0500E-06 -5.9170E-07
-6.3500E-08 1.0540E-06 -5.9440E-07 -5.4140E-08 1.0250E-06 -6.0430E-07
4.9790E-07 -8.5140E-06 4.8820E-06 -7.8400E-08 1.0810E-06 -5.9340E-07 -
8.4090E-08 1.0870E-06 -5.9440E-07 -9.9880E-08 1.0690E-06 -6.1100E-07 -
1.0470E-08 1.0940E-06 -5.9070E-07 -3.7440E-08 8.4260E-07 -4.5740E-07
  16 -2.2210E-08 4.0510E-08 -2.9840E-08 -3.3640E-08 7.8850E-08 -4.7740E-08

-7.5750E-09 -5.4870E-10 -2.6580E-09 -2.9210E-08 9.5750E-08 -5.0250E-09 -
6.8350E-08 2.1340E-07 -7.8400E-08 3.0770E-07 -3.7420E-07 2.2000E-07
3.3550E-08 -1.5210E-07 4.7120E-08 5.9000E-08 -2.0260E-07 1.2440E-07 -
1.2820E-07 3.0090E-07 -2.2750E-07 3.2210E-08 -8.2150E-07 4.7800E-07
  17 3.9320E-08 -1.5240E-06 9.0040E-07 7.8480E-08 -1.6560E-06 9.6230E-07
-1.0730E-08 -1.3950E-06 8.1440E-07 6.4830E-08 -1.7570E-06 8.4060E-07
1.9860E-07 -2.1390E-06 1.0810E-06 -3.7420E-07 1.2520E-05 -7.1660E-06 -
1.5250E-07 -8.7000E-07 6.4000E-07 -2.4010E-07 -7.3920E-07 4.0000E-07
3.9680E-07 -2.3330E-06 1.5270E-06 -8.2050E-08 2.3720E-06 -1.3540E-06
  18 -2.4330E-08 8.8600E-07 -5.3250E-07 -3.8540E-08 9.3690E-07 -5.5650E-07
-6.2450E-09 8.3310E-07 -4.9790E-07 -3.3200E-08 9.4590E-07 -4.9700E-07 -
8.1690E-08 1.1020E-06 -5.9340E-07 2.2000E-07 -7.1660E-06 4.3580E-06
4.4840E-08 6.4660E-07 -4.3770E-07 7.5680E-08 5.6830E-07 -3.3330E-07 -
1.5680E-07 1.2470E-06 -7.9870E-07 3.2870E-08 -7.4560E-07 4.3370E-07
  19 -2.3060E-08 3.6220E-08 -2.7940E-08 -3.7410E-08 8.2480E-08 -4.9320E-08
-4.6280E-09 -1.3060E-08 4.9350E-09 -3.1670E-08 1.0390E-07 4.4670E-09 -
8.0740E-08 2.4490E-07 -8.4090E-08 3.3550E-08 -1.5250E-07 4.4840E-08
3.3110E-07 -3.9010E-07 2.1420E-07 7.9600E-08 -2.5720E-07 1.5920E-07 -
1.5570E-07 3.4510E-07 -2.6590E-07 3.7220E-08 -1.0400E-06 6.0510E-07
  20 3.4690E-08 -1.4900E-06 8.8610E-07 8.1900E-08 -1.6450E-06 9.5770E-07
-2.5880E-08 -1.3390E-06 7.8430E-07 6.4630E-08 -1.7580E-06 8.0530E-07
2.2590E-07 -2.2050E-06 1.0870E-06 -1.5210E-07 -8.7000E-07 6.4660E-07 -
3.9010E-07 1.2420E-05 -7.0860E-06 -3.0410E-07 -5.6670E-07 2.9480E-07
4.6580E-07 -2.4330E-06 1.6240E-06 -1.0270E-07 2.9950E-06 -1.7130E-06
  21 -2.1170E-08 8.6860E-07 -5.2540E-07 -3.8500E-08 9.2800E-07 -5.5310E-07
1.0010E-09 8.0690E-07 -4.8460E-07 -3.1750E-08 9.4190E-07 -4.8180E-07 -
9.0910E-08 1.1230E-06 -5.9440E-07 4.7120E-08 6.4000E-07 -4.3770E-07
2.1420E-07 -7.0860E-06 4.3140E-06 1.0190E-07 4.9710E-07 -2.9090E-07 -
1.8220E-07 1.2810E-06 -8.3470E-07 4.2240E-08 -9.9110E-07 5.7430E-07
  22 -2.6070E-08 2.8910E-08 -2.5210E-08 -4.7530E-08 9.4520E-08 -5.5120E-08
1.6530E-09 -4.0500E-08 2.1600E-08 -3.8580E-08 1.2690E-07 2.5800E-08 -
1.1190E-07 3.2520E-07 -9.9880E-08 5.9000E-08 -2.4010E-07 7.5680E-08
7.9600E-08 -3.0410E-07 1.0190E-07 4.1890E-07 -4.4770E-07 3.1740E-07 -
2.2380E-07 4.5670E-07 -3.6170E-07 4.8550E-08 -1.5680E-06 9.1300E-07
  23 2.3150E-08 -1.4680E-06 8.4530E-07 8.0090E-08 -1.6480E-06 9.2840E-07
-5.0170E-08 -1.2890E-06 7.2410E-07 5.8190E-08 -1.7720E-06 7.3630E-07
2.5270E-07 -2.2980E-06 1.0690E-06 -2.0260E-07 -7.3920E-07 5.6830E-07 -
2.5720E-07 -5.6670E-07 4.9710E-07 -4.4770E-07 1.2470E-05 -7.0910E-06
5.4400E-07 -2.5790E-06 1.7220E-06 -1.3390E-07 3.7280E-06 -2.1700E-06
  24 -1.8980E-08 8.3960E-07 -4.9450E-07 -5.5060E-08 9.5000E-07 -5.4460E-07
2.7720E-08 7.2460E-07 -4.1680E-07 -3.9720E-08 9.9000E-07 -4.0020E-07 -
1.6290E-07 1.3230E-06 -6.1100E-07 1.2440E-07 4.0000E-07 -3.3330E-07
1.5920E-07 2.9480E-07 -2.9090E-07 3.1740E-07 -7.0910E-06 4.2690E-06 -
3.5220E-07 1.5700E-06 -1.0660E-06 8.2240E-08 -2.3940E-06 1.4100E-06
  25 -1.6540E-08 1.1060E-07 -6.3650E-08 1.1150E-08 4.2520E-08 -3.4660E-08
-5.3030E-08 1.8020E-07 -1.1310E-07 -2.0440E-09 -5.7610E-10 -1.4130E-07
9.2300E-08 -1.9820E-07 -1.0470E-08 -1.2820E-07 3.9680E-07 -1.5680E-07 -
1.5570E-07 4.6580E-07 -1.8220E-07 -2.2380E-07 5.4400E-07 -3.5220E-07
5.8680E-07 -1.5410E-06 1.0540E-06 -4.0930E-08 2.1200E-06 -1.2370E-06
  26 1.2260E-07 -1.9240E-06 1.1280E-06 7.8570E-08 -1.8310E-06 1.0900E-06
1.8130E-07 -2.0320E-06 1.2050E-06 1.0280E-07 -1.8080E-06 1.2880E-06 -
4.7280E-08 -1.5200E-06 1.0940E-06 3.0090E-07 -2.3330E-06 1.2470E-06
3.4510E-07 -2.4330E-06 1.2810E-06 4.5670E-07 -2.5790E-06 1.5700E-06 -
1.5410E-06 1.6570E-05 -9.9020E-06 1.6760E-07 -4.1120E-06 2.4350E-06

27 -7.1640E-08 1.1240E-06 -6.6590E-07 -3.2970E-08 1.0310E-06 -6.2660E-07
-1.2270E-07 1.2210E-06 -7.3510E-07 -5.1720E-08 9.6180E-07 -7.7080E-07
8.0280E-08 6.9140E-07 -5.9070E-07 -2.2750E-07 1.5270E-06 -7.9870E-07 -
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1.0540E-06 -9.9020E-06 6.1990E-06 -1.2030E-07 3.3590E-06 -1.9640E-06
28 1.5290E-08 -7.9370E-10 5.3100E-11 5.4230E-09 2.8420E-08 -1.5440E-08
1.7850E-08 -1.7930E-08 1.0840E-08 7.2210E-09 3.5880E-08 4.9210E-09 -
1.1730E-08 1.0560E-07 -3.7440E-08 3.2210E-08 -8.2050E-08 3.2870E-08
3.7220E-08 -1.0270E-07 4.2240E-08 4.8550E-08 -1.3390E-07 8.2240E-08 -
4.0930E-08 1.6760E-07 -1.2030E-07 2.6910E-06 -5.0790E-06 3.2230E-06
29 6.5670E-08 -4.3240E-08 7.6670E-08 2.9680E-07 -8.6850E-07 4.6820E-07
-2.1830E-07 4.1260E-07 -2.5980E-07 2.0090E-07 -1.2550E-06 -3.5660E-07
9.6430E-07 -3.1180E-06 8.4260E-07 -8.2150E-07 2.3720E-06 -7.4560E-07 -
1.0400E-06 2.9950E-06 -9.9110E-07 -1.5680E-06 3.7280E-06 -2.3940E-06
2.1200E-06 -4.1120E-06 3.3590E-06 -5.0790E-06 1.4140E-04 -8.0260E-05
30 -3.7760E-08 3.6950E-08 -3.1700E-08 -1.7280E-07 5.1140E-07 -2.5930E-07
1.2710E-07 -2.3380E-07 1.6390E-07 -1.1580E-07 6.9970E-07 2.4200E-07 -
5.6000E-07 1.7870E-06 -4.5740E-07 4.7800E-07 -1.3540E-06 4.3370E-07
6.0510E-07 -1.7130E-06 5.7430E-07 9.1300E-07 -2.1700E-06 1.4100E-06 -
1.2370E-06 2.4350E-06 -1.9640E-06 3.2230E-06 -8.0260E-05 4.7720E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000026910	-0.0000050790	0.0000032230
-0.0000050790	0.0001414000	-0.0000802600
0.0000032230	-0.0000802600	0.0000477200

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000027094	0.0000002866	0.0000062925
0.0000002866	0.0000016341	0.0000005913
0.0000062925	0.0000005913	0.0001874674

Horizontal network accuracy = 0.00364 meters.
Vertical network accuracy = 0.02685 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-1792.094	4580.589	8013.027
eng6	qcfv	15406.534	1535.534	2701.297
lwes	qcfv	-23934.275	2804.491	4737.556
gris	qcfv	13961.633	-32036.494	-56457.590
bvhs	qcfv	67462.085	-27874.031	-49567.053
gvms	qcfv	-77095.736	26409.183	44442.348
sjb1	qcfv	-96583.261	31315.993	52262.366
fshs	qcfv	-135399.142	-640.566	-4400.351
msga	qcfv	140004.429	31749.117	52116.677

Covariance matrix of the 9 vectors
1 2.9372E-06 -5.6351E-06 3.5746E-06 2.6513E-06 -5.1065E-06 3.2340E-06
2.6374E-06 -5.0736E-06 3.2152E-06 2.6485E-06 -5.1156E-06 3.2110E-06
2.6690E-06 -5.1635E-06 3.2421E-06 2.6213E-06 -5.0233E-06 3.2036E-06
2.6154E-06 -5.0073E-06 3.1973E-06 2.6011E-06 -4.9876E-06 3.1595E-06
2.7001E-06 -5.1897E-06 3.3094E-06
2 -5.6351E-06 1.5500E-04 -8.8055E-05 -5.3088E-06 1.4060E-04 -7.9783E-05

-4.8055E-06 1.3939E-04 -7.9097E-05 -5.2115E-06 1.4094E-04 -7.8953E-05 -
5.9558E-06 1.4269E-04 -8.0087E-05 -4.2162E-06 1.3755E-04 -7.8665E-05 -
4.0020E-06 1.3696E-04 -7.8437E-05 -3.4813E-06 1.3625E-04 -7.7063E-05 -
7.0876E-06 1.4363E-04 -8.2532E-05
   3 3.5746E-06 -8.8055E-05 5.2380E-05 3.3547E-06 -7.9868E-05 4.7440E-05
3.0600E-06 -7.9162E-05 4.7038E-05 3.2978E-06 -8.0067E-05 4.6954E-05
3.7336E-06 -8.1093E-05 4.7618E-05 2.7151E-06 -7.8082E-05 4.6785E-05
2.5899E-06 -7.7738E-05 4.6652E-05 2.2847E-06 -7.7321E-05 4.5847E-05
4.3963E-06 -8.1644E-05 4.9050E-05
   4 2.6513E-06 -5.3088E-06 3.3547E-06 2.9656E-06 -5.9700E-06 3.7661E-06
2.6439E-06 -5.2907E-06 3.3420E-06 2.6605E-06 -5.3538E-06 3.3359E-06
2.6911E-06 -5.4257E-06 3.3824E-06 2.6197E-06 -5.2153E-06 3.3244E-06
2.6109E-06 -5.1912E-06 3.3151E-06 2.5895E-06 -5.1618E-06 3.2585E-06
2.7377E-06 -5.4648E-06 3.4831E-06
   5 -5.1065E-06 1.4060E-04 -7.9868E-05 -5.9700E-06 1.5703E-04 -8.9119E-05
-4.8181E-06 1.4015E-04 -7.9536E-05 -5.2392E-06 1.4176E-04 -7.9387E-05 -
6.0110E-06 1.4357E-04 -8.0564E-05 -4.2071E-06 1.3824E-04 -7.9089E-05 -
3.9849E-06 1.3763E-04 -7.8852E-05 -3.4449E-06 1.3689E-04 -7.7427E-05 -
7.1849E-06 1.4455E-04 -8.3099E-05
   6 3.2340E-06 -7.9783E-05 4.7440E-05 3.7661E-06 -8.9119E-05 5.2935E-05
3.0672E-06 -7.9522E-05 4.7249E-05 3.3116E-06 -8.0452E-05 4.7162E-05
3.7595E-06 -8.1506E-05 4.7845E-05 2.7127E-06 -7.8412E-05 4.6989E-05
2.5840E-06 -7.8057E-05 4.6852E-05 2.2703E-06 -7.7630E-05 4.6025E-05
4.4408E-06 -8.2073E-05 4.9317E-05
   7 2.6374E-06 -4.8055E-06 3.0600E-06 2.6439E-06 -4.8181E-06 3.0672E-06
2.9320E-06 -5.2666E-06 3.3608E-06 2.6429E-06 -4.8212E-06 3.0591E-06
2.6501E-06 -4.8378E-06 3.0698E-06 2.6334E-06 -4.7894E-06 3.0568E-06
2.6313E-06 -4.7839E-06 3.0547E-06 2.6263E-06 -4.7770E-06 3.0414E-06
2.6611E-06 -4.8470E-06 3.0935E-06
   8 -5.0736E-06 1.3939E-04 -7.9162E-05 -5.2907E-06 1.4015E-04 -7.9522E-05
-5.2666E-06 1.5378E-04 -8.7265E-05 -5.1972E-06 1.4048E-04 -7.8724E-05 -
5.9128E-06 1.4216E-04 -7.9815E-05 -4.2401E-06 1.3722E-04 -7.8447E-05 -
4.0341E-06 1.3665E-04 -7.8228E-05 -3.5336E-06 1.3597E-04 -7.6908E-05 -
7.0009E-06 1.4307E-04 -8.2164E-05
   9 3.2152E-06 -7.9097E-05 4.7038E-05 3.3420E-06 -7.9536E-05 4.7249E-05
3.3608E-06 -8.7265E-05 5.1877E-05 3.2877E-06 -7.9726E-05 4.6785E-05
3.7036E-06 -8.0704E-05 4.7419E-05 2.7315E-06 -7.7832E-05 4.6624E-05
2.6120E-06 -7.7503E-05 4.6497E-05 2.3208E-06 -7.7106E-05 4.5729E-05
4.3361E-06 -8.1230E-05 4.8785E-05
  10 2.6485E-06 -5.2115E-06 3.2978E-06 2.6605E-06 -5.2392E-06 3.3116E-06
2.6429E-06 -5.1972E-06 3.2877E-06 2.9625E-06 -5.8811E-06 3.6682E-06
2.6831E-06 -5.3121E-06 3.3221E-06 2.6224E-06 -5.1330E-06 3.2727E-06
2.6149E-06 -5.1126E-06 3.2648E-06 2.5966E-06 -5.0878E-06 3.2168E-06
2.7227E-06 -5.3447E-06 3.4074E-06
  11 -5.1156E-06 1.4094E-04 -8.0067E-05 -5.3538E-06 1.4176E-04 -8.0452E-05
-4.8212E-06 1.4048E-04 -7.9726E-05 -5.8811E-06 1.5821E-04 -8.8386E-05 -
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3.9710E-06 1.3790E-04 -7.9027E-05 -3.4200E-06 1.3715E-04 -7.7576E-05 -
7.2355E-06 1.4496E-04 -8.3357E-05
  12 3.2110E-06 -7.8953E-05 4.6954E-05 3.3359E-06 -7.9387E-05 4.7162E-05
3.0591E-06 -7.8724E-05 4.6785E-05 3.6682E-06 -8.8386E-05 5.1761E-05
3.6919E-06 -8.0539E-05 4.7331E-05 2.7351E-06 -7.7709E-05 4.6547E-05
2.6174E-06 -7.7385E-05 4.6422E-05 2.3309E-06 -7.6997E-05 4.5668E-05
4.3138E-06 -8.1050E-05 4.8671E-05

13 2.6690E-06 -5.9558E-06 3.7336E-06 2.6911E-06 -6.0110E-06 3.7595E-06
2.6501E-06 -5.9128E-06 3.7036E-06 2.6831E-06 -6.0386E-06 3.6919E-06
3.0662E-06 -7.0793E-06 4.3183E-06 2.6022E-06 -5.7626E-06 3.6684E-06
2.5848E-06 -5.7147E-06 3.6498E-06 2.5423E-06 -5.6567E-06 3.5379E-06
2.8360E-06 -6.2582E-06 3.9836E-06
14 -5.1635E-06 1.4269E-04 -8.1093E-05 -5.4257E-06 1.4357E-04 -8.1506E-05
-4.8378E-06 1.4216E-04 -8.0704E-05 -5.3121E-06 1.4397E-04 -8.0539E-05 -
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15 3.2421E-06 -8.0087E-05 4.7618E-05 3.3824E-06 -8.0564E-05 4.7845E-05
3.0698E-06 -7.9815E-05 4.7419E-05 3.3221E-06 -8.0777E-05 4.7331E-05
4.3183E-06 -9.1404E-05 5.3517E-05 2.7040E-06 -7.8668E-05 4.7150E-05
2.5712E-06 -7.8303E-05 4.7009E-05 2.2476E-06 -7.7864E-05 4.6156E-05
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16 2.6213E-06 -4.2162E-06 2.7151E-06 2.6197E-06 -4.2071E-06 2.7127E-06
2.6334E-06 -4.2401E-06 2.7315E-06 2.6224E-06 -4.1976E-06 2.7351E-06
2.6022E-06 -4.1497E-06 2.7040E-06 2.9343E-06 -4.5496E-06 2.9321E-06
2.6551E-06 -4.3069E-06 2.7499E-06 2.6692E-06 -4.3262E-06 2.7872E-06
2.5715E-06 -4.1242E-06 2.6378E-06
17 -5.0233E-06 1.3755E-04 -7.8082E-05 -5.2153E-06 1.3824E-04 -7.8412E-05
-4.7894E-06 1.3722E-04 -7.7832E-05 -5.1330E-06 1.3853E-04 -7.7709E-05 -
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4.1095E-06 1.3516E-04 -7.7275E-05 -3.6691E-06 1.3456E-04 -7.6112E-05 -
6.7202E-06 1.4081E-04 -8.0738E-05
18 3.2036E-06 -7.8665E-05 4.6785E-05 3.3244E-06 -7.9089E-05 4.6989E-05
3.0568E-06 -7.8447E-05 4.6624E-05 3.2727E-06 -7.9268E-05 4.6547E-05
3.6684E-06 -8.0199E-05 4.7150E-05 2.9321E-06 -8.5326E-05 5.1211E-05
2.6299E-06 -7.7155E-05 4.6274E-05 2.3528E-06 -7.6776E-05 4.5543E-05
4.2703E-06 -8.0702E-05 4.8452E-05
19 2.6154E-06 -4.0020E-06 2.5899E-06 2.6109E-06 -3.9849E-06 2.5840E-06
2.6313E-06 -4.0341E-06 2.6120E-06 2.6149E-06 -3.9710E-06 2.6174E-06
2.5848E-06 -3.8997E-06 2.5712E-06 2.6551E-06 -4.1095E-06 2.6299E-06
2.9477E-06 -4.3264E-06 2.7899E-06 2.6848E-06 -4.1623E-06 2.6949E-06
2.5390E-06 -3.8615E-06 2.4723E-06
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-4.7839E-06 1.3665E-04 -7.7503E-05 -5.1126E-06 1.3790E-04 -7.7385E-05 -
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21 3.1973E-06 -7.8437E-05 4.6652E-05 3.3151E-06 -7.8852E-05 4.6852E-05
3.0547E-06 -7.8228E-05 4.6497E-05 3.2648E-06 -7.9027E-05 4.6422E-05
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2.7899E-06 -8.4642E-05 5.0885E-05 2.3697E-06 -7.6602E-05 4.5445E-05
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22 2.6011E-06 -3.4813E-06 2.2847E-06 2.5895E-06 -3.4449E-06 2.2703E-06
2.6263E-06 -3.5336E-06 2.3208E-06 2.5966E-06 -3.4200E-06 2.3309E-06
2.5423E-06 -3.2914E-06 2.2476E-06 2.6692E-06 -3.6691E-06 2.3528E-06
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2.4596E-06 -3.2219E-06 2.0686E-06
23 -4.9876E-06 1.3625E-04 -7.7321E-05 -5.1618E-06 1.3689E-04 -7.7630E-05
-4.7770E-06 1.3597E-04 -7.7106E-05 -5.0878E-06 1.3715E-04 -7.6997E-05 -
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6.5211E-06 1.3920E-04 -7.9727E-05
  24   3.1595E-06 -7.7063E-05 4.5847E-05 3.2585E-06 -7.7427E-05 4.6025E-05
3.0414E-06 -7.6908E-05 4.5729E-05 3.2168E-06 -7.7576E-05 4.5668E-05
3.5379E-06 -7.8330E-05 4.6156E-05 2.7872E-06 -7.6112E-05 4.5543E-05
2.6949E-06 -7.5858E-05 4.5445E-05 2.5452E-06 -8.2787E-05 4.9169E-05
4.0256E-06 -7.8731E-05 4.7208E-05
  25   2.7001E-06 -7.0876E-06 4.3963E-06 2.7377E-06 -7.1849E-06 4.4408E-06
2.6611E-06 -7.0009E-06 4.3361E-06 2.7227E-06 -7.2355E-06 4.3138E-06
2.8360E-06 -7.5028E-06 4.4870E-06 2.5715E-06 -6.7202E-06 4.2703E-06
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3.3597E-06 -8.9076E-06 5.6343E-06
  26 -5.1897E-06 1.4363E-04 -8.1644E-05 -5.4648E-06 1.4455E-04 -8.2073E-05
-4.8470E-06 1.4307E-04 -8.1230E-05 -5.3447E-06 1.4496E-04 -8.1050E-05 -
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8.9076E-06 1.6619E-04 -9.5956E-05
  27   3.3094E-06 -8.2532E-05 4.9050E-05 3.4831E-06 -8.3099E-05 4.9317E-05
3.0935E-06 -8.2164E-05 4.8785E-05 3.4074E-06 -8.3357E-05 4.8671E-05
3.9836E-06 -8.4715E-05 4.9551E-05 2.6378E-06 -8.0738E-05 4.8452E-05
2.4723E-06 -8.0282E-05 4.8275E-05 2.0686E-06 -7.9727E-05 4.7208E-05
5.6343E-06 -9.5956E-05 5.7847E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -2.6410E-01 2.8819E-01 8.9832E-01 -2.3778E-01 2.5936E-01
8.9874E-01 -2.3872E-01 2.6047E-01 8.9787E-01 -2.3731E-01 2.6042E-01
8.8936E-01 -2.3574E-01 2.5859E-01 8.9289E-01 -2.3998E-01 2.6121E-01
8.8887E-01 -2.4030E-01 2.6153E-01 8.7438E-01 -2.4051E-01 2.6291E-01
8.5954E-01 -2.3489E-01 2.5389E-01
   2 -2.6410E-01 1.0000E+00 -9.7725E-01 -2.4762E-01 9.0122E-01 -8.8080E-01
-2.2542E-01 9.0285E-01 -8.8208E-01 -2.4321E-01 9.0001E-01 -8.8146E-01 -
2.7320E-01 8.9678E-01 -8.7933E-01 -1.9770E-01 9.0457E-01 -8.8296E-01 -
1.8723E-01 9.0479E-01 -8.8321E-01 -1.6110E-01 9.0443E-01 -8.8276E-01 -
3.1059E-01 8.9491E-01 -8.7161E-01
   3   2.8819E-01 -9.7725E-01 1.0000E+00 2.6916E-01 -8.8065E-01 9.0092E-01
2.4692E-01 -8.8201E-01 9.0236E-01 2.6473E-01 -8.7953E-01 9.0175E-01
2.9461E-01 -8.7671E-01 8.9938E-01 2.1900E-01 -8.8332E-01 9.0333E-01
2.0843E-01 -8.8342E-01 9.0363E-01 1.8187E-01 -8.8293E-01 9.0341E-01
3.3140E-01 -8.7505E-01 8.9107E-01
   4   8.9832E-01 -2.4762E-01 2.6916E-01 1.0000E+00 -2.7665E-01 3.0059E-01
8.9662E-01 -2.4775E-01 2.6944E-01 8.9761E-01 -2.4717E-01 2.6925E-01
8.9244E-01 -2.4653E-01 2.6849E-01 8.8808E-01 -2.4796E-01 2.6976E-01
8.8309E-01 -2.4793E-01 2.6986E-01 8.6632E-01 -2.4772E-01 2.6985E-01
8.6732E-01 -2.4616E-01 2.6594E-01
   5 -2.3778E-01 9.0122E-01 -8.8065E-01 -2.7665E-01 1.0000E+00 -9.7749E-01
-2.2455E-01 9.0190E-01 -8.8123E-01 -2.4291E-01 8.9937E-01 -8.8056E-01 -
2.7395E-01 8.9648E-01 -8.7884E-01 -1.9599E-01 9.0323E-01 -8.8196E-01 -
1.8522E-01 9.0332E-01 -8.8213E-01 -1.5838E-01 9.0282E-01 -8.8117E-01 -
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   6   2.5936E-01 -8.8080E-01 9.0092E-01 3.0059E-01 -9.7749E-01 1.0000E+00
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2.0687E-01 -8.8240E-01 9.0274E-01 1.7978E-01 -8.8179E-01 9.0214E-01
3.3300E-01 -8.7503E-01 8.9122E-01
   7   8.9874E-01 -2.2542E-01 2.4692E-01 8.9662E-01 -2.2455E-01 2.4620E-01

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8.8386E-01 -2.2107E-01 2.4507E-01 8.9780E-01 -2.2901E-01 2.4946E-01
8.9506E-01 -2.2978E-01 2.5008E-01 8.8363E-01 -2.3056E-01 2.5330E-01
8.4786E-01 -2.1958E-01 2.3754E-01
   8 -2.3872E-01 9.0285E-01 -8.8201E-01 -2.4775E-01 9.0190E-01 -8.8137E-01
-2.4802E-01 1.0000E+00 -9.7701E-01 -2.4349E-01 9.0061E-01 -8.8237E-01 -
2.7229E-01 8.9699E-01 -8.7980E-01 -1.9960E-01 9.0597E-01 -8.8398E-01 -
1.8948E-01 9.0632E-01 -8.8432E-01 -1.6416E-01 9.0614E-01 -8.8444E-01 -
3.0800E-01 8.9490E-01 -8.7114E-01
   9   2.6047E-01 -8.8208E-01 9.0236E-01 2.6944E-01 -8.8123E-01 9.0164E-01
2.7250E-01 -9.7701E-01 1.0000E+00 2.6520E-01 -8.8003E-01 9.0286E-01
2.9366E-01 -8.7673E-01 8.9995E-01 2.2139E-01 -8.8475E-01 9.0458E-01
2.1123E-01 -8.8501E-01 9.0499E-01 1.8563E-01 -8.8473E-01 9.0544E-01
3.2844E-01 -8.7483E-01 8.9055E-01
  10   8.9787E-01 -2.4321E-01 2.6473E-01 8.9761E-01 -2.4291E-01 2.6445E-01
8.9676E-01 -2.4349E-01 2.6520E-01 1.0000E+00 -2.7165E-01 2.9623E-01
8.9026E-01 -2.4149E-01 2.6384E-01 8.8944E-01 -2.4417E-01 2.6571E-01
8.8489E-01 -2.4430E-01 2.6591E-01 8.6916E-01 -2.4429E-01 2.6654E-01
8.6302E-01 -2.4087E-01 2.6029E-01
  11 -2.3731E-01 9.0001E-01 -8.7953E-01 -2.4717E-01 8.9937E-01 -8.7912E-01
-2.2385E-01 9.0061E-01 -8.8003E-01 -2.7165E-01 1.0000E+00 -9.7671E-01 -
2.7417E-01 8.9562E-01 -8.7786E-01 -1.9482E-01 9.0171E-01 -8.8065E-01 -
1.8388E-01 9.0172E-01 -8.8077E-01 -1.5665E-01 9.0116E-01 -8.7956E-01 -
3.1383E-01 8.9397E-01 -8.7133E-01
  12   2.6042E-01 -8.8146E-01 9.0175E-01 2.6925E-01 -8.8056E-01 9.0100E-01
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2.9306E-01 -8.7592E-01 8.9929E-01 2.2193E-01 -8.8434E-01 9.0409E-01
2.1190E-01 -8.8466E-01 9.0453E-01 1.8665E-01 -8.8447E-01 9.0524E-01
3.2712E-01 -8.7387E-01 8.8947E-01
  13   8.8936E-01 -2.7320E-01 2.9461E-01 8.9244E-01 -2.7395E-01 2.9510E-01
8.8386E-01 -2.7229E-01 2.9366E-01 8.9026E-01 -2.7417E-01 2.9306E-01
1.0000E+00 -3.1634E-01 3.3711E-01 8.6754E-01 -2.6945E-01 2.9275E-01
8.5978E-01 -2.6842E-01 2.9220E-01 8.3645E-01 -2.6698E-01 2.8814E-01
8.8360E-01 -2.7723E-01 2.9911E-01
  14 -2.3574E-01 8.9678E-01 -8.7671E-01 -2.4653E-01 8.9648E-01 -8.7656E-01
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3.2028E-01 8.9288E-01 -8.7152E-01
  15   2.5859E-01 -8.7933E-01 8.9938E-01 2.6849E-01 -8.7884E-01 8.9892E-01
2.4507E-01 -8.7980E-01 8.9995E-01 2.6384E-01 -8.7786E-01 8.9929E-01
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2.0472E-01 -8.8034E-01 9.0082E-01 1.7700E-01 -8.7963E-01 8.9979E-01
3.3463E-01 -8.7419E-01 8.9056E-01
  16   8.9289E-01 -1.9770E-01 2.1900E-01 8.8808E-01 -1.9599E-01 2.1766E-01
8.9780E-01 -1.9960E-01 2.2139E-01 8.8944E-01 -1.9482E-01 2.2193E-01
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2.9220E-01 -8.7677E-01 9.0082E-01 2.2504E-01 -8.8694E-01 9.0649E-01
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G-FILE for the vectors

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C00100005 674620853 17 -278740307 127 -495670527 73
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8902557 10 14 -2414895 10 15 2638405 10 16 8894371 10 17 -2441728 D 10 18
2657077 10 19 8848883 10 20 -2443047 10 21 2659103 10 22 8691645 D 10 23 -

2442943 10 24 2665371 10 25 8630191 10 26 -2408737 10 27 2602879 D 11 12 -
9767100 11 13 -2741725 11 14 8956186 11 15 -8778641 11 16 -1948212 D 11 17
9017057 11 18 -8806474 11 19 -1838831 11 20 9017212 11 21 -8807654 D 11 22 -
1566467 11 23 9011630 11 24 -8795550 11 25 -3138349 11 26 8939650 D 11 27 -
8713330 12 13 2930578 12 14 -8759233 12 15 8992909 12 16 2219288 D 12 17 -
8843402 12 18 9040932 12 19 2119032 12 20 -8846566 12 21 9045341 D 12 22
1866522 12 23 -8844672 12 24 9052386 12 25 3271213 12 26 -8738686 D 12 27
8894679 13 14 -3163384 13 15 3371121 13 16 8675359 13 17 -2694482 D 13 18
2927548 13 19 8597769 13 20 -2684199 13 21 2922005 13 22 8364516 D 13 23 -
2669773 13 24 2881360 13 25 8835986 13 26 -2772317 13 27 2991132 D 14 15 -
9776362 14 16 -1895505 14 17 8969315 14 18 -8769003 14 19 -1777262 D 14 20
8965716 14 21 -8767747 14 22 -1483728 14 23 8955553 14 24 -8740604 D 14 25 -
3202836 14 26 8928809 14 27 -8715190 15 16 2157830 15 17 -8804432 D 15 18
9006570 15 19 2047201 15 20 -8803387 15 21 9008170 15 22 1770031 D 15 23 -
8796261 15 24 8997900 15 25 3346265 15 26 -8741867 15 27 8905622 D 16 17 -
2174591 16 18 2391952 16 19 9028065 16 20 -2067915 16 21 2250434 D 16 22
8977423 16 23 -2087202 16 24 2320413 16 25 8190142 16 26 -1867588 D 16 27
2024653 17 18 -9762341 17 19 -1959726 17 20 9101795 17 21 -8869361 D 17 22 -
1730688 17 23 9104954 17 24 -8887057 17 25 -3001800 17 26 8942667 D 17 27 -
8691366 18 19 2140502 18 20 -8867510 18 21 9064906 18 22 1894182 D 18 23 -
8866552 18 24 9076031 18 25 3255620 18 26 -8747800 18 27 8902003 D 19 20 -
2072557 19 21 2277965 19 22 9009339 19 23 -2003564 19 24 2238472 D 19 25
8068225 19 26 -1744655 19 27 1893311 20 21 -9759049 20 22 -1759091 D 20 23
9115689 20 24 -8897654 20 25 -2975207 20 26 8937160 20 27 -8681534 D 21 22
1913834 21 23 -8874646 21 24 9085355 21 25 3239414 21 26 -8745315 D 21 27
8897853 22 23 -1821093 22 24 2091145 22 25 7730865 22 26 -1439856 D 22 27
1566934 23 24 -9757198 23 25 -2940233 23 26 8923923 23 27 -8663107 D 24 25
3132080 24 26 -8709483 24 27 8851757 25 26 -3769687 25 27 4041586 D 26 27 -
9786424

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-9811.935	-5536457.447	3156057.899
eng6	-9811.935	-5536457.452	3156057.895
lwes	-9811.941	-5536457.455	3156057.904
gris	-9811.943	-5536457.429	3156057.887
bvhs	-9811.942	-5536457.408	3156057.876
gvms	-9811.933	-5536457.399	3156057.866
sjb1	-9811.935	-5536457.440	3156057.889
fshs	-9811.931	-5536457.447	3156057.901
msga	-9811.946	-5536457.412	3156057.876

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.004	-0.012	0.010	0.004	0.002	0.016
eng6	0.003	-0.017	0.006	0.003	-0.003	0.018
lwes	-0.002	-0.021	0.015	-0.002	0.002	0.025
gris	-0.005	0.006	-0.002	-0.005	0.001	-0.006

bvhs	-0.004	0.027	-0.013	-0.004		
0.002	-0.030					
gvms	0.005	0.036	-0.024	0.005	-	
0.003	-0.043					
sjb1	0.003	-0.005	-0.000	0.003	-	
0.003	0.005					
fshs	0.007	-0.012	0.011	0.007		
0.004	0.016					
msga	-0.008	0.022	-0.014	-0.008	-	
0.001	-0.026					

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 493450.623
Easting (X) [feet] 3671311.515
Convergence [degrees] 0.61591518
Point Scale 0.99992914
Combined Factor 0.99993314

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.170 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.340
scatter (mean square distance from rover) is 8495.426
average edop for rover is 0.840
average ndop for rover is 0.740
average hdop for rover is 1.119
average vdop for rover is 2.300
average gdop for rover is 2.990

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:34 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA19.O00 OP1335486658808

FILE: QCFVA19.O00 OP1335486658808

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069u.12o TIME: 00:33:34 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/09 20:21:01
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 20:41:12
NAV FILE: brdc0690.12n OBS USED: 1935 / 2430 : 80%
ANT NAME: LEIAT502 NONE QUALITY IND. 5.78/ 4.81
ARP HEIGHT: 1.571 NORMALIZED RMS: 0.329

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18813)

X:	-10468.032(m)	0.005(m)	-10468.764(m)	0.005(m)
Y:	-5538610.155(m)	0.022(m)	-5538608.662(m)	0.022(m)
Z:	3152305.734(m)	0.014(m)	3152305.525(m)	0.014(m)

LAT:	29 48 43.55044	0.006(m)	29 48 43.56864	0.006(m)
E LON:	269 53 30.15779	0.005(m)	269 53 30.13042	0.005(m)
W LON:	90 6 29.84221	0.005(m)	90 6 29.86958	0.005(m)
EL HGT:	-24.872(m)	0.026(m)	-26.270(m)	0.026(m)
ORTHO HGT:	0.732(m)	0.028(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3301472.719	146071.713
Easting (X) [meters]	779483.135	1118411.554
Convergence [degrees]	1.43856818	0.61253746
Point Scale	1.00056386	0.99993114
Combined Factor	1.00056777	0.99993505

US NATIONAL GRID DESIGNATOR: 15RYP7948301472(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	13602.6

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 17699.5
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 25268.1
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 62327.1
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 73596.4
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 81773.4
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 94769.9
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 116015.5
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 134752.3

NEAREST NGS PUBLISHED CONTROL POINT
AU3315 OAK RIDGE N294842.093 W0900641.460 314.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.031	-5531876.859	3164070.929
eng6	5594.594	-5534921.916	3158759.198
lwes	-33746.215	-5533652.964	3160795.449
gris	4149.695	-5568493.943	3099600.302
covg	-9174.161	-5501675.358	3215950.509
lmcn	-64275.993	-5568696.863	3098580.607
gvms	-86907.672	-5510048.234	3200500.228
sjb1	-106395.193	-5505141.449	3208320.257
fshs	-145211.084	-5537097.984	3151657.533
qcfv	-10468.764	-5538608.662	3152305.525

Covariance matrix of the stations:
1 5.5620E-07 -2.7250E-06 1.8560E-06 -4.5180E-08 3.6100E-07 -2.5200E-07
-5.0340E-08 3.3410E-07 -2.2990E-07 -4.4790E-08 3.8440E-07 -2.8120E-07 -
5.0810E-08 3.5410E-07 -2.3270E-07 -5.0980E-08 3.1680E-07 -2.3030E-07 -
6.3680E-08 3.3210E-07 -2.1410E-07 -6.8840E-08 3.3880E-07 -2.1510E-07 -
7.0450E-08 3.0360E-07 -2.0070E-07 -6.7150E-09 3.2580E-07 -2.2700E-07
2 -2.7250E-06 2.4860E-05 -1.6680E-05 3.5070E-07 -3.0150E-06 2.0230E-06
3.4760E-07 -3.0960E-06 2.0830E-06 3.6810E-07 -3.1040E-06 2.0720E-06
3.3120E-07 -2.9390E-06 1.9820E-06 3.6640E-07 -3.2860E-06 2.2040E-06
3.2150E-07 -3.0470E-06 2.0650E-06 3.1310E-07 -3.0290E-06 2.0560E-06
3.2580E-07 -3.2330E-06 2.1930E-06 9.4260E-09 -5.5630E-08 5.6760E-08
3 1.8560E-06 -1.6680E-05 1.1630E-05 -2.4300E-07 2.0160E-06 -1.3830E-06
-2.3920E-07 2.0880E-06 -1.4380E-06 -2.5250E-07 2.0420E-06 -1.3890E-06 -
2.2930E-07 1.9900E-06 -1.3790E-06 -2.4970E-07 2.2020E-06 -1.5060E-06 -
2.1700E-07 2.0750E-06 -1.4460E-06 -2.0910E-07 2.0630E-06 -1.4430E-06 -
2.1610E-07 2.2020E-06 -1.5330E-06 2.5370E-09 -6.8890E-08 6.1070E-08
4 -4.5180E-08 3.5070E-07 -2.4300E-07 5.8520E-07 -2.7970E-06 1.8910E-06
-5.0100E-08 3.3420E-07 -2.2990E-07 -3.8010E-08 3.8420E-07 -2.9020E-07 -
5.1750E-08 3.7160E-07 -2.3930E-07 -5.0030E-08 3.0000E-07 -2.2490E-07 -
7.3300E-08 3.5810E-07 -2.2440E-07 -8.1830E-08 3.7630E-07 -2.3140E-07 -
8.3910E-08 3.2190E-07 -2.0820E-07 -3.2860E-08 5.2930E-07 -3.6590E-07
5 3.6100E-07 -3.0150E-06 2.0160E-06 -2.7970E-06 2.4700E-05 -1.6510E-05
3.5900E-07 -3.0710E-06 2.0570E-06 3.8050E-07 -3.0460E-06 2.0160E-06

3.4270E-07 -2.9100E-06 1.9570E-06 3.7720E-07 -3.2650E-06 2.1750E-06
3.2820E-07 -3.0330E-06 2.0520E-06 3.1770E-07 -3.0140E-06 2.0450E-06
3.2980E-07 -3.2330E-06 2.1880E-06 6.6590E-08 -3.3290E-07 2.1680E-07
   6 -2.5200E-07 2.0230E-06 -1.3830E-06 1.8910E-06 -1.6510E-05 1.1470E-05
-2.4800E-07 2.0700E-06 -1.4190E-06 -2.6680E-07 1.9990E-06 -1.3400E-06 -
2.3730E-07 1.9560E-06 -1.3560E-06 -2.5860E-07 2.1990E-06 -1.4890E-06 -
2.1510E-07 2.0460E-06 -1.4300E-06 -2.0330E-07 2.0250E-06 -1.4230E-06 -
2.0950E-07 2.1900E-06 -1.5240E-06 -2.6320E-08 -1.4720E-08 3.8240E-08
   7 -5.0340E-08 3.4760E-07 -2.3920E-07 -5.0100E-08 3.5900E-07 -2.4800E-07
5.3210E-07 -2.6580E-06 1.8180E-06 -5.2160E-08 3.8510E-07 -2.7150E-07 -
5.0140E-08 3.3710E-07 -2.2640E-07 -5.2260E-08 3.3540E-07 -2.3620E-07 -
5.3900E-08 3.0650E-07 -2.0420E-07 -5.5510E-08 3.0140E-07 -1.9900E-07 -
5.6600E-08 2.8640E-07 -1.9360E-07 -5.9520E-09 2.1770E-07 -1.5100E-07
   8   3.3410E-07 -3.0960E-06 2.0880E-06 3.3420E-07 -3.0710E-06 2.0700E-06
-2.6580E-06 2.5180E-05 -1.6930E-05 3.5060E-07 -3.1740E-06 2.1390E-06
3.1960E-07 -2.9940E-06 2.0180E-06 3.5410E-07 -3.3090E-06 2.2340E-06
3.2020E-07 -3.0910E-06 2.0910E-06 3.1590E-07 -3.0810E-06 2.0850E-06
3.2950E-07 -3.2570E-06 2.2090E-06 6.9790E-08 -7.2440E-07 5.0420E-07
   9 -2.2990E-07 2.0830E-06 -1.4380E-06 -2.2990E-07 2.0570E-06 -1.4190E-06
1.8180E-06 -1.6930E-05 1.1830E-05 -2.3790E-07 2.0920E-06 -1.4400E-06 -
2.2140E-07 2.0350E-06 -1.4080E-06 -2.4070E-07 2.2130E-06 -1.5260E-06 -
2.1930E-07 2.1150E-06 -1.4680E-06 -2.1550E-07 2.1120E-06 -1.4690E-06 -
2.2330E-07 2.2260E-06 -1.5470E-06 -4.2170E-08 4.2720E-07 -2.7950E-07
  10 -4.4790E-08 3.6810E-07 -2.5250E-07 -3.8010E-08 3.8050E-07 -2.6680E-07
-5.2160E-08 3.5060E-07 -2.3790E-07 6.3930E-07 -3.0160E-06 1.9770E-06 -
5.5290E-08 4.0870E-07 -2.5570E-07 -5.1120E-08 2.9610E-07 -2.2580E-07 -
8.6590E-08 4.0810E-07 -2.4740E-07 -9.8890E-08 4.4010E-07 -2.6190E-07 -
1.0140E-07 3.6430E-07 -2.2890E-07 -4.9580E-08 7.0730E-07 -4.8490E-07
  11   3.8440E-07 -3.1040E-06 2.0420E-06 3.8420E-07 -3.0460E-06 1.9990E-06
3.8510E-07 -3.1740E-06 2.0920E-06 -3.0160E-06 2.5670E-05 -1.6900E-05
3.7160E-07 -3.0420E-06 2.0100E-06 4.0030E-07 -3.3350E-06 2.1910E-06
3.6490E-07 -3.2150E-06 2.1390E-06 3.5710E-07 -3.2180E-06 2.1470E-06
3.6870E-07 -3.4240E-06 2.2820E-06 1.0270E-07 -4.9910E-07 2.9170E-07
  12 -2.8120E-07 2.0720E-06 -1.3890E-06 -2.9020E-07 2.0160E-06 -1.3400E-06
-2.7150E-07 2.1390E-06 -1.4400E-06 1.9770E-06 -1.6900E-05 1.1620E-05 -
2.5870E-07 1.9830E-06 -1.3670E-06 -2.8230E-07 2.3040E-06 -1.5140E-06 -
2.1090E-07 2.0840E-06 -1.4550E-06 -1.8890E-07 2.0400E-06 -1.4390E-06 -
1.9300E-07 2.2660E-06 -1.5660E-06 -7.7460E-09 -4.5720E-07 3.7240E-07
  13 -5.0810E-08 3.3120E-07 -2.2930E-07 -5.1750E-08 3.4270E-07 -2.3730E-07
-5.0140E-08 3.1960E-07 -2.2140E-07 -5.5290E-08 3.7160E-07 -2.5870E-07
5.1360E-07 -2.4900E-06 1.7230E-06 -5.1990E-08 3.3020E-07 -2.3090E-07 -
4.7410E-08 2.7420E-07 -1.8800E-07 -4.7090E-08 2.6210E-07 -1.7900E-07 -
4.7970E-08 2.5840E-07 -1.7890E-07 2.1520E-09 1.2130E-07 -8.6530E-08
  14   3.5410E-07 -2.9390E-06 1.9900E-06 3.7160E-07 -2.9100E-06 1.9560E-06
3.3710E-07 -2.9940E-06 2.0350E-06 4.0870E-07 -3.0420E-06 1.9830E-06 -
2.4900E-06 2.3620E-05 -1.6010E-05 3.6240E-07 -3.3200E-06 2.2040E-06
2.3720E-07 -2.7250E-06 1.9190E-06 2.0390E-07 -2.6150E-06 1.8610E-06
2.1390E-07 -2.9630E-06 2.0640E-06 -4.4880E-08 7.0930E-07 -4.6630E-07
  15 -2.3270E-07 1.9820E-06 -1.3790E-06 -2.3930E-07 1.9570E-06 -1.3560E-06
-2.2640E-07 2.0180E-06 -1.4080E-06 -2.5570E-07 2.0100E-06 -1.3670E-06
1.7230E-06 -1.6010E-05 1.1300E-05 -2.3960E-07 2.1750E-06 -1.4940E-06 -
1.8380E-07 1.9250E-06 -1.3730E-06 -1.6940E-07 1.8840E-06 -1.3530E-06 -
1.7600E-07 2.0610E-06 -1.4610E-06 3.8970E-09 -1.2930E-07 8.9830E-08
  16 -5.0980E-08 3.6640E-07 -2.4970E-07 -5.0030E-08 3.7720E-07 -2.5860E-07

-5.2260E-08 3.5410E-07 -2.4070E-07 -5.1120E-08 4.0030E-07 -2.8230E-07 -
5.1990E-08 3.6240E-07 -2.3960E-07 5.4960E-07 -2.8470E-06 1.9170E-06 -
5.8540E-08 3.3660E-07 -2.2000E-07 -6.1240E-08 3.3580E-07 -2.1720E-07 -
6.2400E-08 3.1430E-07 -2.0870E-07 -1.1240E-08 2.7800E-07 -1.8970E-07
  17 3.1680E-07 -3.2860E-06 2.2020E-06 3.0000E-07 -3.2650E-06 2.1990E-06
3.3540E-07 -3.3090E-06 2.2130E-06 2.9610E-07 -3.3350E-06 2.3040E-06
3.3020E-07 -3.3200E-06 2.1750E-06 -2.8470E-06 2.7280E-05 -1.8070E-05
4.0190E-07 -3.4890E-06 2.2800E-06 4.2530E-07 -3.5740E-06 2.3250E-06
4.4230E-07 -3.5860E-06 2.3730E-06 1.8230E-07 -2.1400E-06 1.4550E-06
  18 -2.3030E-07 2.2040E-06 -1.5060E-06 -2.2490E-07 2.1750E-06 -1.4890E-06
-2.3620E-07 2.2340E-06 -1.5260E-06 -2.2580E-07 2.1910E-06 -1.5140E-06 -
2.3090E-07 2.2040E-06 -1.4940E-06 1.9170E-06 -1.8070E-05 1.2440E-05 -
2.5040E-07 2.3140E-06 -1.5700E-06 -2.5510E-07 2.3430E-06 -1.5880E-06 -
2.6360E-07 2.4060E-06 -1.6420E-06 -8.1680E-08 9.0550E-07 -5.9010E-07
  19 -6.3680E-08 3.2150E-07 -2.1700E-07 -7.3300E-08 3.2820E-07 -2.1510E-07
-5.3900E-08 3.2020E-07 -2.1930E-07 -8.6590E-08 3.6490E-07 -2.1090E-07 -
4.7410E-08 2.3720E-07 -1.8380E-07 -5.8540E-08 4.0190E-07 -2.5040E-07
4.8080E-07 -2.2710E-06 1.5580E-06 6.2210E-09 1.0840E-07 -1.1180E-07
7.5180E-09 1.8850E-07 -1.4950E-07 5.6840E-08 -5.4190E-07 3.7330E-07
  20 3.3210E-07 -3.0470E-06 2.0750E-06 3.5810E-07 -3.0330E-06 2.0460E-06
3.0650E-07 -3.0910E-06 2.1150E-06 4.0810E-07 -3.2150E-06 2.0840E-06
2.7420E-07 -2.7250E-06 1.9250E-06 3.3660E-07 -3.4890E-06 2.3140E-06 -
2.2710E-06 2.4120E-05 -1.6440E-05 1.2310E-07 -2.5010E-06 1.8240E-06
1.3220E-07 -2.9070E-06 2.0550E-06 -1.1680E-07 1.0640E-06 -6.9580E-07
  21 -2.1410E-07 2.0650E-06 -1.4460E-06 -2.2440E-07 2.0520E-06 -1.4300E-06
-2.0420E-07 2.0910E-06 -1.4680E-06 -2.4740E-07 2.1390E-06 -1.4550E-06 -
1.8800E-07 1.9190E-06 -1.3730E-06 -2.2000E-07 2.2800E-06 -1.5700E-06
1.5580E-06 -1.6440E-05 1.1670E-05 -1.2670E-07 1.8470E-06 -1.3480E-06 -
1.3330E-07 2.0430E-06 -1.4660E-06 4.0640E-08 -2.0720E-07 1.3110E-07
  22 -6.8840E-08 3.1310E-07 -2.0910E-07 -8.1830E-08 3.1770E-07 -2.0330E-07
-5.5510E-08 3.1590E-07 -2.1550E-07 -9.8890E-08 3.5710E-07 -1.8890E-07 -
4.7090E-08 2.0390E-07 -1.6940E-07 -6.1240E-08 4.2530E-07 -2.5510E-07
6.2210E-09 1.2310E-07 -1.2670E-07 4.8940E-07 -2.2140E-06 1.5040E-06
2.8960E-08 1.5730E-07 -1.3560E-07 7.7920E-08 -8.0400E-07 5.5490E-07
  23 3.3880E-07 -3.0290E-06 2.0630E-06 3.7630E-07 -3.0140E-06 2.0250E-06
3.0140E-07 -3.0810E-06 2.1120E-06 4.4010E-07 -3.2180E-06 2.0400E-06
2.6210E-07 -2.6150E-06 1.8840E-06 3.3580E-07 -3.5740E-06 2.3430E-06
1.0840E-07 -2.5010E-06 1.8470E-06 -2.2140E-06 2.3920E-05 -1.6310E-05
5.1080E-08 -2.7800E-06 1.9990E-06 -1.9410E-07 1.8870E-06 -1.2570E-06
  24 -2.1510E-07 2.0560E-06 -1.4430E-06 -2.3140E-07 2.0450E-06 -1.4230E-06
-1.9900E-07 2.0850E-06 -1.4690E-06 -2.6190E-07 2.1470E-06 -1.4390E-06 -
1.7900E-07 1.8610E-06 -1.3530E-06 -2.1720E-07 2.3250E-06 -1.5880E-06 -
1.1180E-07 1.8240E-06 -1.3480E-06 1.5040E-06 -1.6310E-05 1.1610E-05 -
8.8510E-08 1.9710E-06 -1.4340E-06 8.2830E-08 -6.2620E-07 4.1480E-07
  25 -7.0450E-08 3.2580E-07 -2.1610E-07 -8.3910E-08 3.2980E-07 -2.0950E-07
-5.6600E-08 3.2950E-07 -2.2330E-07 -1.0140E-07 3.6870E-07 -1.9300E-07 -
4.7970E-08 2.1390E-07 -1.7600E-07 -6.2400E-08 4.4230E-07 -2.6360E-07
7.5180E-09 1.3220E-07 -1.3330E-07 2.8960E-08 5.1080E-08 -8.8510E-08
4.9740E-07 -2.1940E-06 1.5030E-06 8.0580E-08 -8.3440E-07 5.7760E-07
  26 3.0360E-07 -3.2330E-06 2.2020E-06 3.2190E-07 -3.2330E-06 2.1900E-06
2.8640E-07 -3.2570E-06 2.2260E-06 3.6430E-07 -3.4240E-06 2.2660E-06
2.5840E-07 -2.9630E-06 2.0610E-06 3.1430E-07 -3.5860E-06 2.4060E-06
1.8850E-07 -2.9070E-06 2.0430E-06 1.5730E-07 -2.7800E-06 1.9710E-06 -
2.1940E-06 2.5500E-05 -1.7360E-05 -7.5010E-08 2.0410E-07 -1.0610E-07

27 -2.0070E-07 2.1930E-06 -1.5330E-06 -2.0820E-07 2.1880E-06 -1.5240E-06
-1.9360E-07 2.2090E-06 -1.5470E-06 -2.2890E-07 2.2820E-06 -1.5660E-06 -
1.7890E-07 2.0640E-06 -1.4610E-06 -2.0870E-07 2.3730E-06 -1.6420E-06 -
1.4950E-07 2.0550E-06 -1.4660E-06 -1.3560E-07 1.9990E-06 -1.4340E-06
1.5030E-06 -1.7360E-05 1.2280E-05 2.7990E-08 1.7040E-07 -1.2630E-07
28 -6.7150E-09 9.4260E-09 2.5370E-09 -3.2860E-08 6.6590E-08 -2.6320E-08
-5.9520E-09 6.9790E-08 -4.2170E-08 -4.9580E-08 1.0270E-07 -7.7460E-09
2.1520E-09 -4.4880E-08 3.8970E-09 -1.1240E-08 1.8230E-07 -8.1680E-08
5.6840E-08 -1.1680E-07 4.0640E-08 7.7920E-08 -1.9410E-07 8.2830E-08
8.0580E-08 -7.5010E-08 2.7990E-08 5.2020E-06 -2.8470E-05 1.9640E-05
29 3.2580E-07 -5.5630E-08 -6.8890E-08 5.2930E-07 -3.3290E-07 -1.4720E-08
2.1770E-07 -7.2440E-07 4.2720E-07 7.0730E-07 -4.9910E-07 -4.5720E-07
1.2130E-07 7.0930E-07 -1.2930E-07 2.7800E-07 -2.1400E-06 9.0550E-07 -
5.4190E-07 1.0640E-06 -2.0720E-07 -8.0400E-07 1.8870E-06 -6.2620E-07 -
8.3440E-07 2.0410E-07 1.7040E-07 -2.8470E-05 2.6240E-04 -1.7660E-04
30 -2.2700E-07 5.6760E-08 6.1070E-08 -3.6590E-07 2.1680E-07 3.8240E-08
-1.5100E-07 5.0420E-07 -2.7950E-07 -4.8490E-07 2.9170E-07 3.7240E-07 -
8.6530E-08 -4.6630E-07 8.9830E-08 -1.8970E-07 1.4550E-06 -5.9010E-07
3.7330E-07 -6.9580E-07 1.3110E-07 5.5490E-07 -1.2570E-06 4.1480E-07
5.7760E-07 -1.0610E-07 -1.2630E-07 1.9640E-05 -1.7660E-04 1.2300E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000052020	-0.0000284700	0.0000196400
-0.0000284700	0.0002624000	-0.0001766000
0.0000196400	-0.0001766000	0.0001230000

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000053105	0.0000030362	0.0000350454
0.0000030362	0.0000052747	0.0000302814
0.0000350454	0.0000302814	0.0003800168

Horizontal network accuracy = 0.00591 meters.
Vertical network accuracy = 0.03822 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-1135.267	6731.804	11765.404
eng6	qcfv	16063.358	3686.746	6453.673
lwes	qcfv	-23277.451	4955.699	8489.924
gris	qcfv	14618.458	-29885.280	-52705.224
covg	qcfv	1294.603	36933.305	63644.984
lmcn	qcfv	-53807.229	-30088.201	-53724.918
gvms	qcfv	-76438.908	28560.428	48194.703
sjb1	qcfv	-95926.430	33467.213	56014.732
fshs	qcfv	-134742.320	1510.679	-647.992

Covariance matrix of the 9 vectors
1 5.7716E-06 -3.1530E-05 2.1720E-05 5.1964E-06 -2.8501E-05 1.9641E-05
5.1643E-06 -2.8531E-05 1.9679E-05 5.2135E-06 -2.8514E-05 1.9594E-05
5.1558E-06 -2.8397E-05 1.9630E-05 5.1690E-06 -2.8661E-05 1.9718E-05
5.0882E-06 -2.8347E-05 1.9612E-05 5.0620E-06 -2.8263E-05 1.9569E-05
5.0577E-06 -2.8417E-05 1.9638E-05
2 -3.1530E-05 2.8737E-04 -1.9327E-04 -2.8658E-05 2.5977E-04 -1.7462E-04

-2.8350E-05 2.6008E-04 -1.7500E-04 -2.8819E-05 2.5985E-04 -1.7413E-04 -
2.8270E-05 2.5881E-04 -1.7455E-04 -2.8391E-05 2.6131E-04 -1.7536E-04 -
2.7616E-05 2.5834E-04 -1.7438E-04 -2.7362E-05 2.5754E-04 -1.7397E-04 -
2.7319E-05 2.5902E-04 -1.7463E-04
   3   2.1720E-05 -1.9327E-04 1.3451E-04 1.9760E-05 -1.7473E-04 1.2152E-04
1.9549E-05 -1.7495E-04 1.2178E-04 1.9870E-05 -1.7478E-04 1.2118E-04
1.9495E-05 -1.7407E-04 1.2147E-04 1.9577E-05 -1.7578E-04 1.2202E-04
1.9047E-05 -1.7376E-04 1.2136E-04 1.8873E-05 -1.7321E-04 1.2108E-04
1.8844E-05 -1.7422E-04 1.2153E-04
   4   5.1964E-06 -2.8658E-05 1.9760E-05 5.8529E-06 -3.1863E-05 2.1923E-05
5.1907E-06 -2.8735E-05 1.9818E-05 5.2464E-06 -2.8718E-05 1.9723E-05
5.1810E-06 -2.8583E-05 1.9763E-05 5.1961E-06 -2.8882E-05 1.9863E-05
5.1047E-06 -2.8524E-05 1.9741E-05 5.0751E-06 -2.8429E-05 1.9692E-05
5.0704E-06 -2.8602E-05 1.9770E-05
   5 -2.8501E-05 2.5977E-04 -1.7473E-04 -3.1863E-05 2.8777E-04 -1.9331E-04
-2.8395E-05 2.6039E-04 -1.7519E-04 -2.8863E-05 2.6019E-04 -1.7434E-04 -
2.8315E-05 2.5911E-04 -1.7473E-04 -2.8437E-05 2.6161E-04 -1.7555E-04 -
2.7666E-05 2.5864E-04 -1.7456E-04 -2.7415E-05 2.5783E-04 -1.7415E-04 -
2.7372E-05 2.5930E-04 -1.7480E-04
   6   1.9641E-05 -1.7462E-04 1.2152E-04 2.1923E-05 -1.9331E-04 1.3439E-04
1.9569E-05 -1.7502E-04 1.2182E-04 1.9884E-05 -1.7488E-04 1.2125E-04
1.9516E-05 -1.7416E-04 1.2152E-04 1.9597E-05 -1.7584E-04 1.2206E-04
1.9078E-05 -1.7384E-04 1.2140E-04 1.8908E-05 -1.7330E-04 1.2112E-04
1.8879E-05 -1.7429E-04 1.2156E-04
   7   5.1643E-06 -2.8350E-05 1.9549E-05 5.1907E-06 -2.8395E-05 1.9569E-05
5.7460E-06 -3.1415E-05 2.1651E-05 5.2054E-06 -2.8405E-05 1.9527E-05
5.1557E-06 -2.8306E-05 1.9561E-05 5.1669E-06 -2.8535E-05 1.9636E-05
5.0972E-06 -2.8264E-05 1.9546E-05 5.0745E-06 -2.8192E-05 1.9509E-05
5.0708E-06 -2.8326E-05 1.9569E-05
   8 -2.8531E-05 2.6008E-04 -1.7495E-04 -2.8735E-05 2.6039E-04 -1.7502E-04
-3.1415E-05 2.8903E-04 -1.9446E-04 -2.8896E-05 2.6045E-04 -1.7451E-04 -
2.8341E-05 2.5942E-04 -1.7496E-04 -2.8464E-05 2.6196E-04 -1.7578E-04 -
2.7678E-05 2.5897E-04 -1.7481E-04 -2.7420E-05 2.5816E-04 -1.7439E-04 -
2.7376E-05 2.5966E-04 -1.7507E-04
   9   1.9679E-05 -1.7500E-04 1.2178E-04 1.9818E-05 -1.7519E-04 1.2182E-04
2.1651E-05 -1.9446E-04 1.3539E-04 1.9929E-05 -1.7523E-04 1.2147E-04
1.9547E-05 -1.7453E-04 1.2178E-04 1.9631E-05 -1.7627E-04 1.2234E-04
1.9090E-05 -1.7422E-04 1.2168E-04 1.8912E-05 -1.7366E-04 1.2140E-04
1.8881E-05 -1.7470E-04 1.2186E-04
  10   5.2135E-06 -2.8819E-05 1.9870E-05 5.2464E-06 -2.8863E-05 1.9884E-05
5.2054E-06 -2.8896E-05 1.9929E-05 5.9405E-06 -3.2296E-05 2.2110E-05
5.1941E-06 -2.8724E-05 1.9865E-05 5.2117E-06 -2.9064E-05 1.9981E-05
5.1082E-06 -2.8652E-05 1.9837E-05 5.0748E-06 -2.8543E-05 1.9780E-05
5.0696E-06 -2.8738E-05 1.9868E-05
  11 -2.8514E-05 2.5985E-04 -1.7478E-04 -2.8718E-05 2.6019E-04 -1.7488E-04
-2.8405E-05 2.6045E-04 -1.7523E-04 -3.2296E-05 2.8907E-04 -1.9333E-04 -
2.8322E-05 2.5915E-04 -1.7475E-04 -2.8450E-05 2.6170E-04 -1.7561E-04 -
2.7666E-05 2.5862E-04 -1.7455E-04 -2.7412E-05 2.5779E-04 -1.7412E-04 -
2.7370E-05 2.5927E-04 -1.7478E-04
  12   1.9594E-05 -1.7413E-04 1.2118E-04 1.9723E-05 -1.7434E-04 1.2125E-04
1.9527E-05 -1.7451E-04 1.2147E-04 2.2110E-05 -1.9333E-04 1.3388E-04
1.9476E-05 -1.7369E-04 1.2117E-04 1.9555E-05 -1.7529E-04 1.2170E-04
1.9064E-05 -1.7336E-04 1.2104E-04 1.8904E-05 -1.7285E-04 1.2077E-04
1.8877E-05 -1.7377E-04 1.2119E-04

13 5.1558E-06 -2.8270E-05 1.9495E-05 5.1810E-06 -2.8315E-05 1.9516E-05
5.1557E-06 -2.8341E-05 1.9547E-05 5.1941E-06 -2.8322E-05 1.9476E-05
5.7113E-06 -3.1036E-05 2.1446E-05 5.1591E-06 -2.8443E-05 1.9577E-05
5.0956E-06 -2.8200E-05 1.9498E-05 5.0748E-06 -2.8135E-05 1.9465E-05
5.0713E-06 -2.8258E-05 1.9520E-05
14 -2.8397E-05 2.5881E-04 -1.7407E-04 -2.8583E-05 2.5911E-04 -1.7416E-04
-2.8306E-05 2.5942E-04 -1.7453E-04 -2.8724E-05 2.5915E-04 -1.7369E-04 -
3.1036E-05 2.8460E-04 -1.9201E-04 -2.8341E-05 2.6051E-04 -1.7484E-04 -
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15 1.9630E-05 -1.7455E-04 1.2147E-04 1.9763E-05 -1.7473E-04 1.2152E-04
1.9561E-05 -1.7496E-04 1.2178E-04 1.9865E-05 -1.7475E-04 1.2117E-04
2.1446E-05 -1.9201E-04 1.3412E-04 1.9586E-05 -1.7575E-04 1.2201E-04
1.9079E-05 -1.7385E-04 1.2141E-04 1.8912E-05 -1.7333E-04 1.2114E-04
1.8883E-05 -1.7430E-04 1.2158E-04
16 5.1690E-06 -2.8391E-05 1.9577E-05 5.1961E-06 -2.8437E-05 1.9597E-05
5.1669E-06 -2.8464E-05 1.9631E-05 5.2117E-06 -2.8450E-05 1.9555E-05
5.1591E-06 -2.8341E-05 1.9586E-05 5.7741E-06 -3.1777E-05 2.1828E-05
5.0979E-06 -2.8295E-05 1.9569E-05 5.0741E-06 -2.8218E-05 1.9530E-05
5.0703E-06 -2.8359E-05 1.9593E-05
17 -2.8661E-05 2.6131E-04 -1.7578E-04 -2.8882E-05 2.6161E-04 -1.7584E-04
-2.8535E-05 2.6196E-04 -1.7627E-04 -2.9064E-05 2.6170E-04 -1.7529E-04 -
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2.7709E-05 2.5999E-04 -1.7557E-04 -2.7423E-05 2.5908E-04 -1.7510E-04 -
2.7376E-05 2.6075E-04 -1.7585E-04
18 1.9718E-05 -1.7536E-04 1.2202E-04 1.9863E-05 -1.7555E-04 1.2206E-04
1.9636E-05 -1.7578E-04 1.2234E-04 1.9981E-05 -1.7561E-04 1.2170E-04
1.9577E-05 -1.7484E-04 1.2201E-04 2.1828E-05 -1.9703E-04 1.3662E-04
1.9098E-05 -1.7450E-04 1.2189E-04 1.8912E-05 -1.7391E-04 1.2159E-04
1.8880E-05 -1.7499E-04 1.2207E-04
19 5.0882E-06 -2.7616E-05 1.9047E-05 5.1047E-06 -2.7666E-05 1.9078E-05
5.0972E-06 -2.7678E-05 1.9090E-05 5.1082E-06 -2.7666E-05 1.9064E-05
5.0956E-06 -2.7646E-05 1.9079E-05 5.0979E-06 -2.7709E-05 1.9098E-05
5.5691E-06 -3.0082E-05 2.0784E-05 5.0735E-06 -2.7626E-05 1.9072E-05
5.0721E-06 -2.7665E-05 1.9089E-05
20 -2.8347E-05 2.5834E-04 -1.7376E-04 -2.8524E-05 2.5864E-04 -1.7384E-04
-2.8264E-05 2.5897E-04 -1.7422E-04 -2.8652E-05 2.5862E-04 -1.7336E-04 -
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2.7387E-05 2.5822E-04 -1.7402E-04
21 1.9612E-05 -1.7438E-04 1.2136E-04 1.9741E-05 -1.7456E-04 1.2140E-04
1.9546E-05 -1.7481E-04 1.2168E-04 1.9837E-05 -1.7455E-04 1.2104E-04
1.9498E-05 -1.7401E-04 1.2141E-04 1.9569E-05 -1.7557E-04 1.2189E-04
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1.8888E-05 -1.7424E-04 1.2153E-04
22 5.0620E-06 -2.7362E-05 1.8873E-05 5.0751E-06 -2.7415E-05 1.8908E-05
5.0745E-06 -2.7420E-05 1.8912E-05 5.0748E-06 -2.7412E-05 1.8904E-05
5.0748E-06 -2.7417E-05 1.8912E-05 5.0741E-06 -2.7423E-05 1.8912E-05
5.0735E-06 -2.7426E-05 1.8918E-05 5.5356E-06 -2.9686E-05 2.0506E-05
5.0725E-06 -2.7434E-05 1.8922E-05
23 -2.8263E-05 2.5754E-04 -1.7321E-04 -2.8429E-05 2.5783E-04 -1.7330E-04
-2.8192E-05 2.5816E-04 -1.7366E-04 -2.8543E-05 2.5779E-04 -1.7285E-04 -
2.8135E-05 2.5719E-04 -1.7333E-04 -2.8218E-05 2.5908E-04 -1.7391E-04 -
2.7626E-05 2.5695E-04 -1.7329E-04 -2.9686E-05 2.8255E-04 -1.9103E-04 -

2.7390E-05 2.5753E-04 -1.7351E-04
  24   1.9569E-05 -1.7397E-04 1.2108E-04 1.9692E-05 -1.7415E-04 1.2112E-04
1.9509E-05 -1.7439E-04 1.2140E-04 1.9780E-05 -1.7412E-04 1.2077E-04
1.9465E-05 -1.7365E-04 1.2114E-04 1.9530E-05 -1.7510E-04 1.2159E-04
1.9072E-05 -1.7345E-04 1.2111E-04 2.0506E-05 -1.9103E-04 1.3378E-04
1.8891E-05 -1.7390E-04 1.2128E-04
  25   5.0577E-06 -2.7319E-05 1.8844E-05 5.0704E-06 -2.7372E-05 1.8879E-05
5.0708E-06 -2.7376E-05 1.8881E-05 5.0696E-06 -2.7370E-05 1.8877E-05
5.0713E-06 -2.7377E-05 1.8883E-05 5.0703E-06 -2.7376E-05 1.8880E-05
5.0721E-06 -2.7387E-05 1.8888E-05 5.0725E-06 -2.7390E-05 1.8891E-05
5.5382E-06 -2.9755E-05 2.0537E-05
  26 -2.8417E-05 2.5902E-04 -1.7422E-04 -2.8602E-05 2.5930E-04 -1.7429E-04
-2.8326E-05 2.5966E-04 -1.7470E-04 -2.8738E-05 2.5927E-04 -1.7377E-04 -
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  27   1.9638E-05 -1.7463E-04 1.2153E-04 1.9770E-05 -1.7480E-04 1.2156E-04
1.9569E-05 -1.7507E-04 1.2186E-04 1.9868E-05 -1.7478E-04 1.2119E-04
1.9520E-05 -1.7424E-04 1.2158E-04 1.9593E-05 -1.7585E-04 1.2207E-04
1.9089E-05 -1.7402E-04 1.2153E-04 1.8922E-05 -1.7351E-04 1.2128E-04
2.0537E-05 -1.9402E-04 1.3553E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 -7.7421E-01 7.7955E-01 8.9406E-01 -6.9935E-01 7.0523E-01
8.9677E-01 -6.9856E-01 7.0399E-01 8.9037E-01 -6.9809E-01 7.0488E-01
8.9800E-01 -7.0065E-01 7.0556E-01 8.9539E-01 -6.9583E-01 7.0221E-01
8.9747E-01 -6.9968E-01 7.0415E-01 8.9555E-01 -6.9988E-01 7.0425E-01
8.9457E-01 -6.9762E-01 7.0215E-01
   2 -7.7421E-01 1.0000E+00 -9.8302E-01 -6.9878E-01 9.0334E-01 -8.8855E-01
-6.9766E-01 9.0245E-01 -8.8721E-01 -6.9750E-01 9.0158E-01 -8.8776E-01 -
6.9780E-01 9.0497E-01 -8.8908E-01 -6.9698E-01 8.9906E-01 -8.8501E-01 -
6.9031E-01 9.0369E-01 -8.8731E-01 -6.8604E-01 9.0381E-01 -8.8729E-01 -
6.8480E-01 9.0115E-01 -8.8488E-01
   3   7.7955E-01 -9.8302E-01 1.0000E+00 7.0426E-01 -8.8813E-01 9.0381E-01
7.0319E-01 -8.8728E-01 9.0243E-01 7.0293E-01 -8.8638E-01 9.0302E-01
7.0336E-01 -8.8970E-01 9.0437E-01 7.0249E-01 -8.8402E-01 9.0014E-01
6.9593E-01 -8.8842E-01 9.0260E-01 6.9167E-01 -8.8850E-01 9.0262E-01
6.9041E-01 -8.8597E-01 9.0011E-01
   4   8.9406E-01 -6.9878E-01 7.0426E-01 1.0000E+00 -7.7639E-01 7.8168E-01
8.9507E-01 -6.9864E-01 7.0402E-01 8.8975E-01 -6.9818E-01 7.0461E-01
8.9610E-01 -7.0033E-01 7.0536E-01 8.9381E-01 -6.9629E-01 7.0242E-01
8.9411E-01 -6.9915E-01 7.0383E-01 8.9162E-01 -6.9908E-01 7.0372E-01
8.9057E-01 -6.9727E-01 7.0193E-01
   5 -6.9935E-01 9.0334E-01 -8.8813E-01 -7.7639E-01 1.0000E+00 -9.8299E-01
-6.9830E-01 9.0288E-01 -8.8755E-01 -6.9810E-01 9.0212E-01 -8.8825E-01 -
6.9845E-01 9.0542E-01 -8.8941E-01 -6.9764E-01 8.9947E-01 -8.8535E-01 -
6.9110E-01 9.0409E-01 -8.8758E-01 -6.8689E-01 9.0422E-01 -8.8756E-01 -
6.8566E-01 9.0149E-01 -8.8511E-01
   6   7.0523E-01 -8.8855E-01 9.0381E-01 7.8168E-01 -9.8299E-01 1.0000E+00
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6.9200E-01 -8.8668E-01 9.0073E-01
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8.9889E-01 -6.9694E-01 7.0125E-01
   8 -6.9856E-01 9.0245E-01 -8.8728E-01 -6.9864E-01 9.0288E-01 -8.8803E-01
-7.7089E-01 1.0000E+00 -9.8304E-01 -6.9737E-01 9.0106E-01 -8.8715E-01 -
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6.8425E-01 9.0080E-01 -8.8452E-01
   9   7.0399E-01 -8.8721E-01 9.0243E-01 7.0402E-01 -8.8755E-01 9.0312E-01
7.7626E-01 -9.8304E-01 1.0000E+00 7.0273E-01 -8.8575E-01 9.0223E-01
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6.8953E-01 -8.8547E-01 8.9959E-01
  10   8.9037E-01 -6.9750E-01 7.0293E-01 8.8975E-01 -6.9810E-01 7.0374E-01
8.9096E-01 -6.9737E-01 7.0273E-01 1.0000E+00 -7.7936E-01 7.8401E-01
8.9174E-01 -6.9857E-01 7.0378E-01 8.8987E-01 -6.9549E-01 7.0137E-01
8.8810E-01 -6.9710E-01 7.0202E-01 8.8496E-01 -6.9670E-01 7.0166E-01
8.8385E-01 -6.9540E-01 7.0020E-01
  11 -6.9809E-01 9.0158E-01 -8.8638E-01 -6.9818E-01 9.0212E-01 -8.8725E-01
-6.9697E-01 9.0106E-01 -8.8575E-01 -7.7936E-01 1.0000E+00 -9.8279E-01 -
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  12   7.0488E-01 -8.8776E-01 9.0302E-01 7.0461E-01 -8.8825E-01 9.0394E-01
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6.9327E-01 -8.8576E-01 8.9968E-01
  13   8.9800E-01 -6.9780E-01 7.0336E-01 8.9610E-01 -6.9845E-01 7.0441E-01
8.9998E-01 -6.9757E-01 7.0296E-01 8.9174E-01 -6.9705E-01 7.0432E-01
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  15   7.0556E-01 -8.8908E-01 9.0437E-01 7.0536E-01 -8.8941E-01 9.0510E-01
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  16   8.9539E-01 -6.9698E-01 7.0249E-01 8.9381E-01 -6.9764E-01 7.0351E-01
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G-FILE for the vectors

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22 8955467 1 23 -6998788 1 24 7042465 1 25 8945747 1 26 -6976203 D 1
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9013165 15 19 6980958 15 20 -8901607 15 21 9042340 15 22 6940724 D 15 23 -
8903916 15 24 9043832 15 25 6928294 15 26 -8876592 15 27 9017304 D 16 17 -
7713144 16 18 7771818 16 19 8989865 16 20 -6982379 16 21 7024514 D 16 22
8975013 16 23 -6986212 16 24 7026794 16 25 8966086 16 26 -6960365 D 16 27
7003866 17 18 -9831773 17 19 -6848186 17 20 8991845 17 21 -8832598 D 17 22 -
6798139 17 23 8989665 17 24 -8829888 17 25 -6784746 17 26 8969480 D 17 27 -
8810129 18 19 6923675 18 20 -8852553 18 21 8994868 18 22 6876886 D 18 23 -
8851385 18 24 8993619 18 25 6863880 18 26 -8829812 18 27 8971090 D 19 20 -
7558908 19 21 7596698 19 22 9137560 19 23 -6964241 19 24 6987282 D 19 25
9132894 19 26 -6913822 19 27 6948207 20 21 -9827432 20 22 -6912331 D 20 23
9064460 20 24 -8892612 20 25 -6900706 20 26 9030809 20 27 -8863751 D 21 22
6935482 21 23 -8892291 21 24 9031451 21 25 6923065 21 26 -8864048 D 21 27
9004228 22 23 -7506281 22 24 7535457 22 25 9161191 22 26 -6876868 D 22 27
6908012 23 24 -9825473 23 25 -6924178 23 26 9035842 23 27 -8866843 D 24 25
6940235 24 26 -8867115 24 27 9006625 25 26 -7456849 25 27 7496143 D 26 27 -
9829275

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-10468.766	-5538608.640	3152305.507
eng6	-10468.758	-5538608.674	3152305.525
lwes	-10468.768	-5538608.628	3152305.518
gris	-10468.764	-5538608.689	3152305.552
covg	-10468.767	-5538608.651	3152305.517
lmcn	-10468.759	-5538608.678	3152305.529
gvms	-10468.761	-5538608.665	3152305.522
sjb1	-10468.764	-5538608.695	3152305.543
fshs	-10468.754	-5538608.667	3152305.525

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	-0.002	0.022	-0.018	-0.002	-0.004	-0.028
eng6	0.006	-0.012	0.000	0.006	-0.006	0.011
lwes	-0.004	0.035	-0.007	-0.004	0.011	-0.034
gris	-0.000	-0.027	0.027	-0.000	0.010	0.037

covg	-0.004	0.011	-0.008	-0.004	-
0.001	-0.014				
lmcn	0.005	-0.015	0.003	0.005	-
0.005	0.015				
gvms	0.003	-0.003	-0.003	0.003	-
0.004	0.001				
sjb1	-0.000	-0.032	0.018	-0.000	-
0.000	0.037				
fshs	0.010	-0.004	0.000	0.010	-
0.002	0.004				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 479236.947
Easting (X) [feet] 3669321.907
Convergence [degrees] 0.61253746
Point Scale 0.99993114
Combined Factor 0.99993505

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.638 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.423
scatter (mean square distance from rover) is 6413.224
average edop for rover is 0.700
average ndop for rover is 0.970
average hdop for rover is 1.196
average vdop for rover is 1.430
average gdop for rover is 2.070

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:26 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA20.O00 OP1335489599958

FILE: QCFVA20.O00 OP1335489599958

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv080r.12o TIME: 01:25:12 UTC

SOFTWARE: rsgps 1.37 RS11.prl 1.73 START: 2012/03/20 17:15:25
EPHEMERIS: igs16802.eph [precise] STOP: 2012/03/20 17:35:40
NAV FILE: brdc0800.12n OBS USED: 1218 / 1505 : 81%
ANT NAME: LEIAT502 NONE QUALITY IND. 8.70/ 2.64
ARP HEIGHT: 1.485 NORMALIZED RMS: 0.420

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.21783)

X:	-4620.834(m)	0.004(m)	-4621.566(m)	0.004(m)
Y:	-5534865.176(m)	0.032(m)	-5534863.683(m)	0.032(m)
Z:	3158841.915(m)	0.022(m)	3158841.706(m)	0.022(m)

LAT:	29 52 48.32551	0.006(m)	29 52 48.34378	0.006(m)
E LON:	269 57 7.79794	0.004(m)	269 57 7.77061	0.004(m)
W LON:	90 2 52.20206	0.004(m)	90 2 52.22939	0.004(m)
EL HGT:	-27.170(m)	0.039(m)	-28.568(m)	0.039(m)
ORTHO HGT:	-1.367(m)	0.040(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3309160.149	153671.744
Easting (X) [meters]	785135.266	1124170.349
Convergence [degrees]	1.47172328	0.64276603
Point Scale	1.00060323	0.99992795
Combined Factor	1.00060750	0.99993222

US NATIONAL GRID DESIGNATOR: 15RYP8513509160(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	10216.7

DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 66208.8
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 95510.4
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 91294.8
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 86525.9
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 132280.0
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 146689.8

NEAREST NGS PUBLISHED CONTROL POINT
AU2131 U 368 N295221.539 W0900349.664 1749.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.596	-5534921.913	3158759.195
covg	-9174.161	-5501675.338	3215950.499
gvms	-86907.673	-5510048.206	3200500.211
lmcn	-64275.989	-5568696.895	3098580.625
bvhs	57650.137	-5564331.457	3106490.832
mspk	82001.472	-5483970.077	3244889.914
msga	130192.488	-5504708.296	3208174.547
qcfv	-4621.566	-5534863.683	3158841.706

Covariance matrix of the stations:
1 2.0630E-07 8.5920E-07 -5.0150E-07 -7.4500E-09 -1.9620E-07 1.1190E-07
-7.3740E-09 -3.4150E-07 1.9630E-07 -7.6440E-09 -3.1240E-07 1.8430E-07 -
1.0770E-08 -9.3840E-08 6.3090E-08 -1.2540E-08 -3.7420E-09 -2.6380E-09 -
1.7670E-08 8.8400E-08 -5.1460E-08 2.2100E-08 -2.2620E-07 1.2990E-07
2 8.5920E-07 7.2030E-05 -4.0740E-05 -2.1100E-07 -1.2190E-05 6.9980E-06
-3.6610E-07 -1.1890E-05 6.7750E-06 -3.0910E-07 -1.1180E-05 6.1250E-06 -
7.3710E-08 -1.1580E-05 6.3670E-06 -4.4040E-09 -1.2590E-05 7.3290E-06
1.0510E-07 -1.2460E-05 7.1520E-06 -3.0660E-08 1.0610E-06 -6.5370E-07
3 -5.0150E-07 -4.0740E-05 2.3330E-05 1.2920E-07 6.9930E-06 -4.0370E-06
2.2860E-07 6.7530E-06 -3.8650E-06 1.8630E-07 6.1050E-06 -3.3380E-06
3.8120E-08 6.3790E-06 -3.5050E-06 -4.7260E-09 7.3390E-06 -4.3030E-06 -
7.6010E-08 7.1760E-06 -4.1390E-06 1.5890E-08 -1.0080E-06 6.3390E-07
4 -7.4500E-09 -2.1100E-07 1.2920E-07 2.1320E-07 1.0100E-06 -6.0870E-07
1.1280E-09 -3.7640E-07 2.1620E-07 -1.4290E-09 -3.6780E-07 2.2680E-07 -
1.4620E-08 -1.3000E-07 9.3890E-08 -1.9140E-08 -7.7070E-09 -6.7790E-09 -
2.8880E-08 8.3230E-08 -5.0440E-08 1.7920E-08 -4.4550E-07 2.5640E-07
5 -1.9620E-07 -1.2190E-05 6.9930E-06 1.0100E-06 7.3720E-05 -4.2380E-05
-3.2100E-07 -1.2290E-05 7.1210E-06 -2.8270E-07 -1.1770E-05 6.6620E-06 -
1.2600E-07 -1.2010E-05 6.8050E-06 -7.8300E-08 -1.2710E-05 7.4640E-06 -
5.1870E-09 -1.2600E-05 7.3310E-06 -5.7520E-08 -1.0450E-06 6.9550E-07
6 1.1190E-07 6.9980E-06 -4.0370E-06 -6.0870E-07 -4.2380E-05 2.4650E-05
1.5900E-07 7.1560E-06 -4.1500E-06 1.3890E-07 6.7160E-06 -3.8450E-06
8.6420E-08 6.7990E-06 -3.8960E-06 6.9840E-08 7.4280E-06 -4.3470E-06
4.2550E-08 7.2790E-06 -4.2350E-06 3.8770E-08 1.3520E-06 -8.0130E-07
7 -7.3740E-09 -3.6610E-07 2.2860E-07 1.1280E-09 -3.2100E-07 1.5900E-07
3.0230E-07 1.6030E-06 -9.5010E-07 2.6330E-08 -6.3820E-07 4.2340E-07 -

3.6860E-08 -3.0630E-07 2.3350E-07 -5.5100E-08 -2.8930E-08 -3.7720E-08 -
8.7620E-08 5.7020E-08 -5.6390E-08 5.3170E-09 -1.5800E-06 9.0400E-07
   8 -3.4150E-07 -1.1890E-05 6.7530E-06 -3.7640E-07 -1.2290E-05 7.1560E-06
1.6030E-06 7.2560E-05 -4.1460E-05 -4.8530E-07 -1.1200E-05 6.1980E-06 -
2.2460E-07 -1.1660E-05 6.4790E-06 -1.4800E-07 -1.2750E-05 7.5290E-06 -
2.6660E-08 -1.2630E-05 7.3440E-06 -1.8030E-07 1.1870E-06 -6.2670E-07
   9   1.9630E-07 6.7750E-06 -3.8650E-06 2.1620E-07 7.1210E-06 -4.1500E-06
-9.5010E-07 -4.1460E-05 2.3970E-05 2.6510E-07 6.2950E-06 -3.5130E-06
1.3660E-07 6.5420E-06 -3.6620E-06 9.8980E-08 7.4410E-06 -4.3930E-06
3.6600E-08 7.2850E-06 -4.2430E-06 1.0610E-07 -2.9800E-07 1.6850E-07
  10 -7.6440E-09 -3.0910E-07 1.8630E-07 -1.4290E-09 -2.8270E-07 1.3890E-07
2.6330E-08 -4.8530E-07 2.6510E-07 2.6530E-07 1.2710E-06 -6.7200E-07 -
2.9370E-08 -2.4150E-07 1.7700E-07 -4.2860E-08 -2.0270E-08 -3.3630E-08 -
6.7450E-08 6.7890E-08 -6.1280E-08 9.4200E-09 -1.1870E-06 6.7380E-07
  11 -3.1240E-07 -1.1180E-05 6.1050E-06 -3.6780E-07 -1.1770E-05 6.7160E-06
-6.3820E-07 -1.1200E-05 6.2950E-06 1.2710E-06 7.0060E-05 -3.9190E-05 -
1.2680E-07 -1.0870E-05 5.6970E-06 -8.3750E-09 -1.2520E-05 7.3220E-06
1.8330E-07 -1.2370E-05 7.0520E-06 -1.1460E-07 4.7020E-06 -2.8470E-06
  12   1.8430E-07 6.1250E-06 -3.3380E-06 2.2680E-07 6.6620E-06 -3.8450E-06
4.2340E-07 6.1980E-06 -3.5130E-06 -6.7200E-07 -3.9190E-05 2.2260E-05
4.8640E-08 5.8100E-06 -2.9930E-06 -3.5540E-08 7.2870E-06 -4.3340E-06 -
1.7580E-07 7.1060E-06 -4.0940E-06 5.2380E-08 -4.1720E-06 2.5000E-06
  13 -1.0770E-08 -7.3710E-08 3.8120E-08 -1.4620E-08 -1.2600E-07 8.6420E-08
-3.6860E-08 -2.2460E-07 1.3660E-07 -2.9370E-08 -1.2680E-07 4.8640E-08
2.0480E-07 4.3750E-07 -2.8200E-07 9.6200E-09 9.1030E-09 1.9070E-08
2.0190E-08 1.0470E-07 -4.7020E-08 2.5830E-08 5.6110E-07 -3.2110E-07
  14 -9.3840E-08 -1.1580E-05 6.3790E-06 -1.3000E-07 -1.2010E-05 6.7990E-06
-3.0630E-07 -1.1660E-05 6.5420E-06 -2.4150E-07 -1.0870E-05 5.8100E-06
4.3750E-07 7.1050E-05 -3.9690E-05 1.0460E-07 -1.2460E-05 7.1780E-06
2.2920E-07 -1.2330E-05 6.9800E-06 7.2520E-08 1.5930E-06 -1.0560E-06
  15   6.3090E-08 6.3670E-06 -3.5050E-06 9.3890E-08 6.8050E-06 -3.8960E-06
2.3350E-07 6.4790E-06 -3.6620E-06 1.7700E-07 5.6970E-06 -2.9930E-06 -
2.8200E-07 -3.9690E-05 2.2500E-05 -9.2820E-08 7.2570E-06 -4.2490E-06 -
1.9240E-07 7.0830E-06 -4.0520E-06 -4.9540E-08 -2.2780E-06 1.4110E-06
  16 -1.2540E-08 -4.4040E-09 -4.7260E-09 -1.9140E-08 -7.8300E-08 6.9840E-08
-5.5100E-08 -1.4800E-07 9.8980E-08 -4.2860E-08 -8.3750E-09 -3.5540E-08
9.6200E-09 1.0460E-07 -9.2820E-08 2.1940E-07 1.5950E-08 8.7920E-09
4.3360E-08 1.1870E-07 -4.4780E-08 2.9310E-08 1.0420E-06 -5.9420E-07
  17 -3.7420E-09 -1.2590E-05 7.3390E-06 -7.7070E-09 -1.2710E-05 7.4280E-06
-2.8930E-08 -1.2750E-05 7.4410E-06 -2.0270E-08 -1.2520E-05 7.2870E-06
9.1030E-09 -1.2460E-05 7.2570E-06 1.5950E-08 7.5760E-05 -4.4110E-05
3.5290E-08 -1.2590E-05 7.3620E-06 1.0770E-07 -3.8000E-06 2.3600E-06
  18 -2.6380E-09 7.3290E-06 -4.3030E-06 -6.7790E-09 7.4640E-06 -4.3470E-06
-3.7720E-08 7.5290E-06 -4.3930E-06 -3.3630E-08 7.3220E-06 -4.3340E-06
1.9070E-08 7.1780E-06 -4.2490E-06 8.7920E-09 -4.4110E-05 2.6020E-05
5.2980E-08 7.2910E-06 -4.2500E-06 -5.2210E-08 3.6580E-06 -2.1720E-06
  19 -1.7670E-08 1.0510E-07 -7.6010E-08 -2.8880E-08 -5.1870E-09 4.2550E-08
-8.7620E-08 -2.6660E-08 3.6600E-08 -6.7450E-08 1.8330E-07 -1.7580E-07
2.0190E-08 2.2920E-07 -1.9240E-07 4.3360E-08 3.5290E-08 5.2980E-08
2.8090E-07 -5.2070E-07 3.1160E-07 3.2970E-08 1.8360E-06 -1.0490E-06
  20   8.8400E-08 -1.2460E-05 7.1760E-06 8.3230E-08 -1.2600E-05 7.2790E-06
5.7020E-08 -1.2630E-05 7.2850E-06 6.7890E-08 -1.2370E-05 7.1060E-06
1.0470E-07 -1.2330E-05 7.0830E-06 1.1870E-07 -1.2590E-05 7.2910E-06 -
5.2070E-07 7.5130E-05 -4.3220E-05 2.0280E-07 -3.5550E-06 2.1280E-06

21 -5.1460E-08 7.1520E-06 -4.1390E-06 -5.0440E-08 7.3310E-06 -4.2350E-06
-5.6390E-08 7.3440E-06 -4.2430E-06 -6.1280E-08 7.0520E-06 -4.0940E-06 -
4.7020E-08 6.9800E-06 -4.0520E-06 -4.4780E-08 7.3620E-06 -4.2500E-06
3.1160E-07 -4.3220E-05 2.5160E-05 -1.1130E-07 2.7460E-06 -1.5970E-06
22 2.2100E-08 -3.0660E-08 1.5890E-08 1.7920E-08 -5.7520E-08 3.8770E-08
5.3170E-09 -1.8030E-07 1.0610E-07 9.4200E-09 -1.1460E-07 5.2380E-08
2.5830E-08 7.2520E-08 -4.9540E-08 2.9310E-08 1.0770E-07 -5.2210E-08
3.2970E-08 2.0280E-07 -1.1130E-07 1.8950E-06 2.0210E-06 -1.3700E-06
23 -2.2620E-07 1.0610E-06 -1.0080E-06 -4.4550E-07 -1.0450E-06 1.3520E-06
-1.5800E-06 1.1870E-06 -2.9800E-07 -1.1870E-06 4.7020E-06 -4.1720E-06
5.6110E-07 1.5930E-06 -2.2780E-06 1.0420E-06 -3.8000E-06 3.6580E-06
1.8360E-06 -3.5550E-06 2.7460E-06 2.0210E-06 2.4680E-04 -1.3930E-04
24 1.2990E-07 -6.5370E-07 6.3390E-07 2.5640E-07 6.9550E-07 -8.0130E-07
9.0400E-07 -6.2670E-07 1.6850E-07 6.7380E-07 -2.8470E-06 2.5000E-06 -
3.2110E-07 -1.0560E-06 1.4110E-06 -5.9420E-07 2.3600E-06 -2.1720E-06 -
1.0490E-06 2.1280E-06 -1.5970E-06 -1.3700E-06 -1.3930E-04 8.1400E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000018950 0.0000020210 -0.0000013700
0.0000020210 0.0002468000 -0.0001393000
-0.0000013700 -0.0001393000 0.0000814000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000018918 -0.0000001884 -0.0000021991
-0.0000001884 0.0000021009 -0.0000003547
-0.0000021991 -0.0000003547 0.0003261023

Horizontal network accuracy = 0.00346 meters.
Vertical network accuracy = 0.03541 meters.

		Vectors		
To	From	X	Y	Z
eng6	qcfv	10216.162	-58.230	-82.511
covg	qcfv	-4552.595	33188.345	57108.793
gvms	qcfv	-82286.107	24815.477	41658.504
lmcn	qcfv	-59654.423	-33833.212	-60261.081
bvhs	qcfv	62271.702	-29467.774	-52350.874
mspk	qcfv	86623.038	50893.606	86048.207
msga	qcfv	134814.054	30155.387	49332.841

Covariance matrix of the 7 vectors
1 2.0571E-06 3.1371E-06 -2.0173E-06 1.8475E-06 2.1085E-06 -1.4268E-06
1.8602E-06 2.0860E-06 -1.4097E-06 1.8558E-06 2.0494E-06 -1.3680E-06
1.8363E-06 2.0808E-06 -1.3873E-06 1.8311E-06 2.1358E-06 -1.4503E-06
1.8223E-06 2.1328E-06 -1.4401E-06
2 3.1371E-06 3.1671E-04 -1.7838E-04 2.2862E-06 2.3459E-04 -1.3300E-04
3.2656E-06 2.3266E-04 -1.3157E-04 2.9296E-06 2.2986E-04 -1.2835E-04
1.4168E-06 2.3257E-04 -1.3000E-04 1.0053E-06 2.3695E-04 -1.3498E-04
3.2076E-07 2.3683E-04 -1.3424E-04
3 -2.0173E-06 -1.7838E-04 1.0346E-04 -1.5131E-06 -1.3199E-04 7.7530E-05
-2.0613E-06 -1.3091E-04 7.6733E-05 -1.8734E-06 -1.2934E-04 7.4928E-05 -
1.0267E-06 -1.3086E-04 7.5850E-05 -7.9642E-07 -1.3331E-04 7.8635E-05 -
4.1290E-07 -1.3324E-04 7.8224E-05

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1.0190E-07 -1.8739E-04 1.0975E-04

Correlation matrix of the 7 vectors
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8.7709E-01 8.1690E-02 -9.5904E-02 8.8421E-01 8.1491E-02 -9.6024E-02
8.9461E-01 8.1788E-02 -9.6207E-02 8.9040E-01 8.1952E-02 -9.5651E-02
8.7467E-01 8.1978E-02 -9.5839E-02
   2   1.2290E-01 1.0000E+00 -9.8542E-01 8.9237E-02 7.3392E-01 -7.2030E-01
1.2409E-01 7.3430E-01 -7.2140E-01 1.1249E-01 7.3661E-01 -7.2609E-01
5.5631E-02 7.3670E-01 -7.2659E-01 3.9397E-02 7.3276E-01 -7.1742E-01
1.2408E-02 7.3365E-01 -7.2002E-01
   3 -1.3828E-01 -9.8542E-01 1.0000E+00 -1.0333E-01 -7.2248E-01 7.3463E-01
-1.3704E-01 -7.2289E-01 7.3608E-01 -1.2586E-01 -7.2519E-01 7.4162E-01 -
7.0528E-02 -7.2524E-01 7.4171E-01 -5.4609E-02 -7.2131E-01 7.3126E-01 -
2.7946E-02 -7.2216E-01 7.3407E-01
   4   8.9481E-01 8.9237E-02 -1.0333E-01 1.0000E+00 1.3668E-01 -1.5224E-01
8.7981E-01 8.8583E-02 -1.0278E-01 8.8589E-01 8.7683E-02 -1.0154E-01
8.9148E-01 8.8658E-02 -1.0246E-01 8.8594E-01 8.9882E-02 -1.0388E-01
8.6808E-01 8.9876E-02 -1.0381E-01
   5   8.1849E-02 7.3392E-01 -7.2248E-01 1.3668E-01 1.0000E+00 -9.8588E-01
1.2566E-01 7.3289E-01 -7.2022E-01 1.1348E-01 7.3465E-01 -7.2398E-01
5.4130E-02 7.3519E-01 -7.2496E-01 3.7208E-02 7.3211E-01 -7.1722E-01
9.0967E-03 7.3294E-01 -7.1962E-01
   6 -9.5877E-02 -7.2030E-01 7.3463E-01 -1.5224E-01 -9.8588E-01 1.0000E+00
-1.4038E-01 -7.1927E-01 7.3243E-01 -1.2801E-01 -7.2055E-01 7.3605E-01 -
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2.1048E-02 -7.1996E-01 7.3197E-01
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G-FILE for the vectors

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D 13 15  -890559 13 16  9013251 13 17   523495 13 18  -646158 13 19  8930017
D 13 20   524576 13 21  -656717 14 15 -9849430 14 16   397533 14 17  7338912
D 14 18 -7184068 14 19   132604 14 20  7347817 14 21 -7211132 15 16  -568211
D 15 17 -7232600 15 18  7330355 15 19  -317629 15 20 -7241718 15 21  7361286
D 16 17   340561 16 18  -471567 16 19  9007949 16 20   344081 16 21  -472192
D 17 18 -9861227 17 19    42657 17 20  7329045 17 21 -7199256 18 19  -140534
D 18 20 -7185519 18 21  7306163 19 20  -204373 19 21    66961 20 21 -9861004
```

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	-4621.563	-5534863.712	3158841.716
covg	-4621.571	-5534863.707	3158841.712
gvms	-4621.564	-5534863.719	3158841.728
lmcn	-4621.571	-5534863.690	3158841.712
bvhs	-4621.562	-5534863.736	3158841.748
mspk	-4621.567	-5534863.692	3158841.713
msga	-4621.567	-5534863.708	3158841.729

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.002	-0.029	0.010	0.002	-0.006	0.030
covg	-0.005	-0.024	0.006	-0.005	-0.007	0.024
gvms	0.002	-0.036	0.021	0.002	0.001	0.042
lmcn	-0.006	-0.007	0.005	-0.006	0.001	0.009
bvhs	0.003	-0.053	0.042	0.004	0.010	0.067
mspk	-0.001	-0.009	0.007	-0.001	0.002	0.012
msga	-0.001	-0.025	0.023	-0.001	0.007	0.033

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)

Northing (Y) [feet]	504171.379
Easting (X) [feet]	3688215.552
Convergence [degrees]	0.64276603
Point Scale	0.99992795
Combined Factor	0.99993222

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -1.456 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.406

scatter (mean square distance from rover) is 9777.196
average edop for rover is 0.870
average ndop for rover is 1.050
average hdop for rover is 1.364
average vdop for rover is 2.270
average gdop for rover is 3.130

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 7:59 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA21.O00 OP1335488168135

FILE: QCFVA21.O00 OP1335488168135

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068x.12o TIME: 00:59:23 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/08 23:06:40
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 23:26:41
NAV FILE: brdc0680.12n OBS USED: 2160 / 2250 : 96%
ANT NAME: LEIAT502 NONE QUALITY IND. 8.19/ 20.79
ARP HEIGHT: 1.525 NORMALIZED RMS: 0.329

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18571)

X:	-8942.467(m)	0.003(m)	-8943.199(m)	0.003(m)
Y:	-5526604.420(m)	0.018(m)	-5526602.929(m)	0.018(m)
Z:	3173172.828(m)	0.013(m)	3173172.620(m)	0.013(m)

LAT:	30 1 45.43474	0.007(m)	30 1 45.45311	0.007(m)
E LON:	269 54 26.24812	0.003(m)	269 54 26.22071	0.003(m)
W LON:	90 5 33.75188	0.003(m)	90 5 33.77929	0.003(m)
EL HGT:	-24.222(m)	0.020(m)	-25.616(m)	0.020(m)
ORTHO HGT:	1.977(m)	0.023(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3325592.465	170160.517
Easting (X) [meters]	780379.617	1119656.867
Convergence [degrees]	1.45588318	0.62032798
Point Scale	1.00057001	0.99992587
Combined Factor	1.00057382	0.99992967

US NATIONAL GRID DESIGNATOR: 15RYP8037925592(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	10850.6

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 22097.5
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 28602.2
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 49511.5
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 77886.6
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 84257.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 101511.5
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 123417.4
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 138354.5

NEAREST NGS PUBLISHED CONTROL POINT
BJ1353 DODGE N300148.042 W0900531.719 97.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.028	-5531876.842	3164070.911
eng6	5594.595	-5534921.924	3158759.205
lwes	-33746.217	-5533652.943	3160795.443
covg	-9174.165	-5501675.348	3215950.503
houm	-70100.641	-5550262.342	3131144.925
gvms	-86907.672	-5510048.256	3200500.241
bvhs	57650.144	-5564331.443	3106490.829
mspk	82001.472	-5483970.014	3244889.876
fshs	-145211.079	-5537098.016	3151657.543
qcfv	-8943.199	-5526602.929	3173172.620

Covariance matrix of the stations:
1 1.9330E-07 3.5410E-07 -2.3550E-07 -7.4080E-09 -3.9460E-08 2.3680E-08
-1.0880E-08 -4.8490E-08 3.1540E-08 -9.3140E-09 -4.0410E-08 3.0190E-08 -
1.3830E-08 -5.7890E-08 3.6580E-08 -1.5830E-08 -5.5080E-08 4.2090E-08 -
2.2530E-09 -2.4780E-08 7.3890E-09 -2.0750E-09 -1.9410E-08 1.4860E-08 -
2.0620E-08 -6.8520E-08 4.9110E-08 1.8840E-08 4.1740E-08 -2.8790E-08
2 3.5410E-07 7.2590E-06 -4.8540E-06 -4.2160E-08 -8.9170E-07 6.0330E-07
-4.4980E-08 -9.0030E-07 6.1060E-07 -4.2400E-08 -8.7700E-07 5.9870E-07 -
4.8260E-08 -9.1880E-07 6.2170E-07 -4.7880E-08 -8.9570E-07 6.1290E-07 -
3.8820E-08 -8.9170E-07 5.9700E-07 -3.6300E-08 -8.4950E-07 5.7950E-07 -
5.3280E-08 -9.2360E-07 6.2980E-07 -8.9740E-10 7.8580E-08 -5.0430E-08
3 -2.3550E-07 -4.8540E-06 3.6790E-06 2.4960E-08 6.0070E-07 -4.3720E-07
3.0450E-08 6.1280E-07 -4.4900E-07 2.8240E-08 6.0240E-07 -4.4830E-07
3.4930E-08 6.2520E-07 -4.5590E-07 3.8310E-08 6.2050E-07 -4.6500E-07
1.6450E-08 5.7900E-07 -4.1110E-07 1.6750E-08 5.7530E-07 -4.2670E-07
4.5380E-08 6.3760E-07 -4.7420E-07 -4.0980E-09 -9.9520E-08 9.1160E-08
4 -7.4080E-09 -4.2160E-08 2.4960E-08 1.9550E-07 3.2860E-07 -2.2220E-07
-1.1650E-08 -4.8600E-08 3.0930E-08 -8.5020E-09 -3.4650E-08 3.0900E-08 -
1.7910E-08 -6.1490E-08 3.7020E-08 -2.2600E-08 -4.9420E-08 4.5990E-08
8.1610E-09 -1.8520E-08 -9.8740E-09 7.8680E-09 -7.3400E-09 9.0830E-09 -
3.2350E-08 -6.6290E-08 5.3140E-08 2.0500E-08 1.0350E-07 -6.9740E-08
5 -3.9460E-08 -8.9170E-07 6.0070E-07 3.2860E-07 7.2570E-06 -4.8280E-06
-4.1820E-08 -9.0090E-07 6.0770E-07 -3.8830E-08 -8.7640E-07 5.9630E-07 -

4.5980E-08 -9.2070E-07 6.1920E-07 -4.6360E-08 -8.9640E-07 6.1210E-07 -
3.2710E-08 -8.8830E-07 5.8840E-07 -3.0330E-08 -8.4610E-07 5.7460E-07 -
5.3100E-08 -9.2580E-07 6.2940E-07 9.7660E-10 -6.4080E-08 4.5370E-08
   6 2.3680E-08 6.0330E-07 -4.3720E-07 -2.2220E-07 -4.8280E-06 3.6500E-06
2.9230E-08 6.1330E-07 -4.4650E-07 2.5310E-08 5.9670E-07 -4.4730E-07
3.7270E-08 6.2960E-07 -4.5460E-07 4.3600E-08 6.1560E-07 -4.6800E-07
3.1280E-09 5.7110E-07 -3.8980E-07 3.9470E-09 5.6200E-07 -4.1820E-07
5.6060E-08 6.3670E-07 -4.7750E-07 -9.1570E-09 -5.8670E-08 5.4970E-08
   7 -1.0880E-08 -4.4980E-08 3.0450E-08 -1.1650E-08 -4.1820E-08 2.9230E-08
1.9690E-07 3.8900E-07 -2.5750E-07 -1.0430E-08 -4.7660E-08 2.9570E-08 -
9.2100E-09 -5.4130E-08 3.6280E-08 -8.0540E-09 -6.2200E-08 3.7720E-08 -
1.4630E-08 -3.2610E-08 2.7850E-08 -1.3900E-08 -3.4070E-08 2.1850E-08 -
7.0160E-09 -7.1600E-08 4.4590E-08 9.2140E-09 -3.6160E-08 2.4130E-08
   8 -4.8490E-08 -9.0030E-07 6.1280E-07 -4.8600E-08 -9.0090E-07 6.1330E-07
3.8900E-07 7.3300E-06 -4.9140E-06 -4.7210E-08 -8.8780E-07 6.0500E-07 -
5.0120E-08 -9.2390E-07 6.2800E-07 -4.8070E-08 -9.0530E-07 6.1650E-07 -
4.9420E-08 -9.0510E-07 6.1540E-07 -4.6610E-08 -8.6530E-07 5.9050E-07 -
5.0430E-08 -9.3060E-07 6.3290E-07 -1.1080E-08 -1.2490E-07 9.1360E-08
   9 3.1540E-08 6.1060E-07 -4.4900E-07 3.0930E-08 6.0770E-07 -4.4650E-07
-2.5750E-07 -4.9140E-06 3.7290E-06 3.1710E-08 6.1260E-07 -4.5240E-07
3.3860E-08 6.2670E-07 -4.6010E-07 3.4720E-08 6.2990E-07 -4.6560E-07
2.8850E-08 5.9110E-07 -4.3260E-07 2.8700E-08 5.9200E-07 -4.3720E-07
3.7160E-08 6.4350E-07 -4.7440E-07 5.7990E-09 7.2280E-08 -3.6650E-08
  10 -9.3140E-09 -4.2400E-08 2.8240E-08 -8.5020E-09 -3.8830E-08 2.5310E-08
-1.0430E-08 -4.7210E-08 3.1710E-08 1.9220E-07 3.5610E-07 -2.4040E-07 -
1.2190E-08 -5.5360E-08 3.6380E-08 -1.3200E-08 -5.5810E-08 4.0570E-08 -
5.8700E-09 -2.5950E-08 1.3690E-08 -5.5060E-09 -2.2490E-08 1.6900E-08 -
1.6190E-08 -6.8040E-08 4.7560E-08 1.3710E-08 1.8090E-08 -1.1490E-08
  11 -4.0410E-08 -8.7700E-07 6.0240E-07 -3.4650E-08 -8.7640E-07 5.9670E-07
-4.7660E-08 -8.8780E-07 6.1260E-07 3.5610E-07 7.1120E-06 -4.8340E-06 -
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8.2080E-08 -9.0240E-07 6.4070E-07 7.6060E-09 8.5690E-08 -4.0130E-08
  12 3.0190E-08 5.9870E-07 -4.4830E-07 3.0900E-08 5.9630E-07 -4.4730E-07
2.9570E-08 6.0500E-07 -4.5240E-07 -2.4040E-07 -4.8340E-06 3.7270E-06
2.8790E-08 6.1180E-07 -4.5750E-07 2.7790E-08 6.2040E-07 -4.6030E-07
3.3470E-08 5.8350E-07 -4.4230E-07 3.2950E-08 5.8710E-07 -4.3860E-07
2.6930E-08 6.3190E-07 -4.6920E-07 7.0760E-09 1.0580E-07 -6.5270E-08
  13 -1.3830E-08 -4.8260E-08 3.4930E-08 -1.7910E-08 -4.5980E-08 3.7270E-08
-9.2100E-09 -5.0120E-08 3.3860E-08 -1.2190E-08 -5.8880E-08 2.8790E-08
2.1250E-07 4.5360E-07 -2.9370E-07 2.9490E-09 -7.3210E-08 3.1540E-08 -
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  14 -5.7890E-08 -9.1880E-07 6.2520E-07 -6.1490E-08 -9.2070E-07 6.2960E-07
-5.4130E-08 -9.2390E-07 6.2670E-07 -5.5360E-08 -9.1470E-07 6.1180E-07
4.5360E-07 7.5080E-06 -5.0070E-06 -4.2640E-08 -9.3080E-07 6.1690E-07 -
7.4660E-08 -9.3400E-07 6.5480E-07 -7.1070E-08 -9.0460E-07 6.0950E-07 -
3.6050E-08 -9.4900E-07 6.3250E-07 -2.6750E-08 -2.5370E-07 1.7510E-07
  15 3.6580E-08 6.2170E-07 -4.5590E-07 3.7020E-08 6.1920E-07 -4.5460E-07
3.6280E-08 6.2800E-07 -4.6010E-07 3.6380E-08 6.2600E-07 -4.5750E-07 -
2.9370E-07 -5.0070E-06 3.7790E-06 3.5330E-08 6.4240E-07 -4.6850E-07
3.8610E-08 6.0590E-07 -4.4790E-07 3.8230E-08 6.0950E-07 -4.4640E-07
3.5080E-08 6.5360E-07 -4.7680E-07 1.2580E-08 1.1350E-07 -6.3040E-08
  16 -1.5830E-08 -4.7880E-08 3.8310E-08 -2.2600E-08 -4.6360E-08 4.3600E-08

-8.0540E-09 -4.8070E-08 3.4720E-08 -1.3200E-08 -6.4790E-08 2.7790E-08
2.9490E-09 -4.2640E-08 3.5330E-08 2.3050E-07 4.4950E-07 -3.3330E-07 -
4.6770E-08 -5.1650E-08 8.1200E-08 -4.4590E-08 -7.0600E-08 3.9970E-08
2.8560E-08 -7.7720E-08 3.2520E-08 -6.7340E-09 -2.3130E-07 1.5610E-07
  17 -5.5080E-08 -8.9570E-07 6.2050E-07 -4.9420E-08 -8.9640E-07 6.1560E-07
-6.2200E-08 -9.0530E-07 6.2990E-07 -5.5810E-08 -8.6650E-07 6.2040E-07 -
7.3210E-08 -9.3080E-07 6.4240E-07 4.4950E-07 7.2420E-06 -4.9560E-06 -
2.9750E-08 -8.9340E-07 5.8380E-07 -2.8230E-08 -8.3000E-07 5.8980E-07 -
9.5710E-08 -9.1290E-07 6.5330E-07 -7.1090E-09 6.7080E-08 -2.1730E-08
  18   4.2090E-08 6.1290E-07 -4.6500E-07 4.5990E-08 6.1210E-07 -4.6800E-07
3.7720E-08 6.1650E-07 -4.6560E-07 4.0570E-08 6.2400E-07 -4.6030E-07
3.1540E-08 6.1690E-07 -4.6850E-07 -3.3330E-07 -4.9560E-06 3.8580E-06
5.9820E-08 6.1020E-07 -4.8540E-07 5.8520E-08 6.2050E-07 -4.6190E-07
1.7010E-08 6.4260E-07 -4.7180E-07 2.4590E-08 2.1720E-07 -1.4490E-07
  19 -2.2530E-09 -3.8820E-08 1.6450E-08 8.1610E-09 -3.2710E-08 3.1280E-09
-1.4630E-08 -4.9420E-08 2.8850E-08 -5.8700E-09 -1.4700E-08 3.3470E-08 -
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2.3650E-07 2.6420E-07 -2.3670E-07 4.2800E-08 3.4810E-08 -1.1220E-08 -
7.4070E-08 -5.8680E-08 6.7370E-08 3.8350E-08 3.2900E-07 -2.2170E-07
  20 -2.4780E-08 -8.9170E-07 5.7900E-07 -1.8520E-08 -8.8830E-07 5.7110E-07
-3.2610E-08 -9.0510E-07 5.9110E-07 -2.5950E-08 -8.6830E-07 5.8350E-07 -
4.4590E-08 -9.3400E-07 6.0590E-07 -5.1650E-08 -8.9340E-07 6.1020E-07
2.6420E-07 7.2430E-06 -4.7130E-06 4.1850E-09 -8.1870E-07 5.4350E-07 -
7.0280E-08 -9.3240E-07 6.2910E-07 2.4090E-08 8.0750E-08 -6.9930E-08
  21   7.3890E-09 5.9700E-07 -4.1110E-07 -9.8740E-09 5.8840E-07 -3.8980E-07
2.7850E-08 6.1540E-07 -4.3260E-07 1.3690E-08 5.6170E-07 -4.4230E-07
5.7270E-08 6.5480E-07 -4.4790E-07 8.1200E-08 5.8380E-07 -4.8540E-07 -
2.3670E-07 -4.7130E-06 3.5860E-06 -6.6840E-08 4.8400E-07 -3.6960E-07
1.2590E-07 6.2790E-07 -4.9650E-07 -4.8640E-08 -4.6950E-07 3.4230E-07
  22 -2.0750E-09 -3.6300E-08 1.6750E-08 7.8680E-09 -3.0330E-08 3.9470E-09
-1.3900E-08 -4.6610E-08 2.8700E-08 -5.5060E-09 -1.3180E-08 3.2950E-08 -
3.1040E-08 -7.1070E-08 3.8230E-08 -4.4590E-08 -2.8230E-08 5.8520E-08
4.2800E-08 4.1850E-09 -6.6840E-08 2.2830E-07 2.7830E-07 -1.7860E-07 -
7.0710E-08 -5.6450E-08 6.6080E-08 3.7730E-08 3.1810E-07 -2.1280E-07
  23 -1.9410E-08 -8.4950E-07 5.7530E-07 -7.3400E-09 -8.4610E-07 5.6200E-07
-3.4070E-08 -8.6530E-07 5.9200E-07 -2.2490E-08 -8.0830E-07 5.8710E-07 -
5.5930E-08 -9.0460E-07 6.0950E-07 -7.0600E-08 -8.3000E-07 6.2050E-07
3.4810E-08 -8.1870E-07 4.8400E-07 2.7830E-07 6.9120E-06 -4.6700E-06 -
1.0400E-07 -8.7910E-07 6.3910E-07 3.9890E-08 3.1030E-07 -1.9500E-07
  24   1.4860E-08 5.7950E-07 -4.2670E-07 9.0830E-09 5.7460E-07 -4.1820E-07
2.1850E-08 5.9050E-07 -4.3720E-07 1.6900E-08 5.6990E-07 -4.3860E-07
3.1990E-08 6.0950E-07 -4.4640E-07 3.9970E-08 5.8980E-07 -4.6190E-07 -
1.1220E-08 5.4350E-07 -3.6960E-07 -1.7860E-07 -4.6700E-06 3.5820E-06
5.5600E-08 6.1390E-07 -4.7220E-07 -1.9770E-08 -1.1410E-07 8.6070E-08
  25 -2.0620E-08 -5.3280E-08 4.5380E-08 -3.2350E-08 -5.3100E-08 5.6060E-08
-7.0160E-09 -5.0430E-08 3.7160E-08 -1.6190E-08 -8.2080E-08 2.6930E-08
1.2350E-08 -3.6050E-08 3.5080E-08 2.8560E-08 -9.5710E-08 1.7010E-08 -
7.4070E-08 -7.0280E-08 1.2590E-07 -7.0710E-08 -1.0400E-07 5.5600E-08
2.9100E-07 5.4460E-07 -3.9880E-07 -2.0650E-08 -3.9680E-07 2.6670E-07
  26 -6.8520E-08 -9.2360E-07 6.3760E-07 -6.6290E-08 -9.2580E-07 6.3670E-07
-7.1600E-08 -9.3060E-07 6.4350E-07 -6.8040E-08 -9.0240E-07 6.3190E-07 -
7.6780E-08 -9.4900E-07 6.5360E-07 -7.7720E-08 -9.1290E-07 6.4260E-07 -
5.8680E-08 -9.3240E-07 6.2790E-07 -5.6450E-08 -8.7910E-07 6.1390E-07
5.4460E-07 7.4670E-06 -5.0870E-06 -2.6660E-08 -6.8230E-08 6.5090E-08

27 4.9110E-08 6.2980E-07 -4.7420E-07 5.3140E-08 6.2940E-07 -4.7750E-07
4.4590E-08 6.3290E-07 -4.7440E-07 4.7560E-08 6.4070E-07 -4.6920E-07
3.8190E-08 6.3250E-07 -4.7680E-07 3.2520E-08 6.5330E-07 -4.7180E-07
6.7370E-08 6.2910E-07 -4.9650E-07 6.6080E-08 6.3910E-07 -4.7220E-07 -
3.9880E-07 -5.0870E-06 3.9240E-06 3.1570E-08 2.3300E-07 -1.5350E-07
28 1.8840E-08 -8.9740E-10 -4.0980E-09 2.0500E-08 9.7660E-10 -9.1570E-09
9.2140E-09 -1.1080E-08 5.7990E-09 1.3710E-08 7.6060E-09 7.0760E-09
1.9180E-10 -2.6750E-08 1.2580E-08 -6.7340E-09 -7.1090E-09 2.4590E-08
3.8350E-08 2.4090E-08 -4.8640E-08 3.7730E-08 3.9890E-08 -1.9770E-08 -
2.0650E-08 -2.6660E-08 3.1570E-08 1.8660E-06 4.2570E-06 -2.8170E-06
29 4.1740E-08 7.8580E-08 -9.9520E-08 1.0350E-07 -6.4080E-08 -5.8670E-08
-3.6160E-08 -1.2490E-07 7.2280E-08 1.8090E-08 8.5690E-08 1.0580E-07 -
1.4580E-07 -2.5370E-07 1.1350E-07 -2.3130E-07 6.7080E-08 2.1720E-07
3.2900E-07 8.0750E-08 -4.6950E-07 3.1810E-07 3.1030E-07 -1.1410E-07 -
3.9680E-07 -6.8230E-08 2.3300E-07 4.2570E-06 8.3760E-05 -5.6160E-05
30 -2.8790E-08 -5.0430E-08 9.1160E-08 -6.9740E-08 4.5370E-08 5.4970E-08
2.4130E-08 9.1360E-08 -3.6650E-08 -1.1490E-08 -4.0130E-08 -6.5270E-08
9.7340E-08 1.7510E-07 -6.3040E-08 1.5610E-07 -2.1730E-08 -1.4490E-07 -
2.2170E-07 -6.9930E-08 3.4230E-07 -2.1280E-07 -1.9500E-07 8.6070E-08
2.6670E-07 6.5090E-08 -1.5350E-07 -2.8170E-06 -5.6160E-05 4.1900E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000018660 0.0000042570 -0.0000028170
0.0000042570 0.0000837600 -0.0000561600
-0.0000028170 -0.0000561600 0.0000419000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000018524 -0.0000003105 -0.0000049342
-0.0000003105 0.0000037768 0.0000102334
-0.0000049342 0.0000102334 0.0001218967

Horizontal network accuracy = 0.00418 meters.
Vertical network accuracy = 0.02165 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-2660.829	-5273.913	-9101.709
eng6	qcfv	14537.794	-8318.995	-14413.415
lwes	qcfv	-24803.018	-7050.014	-12377.177
covg	qcfv	-230.966	24927.580	42777.882
houm	qcfv	-61157.442	-23659.413	-42027.695
gvms	qcfv	-77964.473	16554.673	27327.621
bvhs	qcfv	66593.343	-37728.515	-66681.791
mspk	qcfv	90944.670	42632.915	71717.256
fshs	qcfv	-136267.880	-10495.087	-21515.077

Covariance matrix of the 9 vectors
1 2.0216E-06 4.5703E-06 -3.0196E-06 1.8193E-06 4.1748E-06 -2.7554E-06
1.8271E-06 4.1779E-06 -2.7625E-06 1.8241E-06 4.1672E-06 -2.7651E-06
1.8331E-06 4.1841E-06 -2.7642E-06 1.8381E-06 4.1673E-06 -2.7707E-06
1.8066E-06 4.1664E-06 -2.7322E-06 1.8074E-06 4.1560E-06 -2.7536E-06
1.8472E-06 4.1734E-06 -2.7707E-06
2 4.5703E-06 9.0862E-05 -6.0864E-05 4.1122E-06 8.2854E-05 -5.5448E-05

4.2491E-06 8.2906E-05 -5.5571E-05 4.1974E-06 8.2719E-05 -5.5617E-05
4.3554E-06 8.3016E-05 -5.5601E-05 4.4413E-06 8.2719E-05 -5.5714E-05
3.8901E-06 8.2709E-05 -5.5043E-05 3.9035E-06 8.2522E-05 -5.5416E-05
4.6014E-06 8.2826E-05 -5.5713E-05
   3 -3.0196E-06 -6.0864E-05 4.5397E-05 -2.7182E-06 -5.5505E-05 4.1317E-05
-2.8066E-06 -5.5539E-05 4.1396E-05 -2.7732E-06 -5.5418E-05 4.1426E-05 -
2.8753E-06 -5.5610E-05 4.1416E-05 -2.9307E-06 -5.5418E-05 4.1489E-05 -
2.5748E-06 -5.5412E-05 4.1055E-05 -2.5834E-06 -5.5290E-05 4.1296E-05 -
3.0342E-06 -5.5488E-05 4.1488E-05
   4   1.8193E-06 4.1122E-06 -2.7182E-06 2.0205E-06 4.4811E-06 -2.9603E-06
1.8246E-06 4.1160E-06 -2.7221E-06 1.8233E-06 4.1112E-06 -2.7234E-06
1.8274E-06 4.1188E-06 -2.7228E-06 1.8296E-06 4.1112E-06 -2.7259E-06
1.8153E-06 4.1109E-06 -2.7085E-06 1.8156E-06 4.1063E-06 -2.7184E-06
1.8338E-06 4.1139E-06 -2.7257E-06
   5   4.1748E-06 8.2854E-05 -5.5505E-05 4.4811E-06 9.1145E-05 -6.0975E-05
4.2504E-06 8.3048E-05 -5.5670E-05 4.1991E-06 8.2862E-05 -5.5715E-05
4.3558E-06 8.3157E-05 -5.5700E-05 4.4410E-06 8.2861E-05 -5.5810E-05
3.8943E-06 8.2855E-05 -5.5147E-05 3.9076E-06 8.2668E-05 -5.5517E-05
4.5997E-06 8.2967E-05 -5.5809E-05
   6 -2.7554E-06 -5.5448E-05 4.1317E-05 -2.9603E-06 -6.0975E-05 4.5440E-05
-2.8027E-06 -5.5579E-05 4.1435E-05 -2.7710E-06 -5.5464E-05 4.1463E-05 -
2.8679E-06 -5.5647E-05 4.1453E-05 -2.9203E-06 -5.5464E-05 4.1522E-05 -
2.5830E-06 -5.5460E-05 4.1113E-05 -2.5911E-06 -5.5344E-05 4.1341E-05 -
3.0185E-06 -5.5530E-05 4.1521E-05
   7   1.8271E-06 4.2491E-06 -2.8066E-06 1.8246E-06 4.2504E-06 -2.8027E-06
2.0445E-06 4.6932E-06 -3.1044E-06 1.8326E-06 4.2379E-06 -2.8186E-06
1.8474E-06 4.2658E-06 -2.8174E-06 1.8555E-06 4.2381E-06 -2.8280E-06
1.8038E-06 4.2365E-06 -2.7646E-06 1.8052E-06 4.2192E-06 -2.7995E-06
1.8704E-06 4.2482E-06 -2.8281E-06
   8   4.1779E-06 8.2906E-05 -5.5539E-05 4.1160E-06 8.3048E-05 -5.5579E-05
4.6932E-06 9.1340E-05 -6.1238E-05 4.2028E-06 8.2911E-05 -5.5752E-05
4.3638E-06 8.3215E-05 -5.5737E-05 4.4513E-06 8.2913E-05 -5.5852E-05
3.8897E-06 8.2899E-05 -5.5166E-05 3.9034E-06 8.2709E-05 -5.5547E-05
4.6145E-06 8.3023E-05 -5.5851E-05
   9 -2.7625E-06 -5.5571E-05 4.1396E-05 -2.7221E-06 -5.5670E-05 4.1435E-05
-3.1044E-06 -6.1238E-05 4.5702E-05 -2.7796E-06 -5.5580E-05 4.1550E-05 -
2.8863E-06 -5.5781E-05 4.1540E-05 -2.9442E-06 -5.5581E-05 4.1616E-05 -
2.5722E-06 -5.5571E-05 4.1162E-05 -2.5813E-06 -5.5445E-05 4.1413E-05 -
3.0523E-06 -5.5654E-05 4.1616E-05
  10   1.8241E-06 4.1974E-06 -2.7732E-06 1.8233E-06 4.1991E-06 -2.7710E-06
1.8326E-06 4.2028E-06 -2.7796E-06 2.0308E-06 4.5874E-06 -3.0530E-06
1.8399E-06 4.2103E-06 -2.7817E-06 1.8458E-06 4.1902E-06 -2.7895E-06
1.8081E-06 4.1889E-06 -2.7432E-06 1.8091E-06 4.1765E-06 -2.7688E-06
1.8568E-06 4.1975E-06 -2.7895E-06
  11   4.1672E-06 8.2719E-05 -5.5418E-05 4.1112E-06 8.2862E-05 -5.5464E-05
4.2379E-06 8.2911E-05 -5.5580E-05 4.5874E-06 9.0701E-05 -6.1060E-05
4.3363E-06 8.3013E-05 -5.5607E-05 4.4159E-06 8.2741E-05 -5.5713E-05
3.9057E-06 8.2725E-05 -5.5089E-05 3.9181E-06 8.2556E-05 -5.5436E-05
4.5641E-06 8.2840E-05 -5.5712E-05
  12 -2.7651E-06 -5.5617E-05 4.1426E-05 -2.7234E-06 -5.5715E-05 4.1463E-05
-2.8186E-06 -5.5752E-05 4.1550E-05 -3.0530E-06 -6.1060E-05 4.5758E-05 -
2.8926E-06 -5.5829E-05 4.1571E-05 -2.9524E-06 -5.5624E-05 4.1650E-05 -
2.5689E-06 -5.5612E-05 4.1181E-05 -2.5783E-06 -5.5484E-05 4.1441E-05 -
3.0638E-06 -5.5699E-05 4.1650E-05

13 1.8331E-06 4.3554E-06 -2.8753E-06 1.8274E-06 4.3558E-06 -2.8679E-06
1.8474E-06 4.3638E-06 -2.8863E-06 1.8399E-06 4.3363E-06 -2.8926E-06
2.0781E-06 4.8831E-06 -3.2206E-06 1.8755E-06 4.3367E-06 -2.9074E-06
1.7949E-06 4.3341E-06 -2.8084E-06 1.7970E-06 4.3070E-06 -2.8626E-06
1.8988E-06 4.3527E-06 -2.9077E-06
14 4.1841E-06 8.3016E-05 -5.5610E-05 4.1188E-06 8.3157E-05 -5.5647E-05
4.2658E-06 8.3215E-05 -5.5781E-05 4.2103E-06 8.3013E-05 -5.5829E-05
4.8831E-06 9.1775E-05 -6.1456E-05 4.4724E-06 8.3016E-05 -5.5935E-05
3.8801E-06 8.2999E-05 -5.5211E-05 3.8946E-06 8.2799E-05 -5.5611E-05
4.6445E-06 8.3133E-05 -5.5936E-05
15 -2.7642E-06 -5.5601E-05 4.1416E-05 -2.7228E-06 -5.5700E-05 4.1453E-05
-2.8174E-06 -5.5737E-05 4.1540E-05 -2.7817E-06 -5.5607E-05 4.1571E-05 -
3.2206E-06 -6.1456E-05 4.5805E-05 -2.9504E-06 -5.5609E-05 4.1639E-05 -
2.5693E-06 -5.5598E-05 4.1173E-05 -2.5786E-06 -5.5469E-05 4.1431E-05 -
3.0612E-06 -5.5685E-05 4.1640E-05
16 1.8381E-06 4.4413E-06 -2.9307E-06 1.8296E-06 4.4410E-06 -2.9203E-06
1.8555E-06 4.4513E-06 -2.9442E-06 1.8458E-06 4.4159E-06 -2.9524E-06
1.8755E-06 4.4724E-06 -2.9504E-06 2.1100E-06 4.9449E-06 -3.3310E-06
1.7876E-06 4.4126E-06 -2.8433E-06 1.7904E-06 4.3778E-06 -2.9134E-06
1.9219E-06 4.4372E-06 -2.9721E-06
17 4.1673E-06 8.2719E-05 -5.5418E-05 4.1112E-06 8.2861E-05 -5.5464E-05
4.2381E-06 8.2913E-05 -5.5581E-05 4.1902E-06 8.2741E-05 -5.5624E-05
4.3367E-06 8.3016E-05 -5.5609E-05 4.9449E-06 9.0868E-05 -6.1311E-05
3.9054E-06 8.2719E-05 -5.5085E-05 3.9178E-06 8.2553E-05 -5.5434E-05
4.5652E-06 8.2848E-05 -5.5718E-05
18 -2.7707E-06 -5.5714E-05 4.1489E-05 -2.7259E-06 -5.5810E-05 4.1522E-05
-2.8280E-06 -5.5852E-05 4.1616E-05 -2.7895E-06 -5.5713E-05 4.1650E-05 -
2.9074E-06 -5.5935E-05 4.1639E-05 -3.3310E-06 -6.1311E-05 4.6048E-05 -
2.5601E-06 -5.5697E-05 4.1217E-05 -2.5703E-06 -5.5562E-05 4.1497E-05 -
3.0913E-06 -5.5800E-05 4.1727E-05
19 1.8066E-06 3.8901E-06 -2.5748E-06 1.8153E-06 3.8943E-06 -2.5830E-06
1.8038E-06 3.8897E-06 -2.5722E-06 1.8081E-06 3.9057E-06 -2.5689E-06
1.7949E-06 3.8801E-06 -2.5693E-06 1.7876E-06 3.9054E-06 -2.5601E-06
2.0258E-06 4.1681E-06 -2.7834E-06 1.8327E-06 3.9229E-06 -2.5867E-06
1.7742E-06 3.8960E-06 -2.5595E-06
20 4.1664E-06 8.2709E-05 -5.5412E-05 4.1109E-06 8.2855E-05 -5.5460E-05
4.2365E-06 8.2899E-05 -5.5571E-05 4.1889E-06 8.2725E-05 -5.5612E-05
4.3341E-06 8.2999E-05 -5.5598E-05 4.4126E-06 8.2719E-05 -5.5697E-05
4.1681E-06 9.0842E-05 -6.0334E-05 3.9190E-06 8.2550E-05 -5.5432E-05
4.5594E-06 8.2815E-05 -5.5694E-05
21 -2.7322E-06 -5.5043E-05 4.1055E-05 -2.7085E-06 -5.5147E-05 4.1113E-05
-2.7646E-06 -5.5166E-05 4.1162E-05 -2.7432E-06 -5.5089E-05 4.1181E-05 -
2.8084E-06 -5.5211E-05 4.1173E-05 -2.8433E-06 -5.5085E-05 4.1217E-05 -
2.7834E-06 -6.0334E-05 4.4801E-05 -2.6224E-06 -5.5012E-05 4.1102E-05 -
2.9092E-06 -5.5128E-05 4.1215E-05
22 1.8074E-06 3.9035E-06 -2.5834E-06 1.8156E-06 3.9076E-06 -2.5911E-06
1.8052E-06 3.9034E-06 -2.5813E-06 1.8091E-06 3.9181E-06 -2.5783E-06
1.7970E-06 3.8946E-06 -2.5786E-06 1.7904E-06 3.9178E-06 -2.5703E-06
1.8327E-06 3.9190E-06 -2.6224E-06 2.0188E-06 4.1773E-06 -2.7630E-06
1.7782E-06 3.9091E-06 -2.5697E-06
23 4.1560E-06 8.2522E-05 -5.5290E-05 4.1063E-06 8.2668E-05 -5.5344E-05
4.2192E-06 8.2709E-05 -5.5445E-05 4.1765E-06 8.2556E-05 -5.5484E-05
4.3070E-06 8.2799E-05 -5.5469E-05 4.3778E-06 8.2553E-05 -5.5562E-05
3.9229E-06 8.2550E-05 -5.5012E-05 4.1773E-06 9.0051E-05 -6.0521E-05

4.5099E-06 8.2639E-05 -5.5559E-05
  24 -2.7536E-06 -5.5416E-05 4.1296E-05 -2.7184E-06 -5.5517E-05 4.1341E-05
-2.7995E-06 -5.5547E-05 4.1413E-05 -2.7688E-06 -5.5436E-05 4.1441E-05 -
2.8626E-06 -5.5611E-05 4.1431E-05 -2.9134E-06 -5.5434E-05 4.1497E-05 -
2.5867E-06 -5.5432E-05 4.1102E-05 -2.7630E-06 -6.0521E-05 4.5310E-05 -
3.0083E-06 -5.5497E-05 4.1495E-05
  25   1.8472E-06 4.6014E-06 -3.0342E-06 1.8338E-06 4.5997E-06 -3.0185E-06
1.8704E-06 4.6145E-06 -3.0523E-06 1.8568E-06 4.5641E-06 -3.0638E-06
1.8988E-06 4.6445E-06 -3.0612E-06 1.9219E-06 4.5652E-06 -3.0913E-06
1.7742E-06 4.5594E-06 -2.9092E-06 1.7782E-06 4.5099E-06 -3.0083E-06
2.1983E-06 5.2251E-06 -3.5141E-06
  26   4.1734E-06 8.2826E-05 -5.5488E-05 4.1139E-06 8.2967E-05 -5.5530E-05
4.2482E-06 8.3023E-05 -5.5654E-05 4.1975E-06 8.2840E-05 -5.5699E-05
4.3527E-06 8.3133E-05 -5.5685E-05 4.4372E-06 8.2848E-05 -5.5800E-05
3.8960E-06 8.2815E-05 -5.5128E-05 3.9091E-06 8.2639E-05 -5.5497E-05
5.2251E-06 9.1363E-05 -6.1545E-05
  27 -2.7707E-06 -5.5713E-05 4.1488E-05 -2.7257E-06 -5.5809E-05 4.1521E-05
-2.8281E-06 -5.5851E-05 4.1616E-05 -2.7895E-06 -5.5712E-05 4.1650E-05 -
2.9077E-06 -5.5936E-05 4.1640E-05 -2.9721E-06 -5.5718E-05 4.1727E-05 -
2.5595E-06 -5.5694E-05 4.1215E-05 -2.5697E-06 -5.5559E-05 4.1495E-05 -
3.5141E-06 -6.1545E-05 4.6131E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 3.3721E-01 -3.1520E-01 9.0015E-01 3.0755E-01 -2.8748E-01
8.9870E-01 3.0745E-01 -2.8739E-01 9.0028E-01 3.0775E-01 -2.8749E-01
8.9436E-01 3.0718E-01 -2.8725E-01 8.8997E-01 3.0747E-01 -2.8717E-01
8.9270E-01 3.0745E-01 -2.8709E-01 8.9463E-01 3.0802E-01 -2.8771E-01
8.7623E-01 3.0708E-01 -2.8691E-01
   2   3.3721E-01 1.0000E+00 -9.4767E-01 3.0350E-01 9.1045E-01 -8.6292E-01
3.1175E-01 9.1005E-01 -8.6236E-01 3.0900E-01 9.1119E-01 -8.6255E-01
3.1696E-01 9.0910E-01 -8.6186E-01 3.2076E-01 9.1035E-01 -8.6133E-01
2.8673E-01 9.1037E-01 -8.6271E-01 2.8821E-01 9.1229E-01 -8.6367E-01
3.2558E-01 9.0905E-01 -8.6053E-01
   3 -3.1520E-01 -9.4767E-01 1.0000E+00 -2.8382E-01 -8.6289E-01 9.0969E-01
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3.0373E-01 -8.6159E-01 9.0660E-01
   4   9.0015E-01 3.0350E-01 -2.8382E-01 1.0000E+00 3.3021E-01 -3.0895E-01
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8.9180E-01 3.0246E-01 -2.8303E-01 8.8613E-01 3.0341E-01 -2.8260E-01
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8.7012E-01 3.0279E-01 -2.8233E-01
   5   3.0755E-01 9.1045E-01 -8.6289E-01 3.3021E-01 1.0000E+00 -9.4747E-01
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G-FILE for the vectors

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C00100006 -779644733 14 165546732 95 273276211 67
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3014294 24 26 -8625565 24 27 9076227 25 26 3686901 25 27 -3489558 D 26 27 -
9480051

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-8943.203	-5526602.934	3173172.630
eng6	-8943.199	-5526602.920	3173172.604
lwes	-8943.202	-5526602.908	3173172.618
covg	-8943.199	-5526602.941	3173172.628
houm	-8943.197	-5526602.913	3173172.603
gvms	-8943.197	-5526602.915	3173172.605
bvhs	-8943.201	-5526602.944	3173172.629
mspk	-8943.195	-5526602.955	3173172.636
fshs	-8943.197	-5526602.907	3173172.619

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	-0.004	-0.005	0.010	-0.004	0.006	0.009
eng6	-0.001	0.009	-0.017	-0.001	0.010	-0.016
lwes	-0.004	0.020	-0.002	-0.004	0.008	-0.019
covg	-0.000	-0.012	0.008	-0.000	0.001	0.015

houm 0.002 0.015 -0.017 0.002 -
0.007 -0.022
gvms 0.002 0.014 -0.015 0.002 -
0.006 -0.019
bvhs -0.002 -0.015 0.008 -0.002 -
0.000 0.017
mspk 0.003 -0.026 0.016 0.003
0.001 0.030
fshs 0.002 0.022 -0.001 0.002
0.010 -0.020

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 558268.295
Easting (X) [feet] 3673407.572
Convergence [degrees] 0.62032798
Point Scale 0.99992587
Combined Factor 0.99992967

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.863 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.341
scatter (mean square distance from rover) is 6857.181
average edop for rover is 0.770
average ndop for rover is 1.020
average hdop for rover is 1.278
average vdop for rover is 1.780
average gdop for rover is 2.550

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:03 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA22.O00 OP1335488261884

FILE: QCFVA22.O00 OP1335488261884

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069s.12o TIME: 01:03:09 UTC

SOFTWARE: rsgps 1.37 RS41.prl 1.73 START: 2012/03/09 18:49:33
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 19:09:35
NAV FILE: brdc0690.12n OBS USED: 1400 / 1540 : 91%
ANT NAME: LEIAT502 NONE QUALITY IND. 15.22/ 11.19
ARP HEIGHT: 1.603 NORMALIZED RMS: 0.335

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18795)

X:	-4659.930(m)	0.006(m)	-4660.662(m)	0.006(m)
Y:	-5537369.806(m)	0.099(m)	-5537368.313(m)	0.099(m)
Z:	3154484.563(m)	0.025(m)	3154484.354(m)	0.025(m)

LAT:	29 50 5.10164	0.030(m)	29 50 5.11986	0.030(m)
E LON:	269 57 6.41952	0.006(m)	269 57 6.39220	0.006(m)
W LON:	90 2 53.58048	0.006(m)	90 2 53.60780	0.006(m)
EL HGT:	-24.238(m)	0.098(m)	-25.637(m)	0.098(m)
ORTHO HGT:	1.418(m)	0.099(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3304131.885	148646.065
Easting (X) [meters]	785227.324	1124189.726
Convergence [degrees]	1.46950589	0.64257457
Point Scale	1.00060389	0.99992992
Combined Factor	1.00060770	0.99993373

US NATIONAL GRID DESIGNATOR: 15RYP8522704131(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	11376.7

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 29993.4
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 63707.8
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 70663.8
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 87525.4
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 94897.0
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 98124.5

NEAREST NGS PUBLISHED CONTROL POINT
AU3298 GUNTHER N294959.853 W0900302.238 283.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.601	-5534921.900	3158759.193
lwes	-33746.212	-5533652.963	3160795.454
gris	4149.690	-5568493.964	3099600.314
houm	-70100.642	-5550262.361	3131144.919
lmcn	-64275.989	-5568696.871	3098580.612
awes	-94742.054	-5521868.774	3179990.035
gvms	-86907.677	-5510048.197	3200500.208
qcfv	-4660.662	-5537368.313	3154484.354

Covariance matrix of the stations:
1 2.9010E-07 -7.9820E-07 3.7920E-07 -1.5300E-08 1.9690E-07 -7.0100E-08
-5.7750E-09 1.7350E-08 -3.9340E-08 -2.9880E-08 7.7130E-08 -5.4220E-08 -
3.0210E-08 -2.7580E-08 -3.8570E-08 -3.5060E-08 2.3090E-07 -8.2550E-08 -
3.1070E-08 3.0380E-07 -9.4600E-08 8.0720E-09 1.1460E-06 -5.2990E-07
2 -7.9820E-07 2.5320E-05 -1.1560E-05 1.6670E-07 -3.8410E-06 1.8610E-06
2.0810E-07 -4.9260E-06 2.1510E-06 1.1290E-07 -4.4870E-06 1.9920E-06
1.1310E-07 -5.1120E-06 2.1430E-06 9.1280E-08 -3.6020E-06 1.7550E-06
1.0540E-07 -3.2110E-06 1.6620E-06 -2.8610E-08 3.6730E-06 -1.6350E-06
3 3.7920E-07 -1.1560E-05 5.6510E-06 -6.6600E-08 1.8750E-06 -9.0630E-07
-7.0850E-08 2.0390E-06 -9.5710E-07 -6.0990E-08 1.9690E-06 -9.2840E-07 -
6.0880E-08 2.0630E-06 -9.5510E-07 -5.9020E-08 1.8380E-06 -8.8830E-07 -
6.0530E-08 1.7810E-06 -8.7300E-07 -6.9250E-09 -7.6500E-08 4.0050E-08
4 -1.5300E-08 1.6670E-07 -6.6600E-08 2.6940E-07 -7.6940E-07 3.3970E-07
-1.6250E-08 1.0630E-07 -5.5560E-08 -2.3200E-08 1.0480E-07 -5.0880E-08 -
2.3210E-08 7.3430E-08 -4.5880E-08 -2.4860E-08 1.4690E-07 -5.7820E-08 -
2.3750E-08 1.7140E-07 -6.3040E-08 1.5450E-08 3.5760E-07 -1.6580E-07
5 1.9690E-07 -3.8410E-06 1.8750E-06 -7.6940E-07 2.5580E-05 -1.1640E-05
1.8900E-07 -4.9370E-06 2.1530E-06 1.0240E-07 -4.5240E-06 2.0020E-06
1.0280E-07 -5.1110E-06 2.1470E-06 8.2730E-08 -3.6970E-06 1.7760E-06
9.5400E-08 -3.3310E-06 1.6870E-06 -2.4950E-08 2.7360E-06 -1.2260E-06
6 -7.0100E-08 1.8610E-06 -9.0630E-07 3.3970E-07 -1.1640E-05 5.6450E-06
-6.8070E-08 2.0940E-06 -9.6610E-07 -5.1420E-08 1.9970E-06 -9.2850E-07 -
5.1140E-08 2.1190E-06 -9.5910E-07 -4.8110E-08 1.8220E-06 -8.8010E-07 -
5.0800E-08 1.7470E-06 -8.6240E-07 -2.4820E-09 -1.5640E-07 7.8880E-08
7 -5.7750E-09 2.0810E-07 -7.0850E-08 -1.6250E-08 1.8900E-07 -6.8070E-08
2.8070E-07 -9.7740E-07 3.9480E-07 -2.7620E-08 9.1250E-08 -5.3650E-08 -

2.7840E-08 8.6120E-09 -4.1090E-08 -3.1750E-08 2.1120E-07 -7.5640E-08 -
2.8640E-08 2.6950E-07 -8.5710E-08 8.4690E-09 9.2210E-07 -4.2470E-07
8 1.7350E-08 -4.9260E-06 2.0390E-06 1.0630E-07 -4.9370E-06 2.0940E-06
-9.7740E-07 2.9400E-05 -1.2850E-05 2.0400E-07 -4.5110E-06 2.1410E-06
2.0870E-07 -4.0670E-06 2.1340E-06 2.3400E-07 -5.2500E-06 2.2160E-06
2.0640E-07 -5.5620E-06 2.2240E-06 1.2320E-07 -8.7510E-06 4.0040E-06
9 -3.9340E-08 2.1510E-06 -9.5710E-07 -5.5560E-08 2.1530E-06 -9.6610E-07
3.9480E-07 -1.2850E-05 5.9810E-06 -7.2950E-08 2.0820E-06 -9.7380E-07 -
7.3400E-08 2.0110E-06 -9.7520E-07 -7.8980E-08 2.2000E-06 -9.8280E-07 -
7.4210E-08 2.2510E-06 -9.8350E-07 -3.2130E-08 2.0530E-06 -9.0660E-07
10 -2.9880E-08 1.1290E-07 -6.0990E-08 -2.3200E-08 1.0240E-07 -5.1420E-08
-2.7620E-08 2.0400E-07 -7.2950E-08 2.6870E-07 -6.8910E-07 2.9820E-07 -
1.5580E-08 1.8430E-07 -5.3520E-08 -1.3750E-08 5.6660E-08 -3.0740E-08 -
1.5780E-08 2.8730E-08 -2.8560E-08 2.6590E-08 -5.1120E-07 2.3660E-07
11 7.7130E-08 -4.4870E-06 1.9690E-06 1.0480E-07 -4.5240E-06 1.9970E-06
9.1250E-08 -4.5110E-06 2.0820E-06 -6.8910E-07 2.7430E-05 -1.2180E-05
1.3850E-07 -4.5830E-06 2.1390E-06 1.4350E-07 -4.5880E-06 2.0150E-06
1.3430E-07 -4.5950E-06 1.9790E-06 3.4430E-08 -3.5940E-06 1.6360E-06
12 -5.4220E-08 1.9920E-06 -9.2840E-07 -5.0880E-08 2.0020E-06 -9.2850E-07
-5.3650E-08 2.1410E-06 -9.7380E-07 2.9820E-07 -1.2180E-05 5.7530E-06 -
4.6800E-08 2.1550E-06 -9.6990E-07 -4.5880E-08 1.9680E-06 -9.1140E-07 -
4.6960E-08 1.9220E-06 -8.9840E-07 8.5590E-11 3.9660E-07 -1.4860E-07
13 -3.0210E-08 1.1310E-07 -6.0880E-08 -2.3210E-08 1.0280E-07 -5.1140E-08
-2.7840E-08 2.0870E-07 -7.3400E-08 -1.5580E-08 1.3850E-07 -4.6800E-08
2.6840E-07 -6.4510E-07 2.8970E-07 -1.3300E-08 5.5700E-08 -2.9920E-08 -
1.5430E-08 2.6240E-08 -2.7560E-08 2.7000E-08 -5.3450E-07 2.4820E-07
14 -2.7580E-08 -5.1120E-06 2.0630E-06 7.3430E-08 -5.1110E-06 2.1190E-06
8.6120E-09 -4.0670E-06 2.0110E-06 1.8430E-07 -4.5830E-06 2.1550E-06 -
6.4510E-07 3.0320E-05 -1.2880E-05 2.1890E-07 -5.4650E-06 2.2580E-06
1.8780E-07 -5.8410E-06 2.2750E-06 1.0820E-07 -9.8830E-06 4.4880E-06
15 -3.8570E-08 2.1430E-06 -9.5510E-07 -4.5880E-08 2.1470E-06 -9.5910E-07
-4.1090E-08 2.1340E-06 -9.7520E-07 -5.3520E-08 2.1390E-06 -9.6990E-07
2.8970E-07 -1.2880E-05 5.9160E-06 -5.6410E-08 2.1550E-06 -9.5950E-07 -
5.4350E-08 2.1630E-06 -9.5450E-07 -9.8680E-09 1.3610E-06 -5.7120E-07
16 -3.5060E-08 9.1280E-08 -5.9020E-08 -2.4860E-08 8.2730E-08 -4.8110E-08
-3.1750E-08 2.3400E-07 -7.8980E-08 -1.3750E-08 1.4350E-07 -4.5880E-08 -
1.3300E-08 2.1890E-07 -5.6410E-08 2.7490E-07 -7.4790E-07 3.0550E-07 -
1.3350E-08 -2.2700E-08 -1.6910E-08 3.0150E-08 -8.0950E-07 3.7320E-07
17 2.3090E-07 -3.6020E-06 1.8380E-06 1.4690E-07 -3.6970E-06 1.8220E-06
2.1120E-07 -5.2500E-06 2.2000E-06 5.6660E-08 -4.5880E-06 1.9680E-06
5.5700E-08 -5.4650E-06 2.1550E-06 -7.4790E-07 2.5510E-05 -1.1520E-05
4.7190E-08 -2.7630E-06 1.5410E-06 -8.3590E-08 5.9170E-06 -2.6960E-06
18 -8.2550E-08 1.7550E-06 -8.8830E-07 -5.7820E-08 1.7760E-06 -8.8010E-07
-7.5640E-08 2.2160E-06 -9.8280E-07 -3.0740E-08 2.0150E-06 -9.1140E-07 -
2.9920E-08 2.2580E-06 -9.5950E-07 3.0550E-07 -1.1520E-05 5.5640E-06 -
2.9110E-08 1.5030E-06 -7.9890E-07 2.3370E-08 -1.4800E-06 6.9000E-07
19 -3.1070E-08 1.0540E-07 -6.0530E-08 -2.3750E-08 9.5400E-08 -5.0800E-08
-2.8640E-08 2.0640E-07 -7.4210E-08 -1.5780E-08 1.3430E-07 -4.6960E-08 -
1.5430E-08 1.8780E-07 -5.4350E-08 -1.3350E-08 4.7190E-08 -2.9110E-08
2.7090E-07 -7.7660E-07 3.1610E-07 2.7070E-08 -5.7160E-07 2.6270E-07
20 3.0380E-07 -3.2110E-06 1.7810E-06 1.7140E-07 -3.3310E-06 1.7470E-06
2.6950E-07 -5.5620E-06 2.2510E-06 2.8730E-08 -4.5950E-06 1.9220E-06
2.6240E-08 -5.8410E-06 2.1630E-06 -2.2700E-08 -2.7630E-06 1.5030E-06 -
7.7660E-07 2.5450E-05 -1.1370E-05 -1.2850E-07 1.0050E-05 -4.5720E-06

21 -9.4600E-08 1.6620E-06 -8.7300E-07 -6.3040E-08 1.6870E-06 -8.6240E-07
-8.5710E-08 2.2240E-06 -9.8350E-07 -2.8560E-08 1.9790E-06 -8.9840E-07 -
2.7560E-08 2.2750E-06 -9.5450E-07 -1.6910E-08 1.5410E-06 -7.9890E-07
3.1610E-07 -1.1370E-05 5.5130E-06 2.7840E-08 -2.0970E-06 9.6060E-07
22 8.0720E-09 -2.8610E-08 -6.9250E-09 1.5450E-08 -2.4950E-08 -2.4820E-09
8.4690E-09 1.2320E-07 -3.2130E-08 2.6590E-08 3.4430E-08 8.5590E-11
2.7000E-08 1.0820E-07 -9.8680E-09 3.0150E-08 -8.3590E-08 2.3370E-08
2.7070E-08 -1.2850E-07 2.7840E-08 2.8260E-06 -1.2140E-05 5.4240E-06
23 1.1460E-06 3.6730E-06 -7.6500E-08 3.5760E-07 2.7360E-06 -1.5640E-07
9.2210E-07 -8.7510E-06 2.0530E-06 -5.1120E-07 -3.5940E-06 3.9660E-07 -
5.3450E-07 -9.8830E-06 1.3610E-06 -8.0950E-07 5.9170E-06 -1.4800E-06 -
5.7160E-07 1.0050E-05 -2.0970E-06 -1.2140E-05 4.1330E-04 -1.9150E-04
24 -5.2990E-07 -1.6350E-06 4.0050E-08 -1.6580E-07 -1.2260E-06 7.8880E-08
-4.2470E-07 4.0040E-06 -9.0660E-07 2.3660E-07 1.6360E-06 -1.4860E-07
2.4820E-07 4.4880E-06 -5.7120E-07 3.7320E-07 -2.6960E-06 6.9000E-07
2.6270E-07 -4.5720E-06 9.6060E-07 5.4240E-06 -1.9150E-04 9.2000E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000028260 -0.0000121400 0.0000054240
-0.0000121400 0.0004133000 -0.0001915000
0.0000054240 -0.0001915000 0.0000920000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000028467 -0.0000013272 0.0000136132
-0.0000013272 0.0000059952 -0.0000405229
0.0000136132 -0.0000405229 0.0004992840

Horizontal network accuracy = 0.00531 meters.
Vertical network accuracy = 0.04381 meters.

		Vectors		
To	From	X	Y	Z
eng6	qcfv	10255.264	2446.414	4274.840
lwes	qcfv	-29085.550	3715.350	6311.100
gris	qcfv	8810.353	-31125.650	-54884.040
houm	qcfv	-65439.980	-12894.047	-23339.435
lmcn	qcfv	-59615.327	-31328.558	-55903.741
awes	qcfv	-90081.391	15499.539	25505.682
gvms	qcfv	-82247.015	27320.116	46015.855

Covariance matrix of the 7 vectors
1 3.1000E-06 -1.4056E-05 6.3400E-06 2.7872E-06 -1.3064E-05 5.8863E-06
2.8037E-06 -1.3392E-05 5.9467E-06 2.7615E-06 -1.3243E-05 5.8996E-06
2.7607E-06 -1.3422E-05 5.9252E-06 2.7527E-06 -1.2972E-05 5.8480E-06
2.7598E-06 -1.2854E-05 5.8315E-06
2 -1.4056E-05 4.3127E-04 -2.0135E-04 -1.2302E-05 4.0305E-04 -1.8785E-04
-1.2825E-05 4.1345E-04 -1.8977E-04 -1.1487E-05 4.0873E-04 -1.8827E-04 -
1.1464E-05 4.1440E-04 -1.8908E-04 -1.1211E-05 4.0011E-04 -1.8663E-04 -
1.1434E-05 3.9637E-04 -1.8611E-04
3 6.3400E-06 -2.0135E-04 9.7571E-05 5.5301E-06 -1.8832E-04 9.0975E-05
5.7848E-06 -1.9339E-04 9.1909E-05 5.1333E-06 -1.9109E-04 9.1180E-05
5.1218E-06 -1.9385E-04 9.1576E-05 4.9987E-06 -1.8689E-04 9.0382E-05
5.1077E-06 -1.8507E-04 9.0126E-05

4 2.7872E-06 -1.2302E-05 5.5301E-06 3.0645E-06 -1.3242E-05 5.9320E-06
2.7858E-06 -1.2515E-05 5.5664E-06 2.7608E-06 -1.2427E-05 5.5388E-06
2.7603E-06 -1.2532E-05 5.5538E-06 2.7555E-06 -1.2267E-05 5.5086E-06
2.7597E-06 -1.2198E-05 5.4989E-06
5 -1.3064E-05 4.0305E-04 -1.8832E-04 -1.3242E-05 4.3341E-04 -2.0176E-04
-1.2848E-05 4.1438E-04 -1.9017E-04 -1.1501E-05 4.0963E-04 -1.8867E-04 -
1.1478E-05 4.1534E-04 -1.8949E-04 -1.1223E-05 4.0095E-04 -1.8702E-04 -
1.1448E-05 3.9718E-04 -1.8649E-04
6 5.8863E-06 -1.8785E-04 9.0975E-05 5.9320E-06 -2.0176E-04 9.7487E-05
5.7831E-06 -1.9325E-04 9.1862E-05 5.1385E-06 -1.9098E-04 9.1141E-05
5.1271E-06 -1.9371E-04 9.1533E-05 5.0052E-06 -1.8683E-04 9.0351E-05
5.1130E-06 -1.8502E-04 9.0098E-05
7 2.8037E-06 -1.2825E-05 5.7848E-06 2.7858E-06 -1.2848E-05 5.7831E-06
3.0898E-06 -1.4163E-05 6.2756E-06 2.7633E-06 -1.3005E-05 5.7950E-06
2.7627E-06 -1.3162E-05 5.8175E-06 2.7556E-06 -1.2767E-05 5.7497E-06
2.7618E-06 -1.2664E-05 5.7352E-06
8 -1.3392E-05 4.1345E-04 -1.9339E-04 -1.2515E-05 4.1438E-04 -1.9325E-04
-1.4163E-05 4.6020E-04 -2.1041E-04 -1.1548E-05 4.2113E-04 -1.9376E-04 -
1.1520E-05 4.2787E-04 -1.9473E-04 -1.1220E-05 4.1088E-04 -1.9181E-04 -
1.1485E-05 4.0644E-04 -1.9118E-04
9 5.9467E-06 -1.8977E-04 9.1909E-05 5.5664E-06 -1.9017E-04 9.1862E-05
6.2756E-06 -2.1041E-04 9.9794E-05 5.1466E-06 -1.9311E-04 9.2081E-05
5.1345E-06 -1.9603E-04 9.2503E-05 5.0039E-06 -1.8866E-04 9.1234E-05
5.1192E-06 -1.8673E-04 9.0962E-05
10 2.7615E-06 -1.1487E-05 5.1333E-06 2.7608E-06 -1.1501E-05 5.1385E-06
2.7633E-06 -1.1548E-05 5.1466E-06 3.0415E-06 -1.2352E-05 5.4855E-06
2.7568E-06 -1.1553E-05 5.1437E-06 2.7555E-06 -1.1489E-05 5.1333E-06
2.7566E-06 -1.1472E-05 5.1310E-06
11 -1.3243E-05 4.0873E-04 -1.9109E-04 -1.2427E-05 4.0963E-04 -1.9098E-04
-1.3005E-05 4.2113E-04 -1.9311E-04 -1.2352E-05 4.4792E-04 -2.0571E-04 -
1.1501E-05 4.2219E-04 -1.9236E-04 -1.1221E-05 4.0639E-04 -1.8964E-04 -
1.1469E-05 4.0225E-04 -1.8906E-04
12 5.8996E-06 -1.8827E-04 9.1180E-05 5.5388E-06 -1.8867E-04 9.1141E-05
5.7950E-06 -1.9376E-04 9.2081E-05 5.4855E-06 -2.0571E-04 9.8050E-05
5.1289E-06 -1.9423E-04 9.1750E-05 5.0048E-06 -1.8723E-04 9.0547E-05
5.1143E-06 -1.8540E-04 9.0290E-05
13 2.7607E-06 -1.1464E-05 5.1218E-06 2.7603E-06 -1.1478E-05 5.1271E-06
2.7627E-06 -1.1520E-05 5.1345E-06 2.7568E-06 -1.1501E-05 5.1289E-06
3.0404E-06 -1.2359E-05 5.4754E-06 2.7556E-06 -1.1466E-05 5.1225E-06
2.7565E-06 -1.1451E-05 5.1204E-06
14 -1.3422E-05 4.1440E-04 -1.9385E-04 -1.2532E-05 4.1534E-04 -1.9371E-04
-1.3162E-05 4.2787E-04 -1.9603E-04 -1.1553E-05 4.2219E-04 -1.9423E-04 -
1.2359E-05 4.6339E-04 -2.1023E-04 -1.1220E-05 4.1180E-04 -1.9225E-04 -
1.1489E-05 4.0729E-04 -1.9162E-04
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16 2.7527E-06 -1.1211E-05 4.9987E-06 2.7555E-06 -1.1223E-05 5.0052E-06
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2.7556E-06 -1.1220E-05 5.0043E-06 3.0406E-06 -1.1995E-05 5.3329E-06
2.7554E-06 -1.1225E-05 5.0061E-06
17 -1.2972E-05 4.0011E-04 -1.8689E-04 -1.2267E-05 4.0095E-04 -1.8683E-04
-1.2767E-05 4.1088E-04 -1.8866E-04 -1.1489E-05 4.0639E-04 -1.8723E-04 -

1.1466E-05 4.1180E-04 -1.8801E-04 -1.1995E-05 4.2698E-04 -1.9884E-04 -
1.1438E-05 3.9457E-04 -1.8517E-04
  18   5.8480E-06 -1.8663E-04 9.0382E-05 5.5086E-06 -1.8702E-04 9.0351E-05
5.7497E-06 -1.9181E-04 9.1234E-05 5.1333E-06 -1.8964E-04 9.0547E-05
5.1225E-06 -1.9225E-04 9.0922E-05 5.3329E-06 -1.9884E-04 9.6184E-05
5.1088E-06 -1.8395E-04 8.9551E-05
  19   2.7598E-06 -1.1434E-05 5.1077E-06 2.7597E-06 -1.1448E-05 5.1130E-06
2.7618E-06 -1.1485E-05 5.1192E-06 2.7566E-06 -1.1469E-05 5.1143E-06
2.7565E-06 -1.1489E-05 5.1168E-06 2.7554E-06 -1.1438E-05 5.1088E-06
3.0428E-06 -1.2217E-05 5.4496E-06
  20 -1.2854E-05 3.9637E-04 -1.8507E-04 -1.2198E-05 3.9718E-04 -1.8502E-04
-1.2664E-05 4.0644E-04 -1.8673E-04 -1.1472E-05 4.0225E-04 -1.8540E-04 -
1.1451E-05 4.0729E-04 -1.8613E-04 -1.1225E-05 3.9457E-04 -1.8395E-04 -
1.2217E-05 4.1865E-04 -1.9620E-04
  21   5.8315E-06 -1.8611E-04 9.0126E-05 5.4989E-06 -1.8649E-04 9.0098E-05
5.7352E-06 -1.9118E-04 9.0962E-05 5.1310E-06 -1.8906E-04 9.0290E-05
5.1204E-06 -1.9162E-04 9.0656E-05 5.0061E-06 -1.8517E-04 8.9551E-05
5.4496E-06 -1.9620E-04 9.5592E-05

Correlation matrix of the 7 vectors
   1   1.0000E+00 -3.8441E-01 3.6455E-01 9.0429E-01 -3.5641E-01 3.3860E-01
9.0592E-01 -3.5456E-01 3.3810E-01 8.9932E-01 -3.5540E-01 3.3839E-01
8.9925E-01 -3.5413E-01 3.3813E-01 8.9661E-01 -3.5654E-01 3.3867E-01
8.9860E-01 -3.5680E-01 3.3876E-01
   2 -3.8441E-01 1.0000E+00 -9.8155E-01 -3.3840E-01 9.3225E-01 -9.1613E-01
-3.5134E-01 9.2806E-01 -9.1473E-01 -3.1717E-01 9.2996E-01 -9.1554E-01 -
3.1658E-01 9.2698E-01 -9.1481E-01 -3.0958E-01 9.3239E-01 -9.1633E-01 -
3.1565E-01 9.3281E-01 -9.1659E-01
   3   3.6455E-01 -9.8155E-01 1.0000E+00 3.1981E-01 -9.1579E-01 9.3280E-01
3.3317E-01 -9.1263E-01 9.3142E-01 2.9798E-01 -9.1407E-01 9.3221E-01
2.9737E-01 -9.1166E-01 9.3149E-01 2.9021E-01 -9.1564E-01 9.3297E-01
2.9644E-01 -9.1570E-01 9.3321E-01
   4   9.0429E-01 -3.3840E-01 3.1981E-01 1.0000E+00 -3.6335E-01 3.4320E-01
9.0534E-01 -3.3324E-01 3.1830E-01 9.0428E-01 -3.3542E-01 3.1953E-01
9.0431E-01 -3.3257E-01 3.1876E-01 9.0271E-01 -3.3913E-01 3.2086E-01
9.0376E-01 -3.4054E-01 3.2128E-01
   5 -3.5641E-01 9.3225E-01 -9.1579E-01 -3.6335E-01 1.0000E+00 -9.8154E-01
-3.5110E-01 9.2784E-01 -9.1443E-01 -3.1678E-01 9.2971E-01 -9.1522E-01 -
3.1619E-01 9.2679E-01 -9.1451E-01 -3.0915E-01 9.3205E-01 -9.1597E-01 -
3.1525E-01 9.3243E-01 -9.1621E-01
   6   3.3860E-01 -9.1613E-01 9.3280E-01 3.4320E-01 -9.8154E-01 1.0000E+00
3.3322E-01 -9.1239E-01 9.3134E-01 2.9841E-01 -9.1395E-01 9.3222E-01
2.9781E-01 -9.1141E-01 9.3145E-01 2.9071E-01 -9.1572E-01 9.3306E-01
2.9687E-01 -9.1586E-01 9.3332E-01
   7   9.0592E-01 -3.5134E-01 3.3317E-01 9.0534E-01 -3.5110E-01 3.3322E-01
1.0000E+00 -3.7559E-01 3.5739E-01 9.0141E-01 -3.4959E-01 3.3294E-01
9.0137E-01 -3.4784E-01 3.3253E-01 8.9904E-01 -3.5151E-01 3.3353E-01
9.0074E-01 -3.5212E-01 3.3371E-01
   8 -3.5456E-01 9.2806E-01 -9.1263E-01 -3.3324E-01 9.2784E-01 -9.1239E-01
-3.7559E-01 1.0000E+00 -9.8182E-01 -3.0866E-01 9.2757E-01 -9.1215E-01 -
3.0797E-01 9.2654E-01 -9.1204E-01 -2.9994E-01 9.2692E-01 -9.1168E-01 -
3.0692E-01 9.2597E-01 -9.1152E-01
   9   3.3810E-01 -9.1473E-01 9.3142E-01 3.1830E-01 -9.1443E-01 9.3134E-01
3.5739E-01 -9.8182E-01 1.0000E+00 2.9541E-01 -9.1337E-01 9.3088E-01

2.9477E-01 -9.1159E-01 9.3037E-01 2.8726E-01 -9.1394E-01 9.3122E-01
2.9378E-01 -9.1356E-01 9.3132E-01
  10   8.9932E-01 -3.1717E-01 2.9798E-01 9.0428E-01 -3.1678E-01 2.9841E-01
9.0141E-01 -3.0866E-01 2.9541E-01 1.0000E+00 -3.3466E-01 3.1765E-01
9.0657E-01 -3.0773E-01 2.9634E-01 9.0610E-01 -3.1880E-01 3.0012E-01
9.0613E-01 -3.2148E-01 3.0092E-01
  11 -3.5540E-01 9.2996E-01 -9.1407E-01 -3.3542E-01 9.2971E-01 -9.1395E-01
-3.4959E-01 9.2757E-01 -9.1337E-01 -3.3466E-01 1.0000E+00 -9.8161E-01 -
3.1166E-01 9.2670E-01 -9.1320E-01 -3.0407E-01 9.2927E-01 -9.1365E-01 -
3.1065E-01 9.2890E-01 -9.1367E-01
  12   3.3839E-01 -9.1554E-01 9.3221E-01 3.1953E-01 -9.1522E-01 9.3222E-01
3.3294E-01 -9.1215E-01 9.3088E-01 3.1765E-01 -9.8161E-01 1.0000E+00
2.9705E-01 -9.1121E-01 9.3097E-01 2.8986E-01 -9.1507E-01 9.3239E-01
2.9609E-01 -9.1509E-01 9.3262E-01
  13   8.9925E-01 -3.1658E-01 2.9737E-01 9.0431E-01 -3.1619E-01 2.9781E-01
9.0137E-01 -3.0797E-01 2.9477E-01 9.0657E-01 -3.1166E-01 2.9705E-01
1.0000E+00 -3.2926E-01 3.1550E-01 9.0628E-01 -3.1824E-01 2.9955E-01
9.0627E-01 -3.2095E-01 3.0035E-01
  14 -3.5413E-01 9.2698E-01 -9.1166E-01 -3.3257E-01 9.2679E-01 -9.1141E-01
-3.4784E-01 9.2654E-01 -9.1159E-01 -3.0773E-01 9.2670E-01 -9.1121E-01 -
3.2926E-01 1.0000E+00 -9.8124E-01 -2.9891E-01 9.2579E-01 -9.1063E-01 -
3.0596E-01 9.2472E-01 -9.1044E-01
  15   3.3813E-01 -9.1481E-01 9.3149E-01 3.1876E-01 -9.1451E-01 9.3145E-01
3.3253E-01 -9.1204E-01 9.3037E-01 2.9634E-01 -9.1320E-01 9.3097E-01
3.1550E-01 -9.8124E-01 1.0000E+00 2.8835E-01 -9.1418E-01 9.3147E-01
2.9473E-01 -9.1398E-01 9.3162E-01
  16   8.9661E-01 -3.0958E-01 2.9021E-01 9.0271E-01 -3.0915E-01 2.9071E-01
8.9904E-01 -2.9994E-01 2.8726E-01 9.0610E-01 -3.0407E-01 2.8986E-01
9.0628E-01 -2.9891E-01 2.8835E-01 1.0000E+00 -3.3290E-01 3.1184E-01
9.0589E-01 -3.1461E-01 2.9363E-01
  17 -3.5654E-01 9.3239E-01 -9.1564E-01 -3.3913E-01 9.3205E-01 -9.1572E-01
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3.1824E-01 9.2579E-01 -9.1418E-01 -3.3290E-01 1.0000E+00 -9.8120E-01 -
3.1732E-01 9.3325E-01 -9.1654E-01
  18   3.3867E-01 -9.1633E-01 9.3297E-01 3.2086E-01 -9.1597E-01 9.3306E-01
3.3353E-01 -9.1168E-01 9.3122E-01 3.0012E-01 -9.1365E-01 9.3239E-01
2.9955E-01 -9.1063E-01 9.3147E-01 3.1184E-01 -9.8120E-01 1.0000E+00
2.9863E-01 -9.1667E-01 9.3391E-01
  19   8.9860E-01 -3.1565E-01 2.9644E-01 9.0376E-01 -3.1525E-01 2.9687E-01
9.0074E-01 -3.0692E-01 2.9378E-01 9.0613E-01 -3.1065E-01 2.9609E-01
9.0627E-01 -3.0596E-01 2.9473E-01 9.0589E-01 -3.1732E-01 2.9863E-01
1.0000E+00 -3.4228E-01 3.1953E-01
  20 -3.5680E-01 9.3281E-01 -9.1570E-01 -3.4054E-01 9.3243E-01 -9.1586E-01
-3.5212E-01 9.2597E-01 -9.1356E-01 -3.2148E-01 9.2890E-01 -9.1509E-01 -
3.2095E-01 9.2472E-01 -9.1398E-01 -3.1461E-01 9.3325E-01 -9.1667E-01 -
3.4228E-01 1.0000E+00 -9.8077E-01
  21   3.3876E-01 -9.1659E-01 9.3321E-01 3.2128E-01 -9.1621E-01 9.3332E-01
3.3371E-01 -9.1152E-01 9.3132E-01 3.0092E-01 -9.1367E-01 9.3262E-01
3.0035E-01 -9.1044E-01 9.3162E-01 2.9363E-01 -9.1654E-01 9.3391E-01
3.1953E-01 -9.8077E-01 1.0000E+00

G-FILE for the vectors

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C00080003   88103528   17 -311256502  214 -548840400   99
C00080004 -654399798   17 -128940474  211 -233394346   99
C00080005 -596153270   17 -313285580  215 -559037413   99
C00080006 -900813912   17  154995390  206  255056815   98
C00080007 -822470146   17  273201164  204  460158546   97
D  1  2 -3844100  1  3  3645465  1  4  9042887  1  5 -3564141  1  6  3386019 D
1  7  9059177  1  8 -3545590  1  9  3380997  1 10  8993222  1 11 -3554014 D  1
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9141838 15 18  9314734 15 19  2947273 15 20 -9139782 15 21  9316248 D 16 17 -
3328986 16 18  3118421 16 19  9058908 16 20 -3146078 16 21  2936332 D 17 18 -
9812040 17 19 -3173219 17 20  9332473 17 21 -9165352 18 19  2986313 D 18 20 -
9166657 18 21  9339126 19 20 -3422846 19 21  3195341 20 21 -9807658
```

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	-4660.669	-5537368.307	3154484.337
lwes	-4660.669	-5537368.309	3154484.353
gris	-4660.658	-5537368.087	3154484.303
houm	-4660.661	-5537368.262	3154484.345
lmcn	-4660.666	-5537368.308	3154484.351
awes	-4660.659	-5537368.356	3154484.373
gvms	-4660.654	-5537368.371	3154484.379

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	-0.006	0.006	-0.017	-0.006	-	
0.012	-0.014					
lwes	-0.007	0.004	-0.000	-0.007		
0.002	-0.004					
gris	0.004	0.227	-0.050	0.004		
0.069	-0.222					
houm	0.002	0.051	-0.008	0.002		
0.018	-0.048					
lmcn	-0.003	0.005	-0.002	-0.003		
0.001	-0.006					
awes	0.003	-0.043	0.019	0.003	-	
0.004	0.047					
gvms	0.008	-0.058	0.025	0.008	-	
0.007	0.063					

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)

Northing (Y) [feet]	487682.965
Easting (X) [feet]	3688279.127
Convergence [degrees]	0.64257457
Point Scale	0.99992992
Combined Factor	0.99993373

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.334 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.645

scatter (mean square distance from rover) is 5196.263
average edop for rover is 1.060
average ndop for rover is 0.790
average hdop for rover is 1.322
average vdop for rover is 2.230
average gdop for rover is 3.020

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:25 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA24.O00 OP1335489636473

FILE: QCFVA24.O00 OP1335489636473

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv080s.12o TIME: 01:24:24 UTC

SOFTWARE: rsgps 1.37 RS10.prl 1.73 START: 2012/03/20 18:08:03
EPHEMERIS: igs16802.eph [precise] STOP: 2012/03/20 18:28:52
NAV FILE: brdc0800.12n OBS USED: 1496 / 1656 : 90%
ANT NAME: LEIAT502 NONE QUALITY IND. 10.76/ 3.16
ARP HEIGHT: 1.589 NORMALIZED RMS: 0.408

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.21793)

X:	-2798.427(m)	0.004(m)	-2799.159(m)	0.004(m)
Y:	-5539884.094(m)	0.097(m)	-5539882.600(m)	0.097(m)
Z:	3150095.921(m)	0.024(m)	3150095.712(m)	0.024(m)

LAT:	29 47 20.85989	0.028(m)	29 47 20.87810	0.028(m)
E LON:	269 58 15.80703	0.004(m)	269 58 15.77975	0.004(m)
W LON:	90 1 44.19297	0.004(m)	90 1 44.22025	0.004(m)
EL HGT:	-25.609(m)	0.096(m)	-27.009(m)	0.096(m)
ORTHO HGT:	-0.120(m)	0.097(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3299121.157	143610.542
Easting (X) [meters]	787221.154	1126109.819
Convergence [degrees]	1.47706132	0.65221197
Point Scale	1.00061799	0.99993253
Combined Factor	1.00062201	0.99993655

US NATIONAL GRID DESIGNATOR: 15RYN8722199121(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	13043.0

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 18355.5
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 58452.4
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 70684.9
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 78442.7
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 85226.0
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 98344.6
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 123811.1

NEAREST NGS PUBLISHED CONTROL POINT
DH3189 569+83.30=WPLD 114 LMS 114 N294721.326 W0900114.662 792.6

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.598	-5534921.875	3158759.188
nola	-11604.038	-5531876.899	3164070.932
gris	4149.691	-5568493.936	3099600.305
houm	-70100.642	-5550262.358	3131144.920
bvhs	57650.139	-5564331.453	3106490.833
lmcn	-64275.991	-5568696.893	3098580.621
awes	-94742.046	-5521868.779	3179990.032
sjb1	-106395.195	-5505141.449	3208320.268
qcfv	-2799.159	-5539882.600	3150095.712

Covariance matrix of the stations:
1 3.1380E-07 -6.3200E-07 3.5280E-07 -2.0000E-08 1.5210E-07 -6.0100E-08
-1.8710E-08 2.5760E-08 -3.6080E-08 -3.3980E-08 5.1300E-08 -4.3500E-08 -
6.4650E-09 7.2640E-08 -4.3360E-08 -3.4070E-08 -1.5400E-08 -3.1080E-08 -
3.7190E-08 1.4490E-07 -6.3240E-08 -3.8390E-08 2.0090E-07 -7.5550E-08
2.2460E-08 4.7830E-07 -2.0650E-07
2 -6.3200E-07 5.1990E-05 -1.9460E-05 1.2920E-07 -6.8180E-06 2.6570E-06
1.4010E-07 -8.2110E-06 3.0510E-06 4.7330E-08 -7.6940E-06 2.8210E-06
2.1640E-07 -7.9110E-06 3.0390E-06 4.6940E-08 -8.4180E-06 3.0190E-06
2.8840E-08 -6.6900E-06 2.5200E-06 2.2270E-08 -6.1250E-06 2.3500E-06
2.3120E-08 2.4660E-06 -1.0080E-06
3 3.5280E-07 -1.9460E-05 8.5780E-06 -5.6130E-08 2.6760E-06 -1.1860E-06
-5.7290E-08 2.9520E-06 -1.2690E-06 -4.3830E-08 2.8200E-06 -1.2110E-06 -
6.8990E-08 2.9190E-06 -1.2750E-06 -4.3430E-08 2.9620E-06 -1.2520E-06 -
4.1700E-08 2.6200E-06 -1.1480E-06 -4.1090E-08 2.5090E-06 -1.1130E-06 -
3.8220E-09 -1.5080E-07 6.5870E-08
4 -2.0000E-08 1.2920E-07 -5.6130E-08 3.0720E-07 -5.9970E-07 3.2790E-07
-2.1320E-08 5.2920E-08 -4.1140E-08 -3.0500E-08 5.6100E-08 -3.9570E-08 -
1.4130E-08 9.1420E-08 -5.0850E-08 -3.0530E-08 1.5550E-08 -3.1830E-08 -
3.2500E-08 1.1070E-07 -5.0610E-08 -3.3260E-08 1.4390E-07 -5.7830E-08
1.7800E-08 2.9740E-07 -1.2930E-07
5 1.5210E-07 -6.8180E-06 2.6760E-06 -5.9970E-07 5.1920E-05 -1.9370E-05
1.3940E-07 -8.2630E-06 3.0540E-06 3.2830E-08 -7.6950E-06 2.8030E-06
2.2720E-07 -7.9450E-06 3.0480E-06 3.2290E-08 -8.4780E-06 3.0120E-06
1.1600E-08 -6.6030E-06 2.4820E-06 4.0400E-09 -5.9870E-06 2.3000E-06

3.1680E-08 2.5580E-06 -1.0310E-06
   6 -6.0100E-08 2.6570E-06 -1.1860E-06 3.2790E-07 -1.9370E-05 8.5230E-06
-5.6980E-08 2.9760E-06 -1.2700E-06 -3.6160E-08 2.8170E-06 -1.2010E-06 -
7.4820E-08 2.9330E-06 -1.2800E-06 -3.5680E-08 2.9900E-06 -1.2480E-06 -
3.2570E-08 2.5690E-06 -1.1270E-06 -3.1430E-08 2.4310E-06 -1.0860E-06 -
7.9250E-09 -2.2540E-07 8.6150E-08
   7 -1.8710E-08 1.4010E-07 -5.7290E-08 -2.1320E-08 1.3940E-07 -5.6980E-08
3.0820E-07 -7.2870E-07 3.5370E-07 -3.1470E-08 5.8530E-08 -4.0910E-08 -
1.1540E-08 8.9510E-08 -4.8630E-08 -3.1510E-08 9.5750E-09 -3.1640E-08 -
3.3860E-08 1.2560E-07 -5.4750E-08 -3.4770E-08 1.6610E-07 -6.3610E-08
1.8470E-08 3.6250E-07 -1.5580E-07
   8   2.5760E-08 -8.2110E-06 2.9520E-06 5.2920E-08 -8.2630E-06 2.9760E-06
-7.2870E-07 5.7760E-05 -2.1340E-05 1.6010E-07 -8.1520E-06 3.1110E-06 -
4.5960E-08 -7.8980E-06 2.9460E-06 1.6180E-07 -7.9970E-06 3.1520E-06
1.8240E-07 -8.4590E-06 3.1010E-06 1.9070E-07 -8.6560E-06 3.1010E-06 -
2.3300E-08 -4.9530E-06 2.0940E-06
   9 -3.6080E-08 3.0510E-06 -1.2690E-06 -4.1140E-08 3.0540E-06 -1.2700E-06
3.5370E-07 -2.1340E-05 9.0930E-06 -6.0480E-08 3.0330E-06 -1.2900E-06 -
2.2780E-08 3.0540E-06 -1.2900E-06 -6.0410E-08 3.0280E-06 -1.3050E-06 -
6.5230E-08 3.0520E-06 -1.2750E-06 -6.7140E-08 3.0680E-06 -1.2690E-06
2.6780E-09 1.3270E-06 -5.3310E-07
  10 -3.3980E-08 4.7330E-08 -4.3830E-08 -3.0500E-08 3.2830E-08 -3.6160E-08
-3.1470E-08 1.6010E-07 -6.0480E-08 3.0930E-07 -4.4570E-07 2.4400E-07 -
4.4030E-08 1.6590E-07 -7.9700E-08 -1.6750E-08 1.3740E-07 -3.4330E-08 -
1.4260E-08 -2.1420E-08 -1.0570E-09 -1.3320E-08 -7.6550E-08 1.1590E-08
1.1550E-08 -4.4610E-07 1.9290E-07
  11   5.1300E-08 -7.6940E-06 2.8200E-06 5.6100E-08 -7.6950E-06 2.8170E-06
5.8530E-08 -8.1520E-06 3.0330E-06 -4.4570E-07 5.5280E-05 -2.0290E-05
4.2960E-08 -8.0070E-06 2.9790E-06 7.6760E-08 -8.2870E-06 3.0780E-06
7.9670E-08 -7.7370E-06 2.8190E-06 8.1160E-08 -7.5830E-06 2.7410E-06 -
2.9740E-08 -1.7160E-06 6.9740E-07
  12 -4.3500E-08 2.8210E-06 -1.2110E-06 -3.9570E-08 2.8030E-06 -1.2010E-06
-4.0910E-08 3.1110E-06 -1.2900E-06 2.4400E-07 -2.0290E-05 8.6720E-06 -
5.5660E-08 3.0750E-06 -1.2990E-06 -2.3380E-08 3.1210E-06 -1.2700E-06 -
2.1090E-08 2.7400E-06 -1.1570E-06 -2.0270E-08 2.6150E-06 -1.1190E-06
8.2380E-09 1.9750E-08 2.5520E-08
  13 -6.4650E-09 2.1640E-07 -6.8990E-08 -1.4130E-08 2.2720E-07 -7.4820E-08
-1.1540E-08 -4.5960E-08 -2.2780E-08 -4.4030E-08 4.2960E-08 -5.5660E-08
3.4920E-07 -9.5710E-07 4.7880E-07 -4.4300E-08 -9.7900E-08 -2.9960E-08 -
5.0680E-08 2.4720E-07 -1.0000E-07 -5.3130E-08 3.6750E-07 -1.2680E-07
2.3740E-08 1.0360E-06 -4.4710E-07
  14   7.2640E-08 -7.9110E-06 2.9190E-06 9.1420E-08 -7.9450E-06 2.9330E-06
8.9510E-08 -7.8980E-06 3.0540E-06 1.6590E-07 -8.0070E-06 3.0750E-06 -
9.5710E-07 5.6130E-05 -2.1120E-05 1.6730E-07 -8.0030E-06 3.1430E-06
1.8110E-07 -8.0880E-06 3.0140E-06 1.8680E-07 -8.1540E-06 2.9860E-06
1.3090E-08 -3.7270E-06 1.6290E-06
  15 -4.3360E-08 3.0390E-06 -1.2750E-06 -5.0850E-08 3.0480E-06 -1.2800E-06
-4.8630E-08 2.9460E-06 -1.2900E-06 -7.9700E-08 2.9790E-06 -1.2990E-06
4.7880E-07 -2.1120E-05 9.1750E-06 -7.9770E-08 2.9300E-06 -1.3060E-06 -
8.6450E-08 3.0630E-06 -1.2990E-06 -8.9080E-08 3.1180E-06 -1.3010E-06 -
8.6040E-09 1.6210E-06 -6.8300E-07
  16 -3.4070E-08 4.6940E-08 -4.3430E-08 -3.0530E-08 3.2290E-08 -3.5680E-08
-3.1510E-08 1.6180E-07 -6.0410E-08 -1.6750E-08 7.6760E-08 -2.3380E-08 -
4.4300E-08 1.6730E-07 -7.9770E-08 3.0920E-07 -3.8420E-07 2.3020E-07 -

1.3990E-08 -2.2420E-08 -2.0100E-10 -1.3020E-08 -7.8550E-08 1.2660E-08
1.1540E-08 -4.5380E-07 1.9670E-07
  17 -1.5400E-08 -8.4180E-06 2.9620E-06 1.5550E-08 -8.4780E-06 2.9900E-06
9.5750E-09 -7.9970E-06 3.0280E-06 1.3740E-07 -8.2870E-06 3.1210E-06 -
9.7900E-08 -8.0030E-06 2.9300E-06 -3.8420E-07 5.8950E-05 -2.1310E-05
1.6300E-07 -8.6950E-06 3.1330E-06 1.7250E-07 -8.9510E-06 3.1470E-06 -
6.0580E-08 -5.5290E-06 2.2760E-06
  18 -3.1080E-08 3.0190E-06 -1.2520E-06 -3.1830E-08 3.0120E-06 -1.2480E-06
-3.1640E-08 3.1520E-06 -1.3050E-06 -3.4330E-08 3.0780E-06 -1.2700E-06 -
2.9960E-08 3.1430E-06 -1.3060E-06 2.3020E-07 -2.1310E-05 8.9420E-06 -
3.5510E-08 2.9800E-06 -1.2290E-06 -3.6140E-08 2.9280E-06 -1.2080E-06
1.4360E-08 7.6660E-07 -2.6910E-07
  19 -3.7190E-08 2.8840E-08 -4.1700E-08 -3.2500E-08 1.1600E-08 -3.2570E-08
-3.3860E-08 1.8240E-07 -6.5230E-08 -1.4260E-08 7.9670E-08 -2.1090E-08 -
5.0680E-08 1.8110E-07 -8.6450E-08 -1.3990E-08 1.6300E-07 -3.5510E-08
3.1670E-07 -5.2200E-07 2.5680E-07 -9.2060E-09 -1.2490E-07 2.5980E-08
9.9920E-09 -6.0750E-07 2.6200E-07
  20   1.4490E-07 -6.6900E-06 2.6200E-06 1.1070E-07 -6.6030E-06 2.5690E-06
1.2560E-07 -8.4590E-06 3.0520E-06 -2.1420E-08 -7.7370E-06 2.7400E-06
2.4720E-07 -8.0880E-06 3.0630E-06 -2.2420E-08 -8.6950E-06 2.9800E-06 -
5.2200E-07 5.2010E-05 -1.9170E-05 -6.1100E-08 -5.6160E-06 2.1450E-06
1.0400E-08 3.8960E-06 -1.6510E-06
  21 -6.3240E-08 2.5200E-06 -1.1480E-06 -5.0610E-08 2.4820E-06 -1.1270E-06
-5.4750E-08 3.1010E-06 -1.2750E-06 -1.0570E-09 2.8190E-06 -1.1570E-06 -
1.0000E-07 3.0140E-06 -1.2990E-06 -2.0100E-10 3.1330E-06 -1.2290E-06
2.5680E-07 -1.9170E-05 8.3280E-06 1.2530E-08 2.1000E-06 -9.6790E-07
2.5840E-10 -1.2980E-06 5.6110E-07
  22 -3.8390E-08 2.2270E-08 -4.1090E-08 -3.3260E-08 4.0400E-09 -3.1430E-08
-3.4770E-08 1.9070E-07 -6.7140E-08 -1.3320E-08 8.1160E-08 -2.0270E-08 -
5.3130E-08 1.8680E-07 -8.9080E-08 -1.3020E-08 1.7250E-07 -3.6140E-08 -
9.2060E-09 -6.1100E-08 1.2530E-08 3.2010E-07 -5.9670E-07 2.7290E-07
9.3890E-09 -6.6620E-07 2.8710E-07
  23   2.0090E-07 -6.1250E-06 2.5090E-06 1.4390E-07 -5.9870E-06 2.4310E-06
1.6610E-07 -8.6560E-06 3.0680E-06 -7.6550E-08 -7.5830E-06 2.6150E-06
3.6750E-07 -8.1540E-06 3.1180E-06 -7.8550E-08 -8.9510E-06 2.9280E-06 -
1.2490E-07 -5.6160E-06 2.1000E-06 -5.9670E-07 5.1200E-05 -1.8770E-05
3.5460E-08 7.1290E-06 -3.0070E-06
  24 -7.5550E-08 2.3500E-06 -1.1130E-06 -5.7830E-08 2.3000E-06 -1.0860E-06
-6.3610E-08 3.1010E-06 -1.2690E-06 1.1590E-08 2.7410E-06 -1.1190E-06 -
1.2680E-07 2.9860E-06 -1.3010E-06 1.2660E-08 3.1470E-06 -1.2080E-06
2.5980E-08 2.1450E-06 -9.6790E-07 2.7290E-07 -1.8770E-05 8.1890E-06 -
5.2580E-09 -2.0600E-06 8.7160E-07
  25   2.2460E-08 2.3120E-08 -3.8220E-09 1.7800E-08 3.1680E-08 -7.9250E-09
1.8470E-08 -2.3300E-08 2.6780E-09 1.1550E-08 -2.9740E-08 8.2380E-09
2.3740E-08 1.3090E-08 -8.6040E-09 1.1540E-08 -6.0580E-08 1.4360E-08
9.9920E-09 1.0400E-08 2.5840E-10 9.3890E-09 3.5460E-08 -5.2580E-09
2.9390E-06 -4.4230E-06 2.0000E-06
  26   4.7830E-07 2.4660E-06 -1.5080E-07 2.9740E-07 2.5580E-06 -2.2540E-07
3.6250E-07 -4.9530E-06 1.3270E-06 -4.4610E-07 -1.7160E-06 1.9750E-08
1.0360E-06 -3.7270E-06 1.6210E-06 -4.5380E-07 -5.5290E-06 7.6660E-07 -
6.0750E-07 3.8960E-06 -1.2980E-06 -6.6620E-07 7.1290E-06 -2.0600E-06 -
4.4230E-06 2.9020E-04 -1.2370E-04
  27 -2.0650E-07 -1.0080E-06 6.5870E-08 -1.2930E-07 -1.0310E-06 8.6150E-08
-1.5580E-07 2.0940E-06 -5.3310E-07 1.9290E-07 6.9740E-07 2.5520E-08 -

4.4710E-07 1.6290E-06 -6.8300E-07 1.9670E-07 2.2760E-06 -2.6910E-07
2.6200E-07 -1.6510E-06 5.6110E-07 2.8710E-07 -3.0070E-06 8.7160E-07
2.0000E-06 -1.2370E-04 5.6840E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
  0.0000029390 -0.0000044230   0.0000020000
 -0.0000044230   0.0002902000 -0.0001237000
  0.0000020000 -0.0001237000   0.0000568400

Covariance Matrix for the enu OPUS Position (meters^2).
  0.0000029435 -0.0000004651   0.0000049905
 -0.0000004651   0.0000075516 -0.0000370184
  0.0000049905 -0.0000370184   0.0003394839

Horizontal network accuracy = 0.00577 meters.
Vertical network accuracy = 0.03613 meters.

		Vectors		
To	From	X	Y	Z
eng6	qcfv	8393.757	4960.724	8663.476
nola	qcfv	-8804.878	8005.701	13975.220
gris	qcfv	6948.850	-28611.337	-50495.407
houm	qcfv	-67301.483	-10379.759	-18950.792
bvhs	qcfv	60449.298	-24448.854	-43604.879
lmcn	qcfv	-61476.832	-28814.294	-51515.091
awes	qcfv	-91942.887	18013.821	29894.320
sjb1	qcfv	-103596.036	34741.150	58224.556

Covariance matrix of the 8 vectors
  1 3.2079E-06 -5.5564E-06 2.5631E-06 2.8787E-06 -4.7809E-06 2.1543E-06
2.8794E-06 -4.8522E-06 2.1677E-06 2.8710E-06 -4.8203E-06 2.1548E-06
2.8863E-06 -4.8417E-06 2.1717E-06 2.8709E-06 -4.8561E-06 2.1611E-06
2.8694E-06 -4.7668E-06 2.1430E-06 2.8688E-06 -4.7359E-06 2.1362E-06
  2 -5.5564E-06 3.3726E-04 -1.4200E-04 -4.6143E-06 2.7836E-04 -1.1981E-04
-4.6685E-06 2.8448E-04 -1.2097E-04 -3.9527E-06 2.8176E-04 -1.1989E-04 -
5.2657E-06 2.8355E-04 -1.2127E-04 -3.9454E-06 2.8484E-04 -1.2044E-04 -
3.8098E-06 2.7715E-04 -1.1887E-04 -3.7576E-06 2.7448E-04 -1.1828E-04
  3 2.5631E-06 -1.4200E-04 6.5286E-05 2.0770E-06 -1.1984E-04 5.5502E-05
2.1023E-06 -1.2269E-04 5.6038E-05 1.7671E-06 -1.2143E-04 5.5538E-05
2.3819E-06 -1.2226E-04 5.6182E-05 1.7637E-06 -1.2286E-04 5.5791E-05
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2.0974E-06 -1.2063E-04 5.5232E-05 1.8239E-06 -1.1960E-04 5.4824E-05
2.3256E-06 -1.2028E-04 5.5350E-05 1.8212E-06 -1.2077E-04 5.5029E-05
1.7692E-06 -1.1784E-04 5.4439E-05 1.9911E-06 -1.3740E-04 6.3286E-05

Correlation matrix of the 8 vectors
1 1.0000E+00 -1.6893E-01 1.7711E-01 8.9702E-01 -1.4541E-01 1.4897E-01
8.9726E-01 -1.4321E-01 1.4786E-01 8.9258E-01 -1.4408E-01 1.4870E-01
8.9519E-01 -1.4372E-01 1.4772E-01 8.9257E-01 -1.4286E-01 1.4816E-01
8.9062E-01 -1.4554E-01 1.4951E-01 8.8980E-01 -1.4619E-01 1.4993E-01
2 -1.6893E-01 1.0000E+00 -9.5697E-01 -1.4023E-01 8.2567E-01 -8.0801E-01
-1.4188E-01 8.1885E-01 -8.0474E-01 -1.1985E-01 8.2136E-01 -8.0689E-01 -
1.5928E-01 8.2088E-01 -8.0448E-01 -1.1963E-01 8.1724E-01 -8.0531E-01 -
1.1533E-01 8.2525E-01 -8.0884E-01 -1.1367E-01 8.2635E-01 -8.0963E-01
3 1.7711E-01 -9.5697E-01 1.0000E+00 1.4346E-01 -8.0794E-01 8.5076E-01
1.4522E-01 -8.0268E-01 8.4730E-01 1.2178E-01 -8.0454E-01 8.4954E-01
1.6376E-01 -8.0445E-01 8.4707E-01 1.2155E-01 -8.0119E-01 8.4788E-01
1.1697E-01 -8.0724E-01 8.5157E-01 1.1521E-01 -8.0765E-01 8.5238E-01
4 8.9702E-01 -1.4023E-01 1.4346E-01 1.0000E+00 -1.6270E-01 1.7039E-01
8.9752E-01 -1.3701E-01 1.4219E-01 8.9473E-01 -1.3847E-01 1.4358E-01
8.9388E-01 -1.3774E-01 1.4190E-01 8.9474E-01 -1.3657E-01 1.4276E-01
8.9314E-01 -1.4100E-01 1.4494E-01 8.9246E-01 -1.4231E-01 1.4569E-01
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-1.4222E-01 8.1874E-01 -8.0487E-01 -1.2059E-01 8.2140E-01 -8.0716E-01 -
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1.1615E-01 8.2555E-01 -8.0924E-01 -1.1452E-01 8.2679E-01 -8.1012E-01
6 1.4897E-01 -8.0801E-01 8.5076E-01 1.7039E-01 -9.5677E-01 1.0000E+00
1.4563E-01 -8.0262E-01 8.4760E-01 1.2268E-01 -8.0465E-01 8.5001E-01
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8.8033E-01 -1.0583E-01 1.1048E-01 8.9864E-01 -1.0314E-01 1.1340E-01
8.9883E-01 -1.1630E-01 1.1975E-01 1.0000E+00 -1.3480E-01 1.3904E-01

23 -1.4619E-01 8.2635E-01 -8.0765E-01 -1.4231E-01 8.2679E-01 -8.0827E-01
-1.4364E-01 8.1649E-01 -8.0347E-01 -1.2588E-01 8.2049E-01 -8.0702E-01 -
1.5746E-01 8.1905E-01 -8.0283E-01 -1.2571E-01 8.1465E-01 -8.0472E-01 -
1.2220E-01 8.2706E-01 -8.1034E-01 -1.3480E-01 1.0000E+00 -9.5494E-01
24 1.4993E-01 -8.0963E-01 8.5238E-01 1.4569E-01 -8.1012E-01 8.5311E-01
1.4715E-01 -8.0159E-01 8.4822E-01 1.2767E-01 -8.0484E-01 8.5178E-01
1.6239E-01 -8.0386E-01 8.4762E-01 1.2748E-01 -7.9988E-01 8.4941E-01
1.2364E-01 -8.1005E-01 8.5510E-01 1.3904E-01 -9.5494E-01 1.0000E+00

G-FILE for the vectors

Axx2012 3202012 320
B20120320180020120320180 0 8 rsgps 1.37IGS
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C00090002 -88048784 17 80057007 183 139752198 80
C00090003 69488497 17 -286113367 189 -504954073 81
C00090004 -673014829 17 -103797585 186 -189507920 80
C00090005 604492982 18 -244488536 188 -436048787 82
C00090006 -614768319 17 -288142936 189 -515150913 81
C00090007 -919428870 17 180138205 182 298943202 80
C00090008-1035960356 18 347411502 180 582245558 79
D 1 2 -1689292 1 3 1771125 1 4 8970161 1 5 -1454056 1 6 1489736 D
1 7 8972568 1 8 -1432098 1 9 1478644 1 10 8925803 1 11 -1440799 D 1
12 1486959 1 13 8951935 1 14 -1437223 1 15 1477171 1 16 8925665 D 1
17 -1428577 1 18 1481613 1 19 8906159 1 20 -1455368 1 21 1495092 D 1
22 8897975 1 23 -1461913 1 24 1499275 2 3 -9569736 2 4 -1402275 D 2
5 8256672 2 6 -8080117 2 7 -1418822 2 8 8188498 2 9 -8047380 D 2 10
-1198486 2 11 8213610 2 12 -8068881 2 13 -1592780 2 14 8208795 D 2 15 -
8044848 2 16 -1196285 2 17 8172422 2 18 -8053140 2 19 -1153276 D 2 20
8252505 2 21 -8088358 2 22 -1136687 2 23 8263450 2 24 -8096258 D 3 4
1434600 3 5 -8079441 3 6 8507554 3 7 1452179 3 8 -8026797 D 3 9
8473029 3 10 1217783 3 11 -8045350 3 12 8495424 3 13 1637561 D 3 14 -
8044546 3 15 8470685 3 16 1215455 3 17 -8011876 3 18 8478755 D 3 19
1169725 3 20 -8072449 3 21 8515686 3 22 1152056 3 23 -8076536 D 3 24
8523805 4 5 -1627000 4 6 1703934 4 7 8975152 4 8 -1370110 D 4 9
1421931 4 10 8947317 4 11 -1384705 4 12 1435788 4 13 8938826 D 4 14 -
1377366 4 15 1418965 4 16 8947366 4 17 -1365676 4 18 1427565 D 4 19
8931395 4 20 -1409981 4 21 1449430 4 22 8924558 4 23 -1423063 D 4 24
1456912 5 6 -9567699 5 7 -1422172 5 8 8187437 5 9 -8048682 D 5 10 -
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8045755 5 16 -1203776 5 17 8171138 5 18 -8055104 5 19 -1161524 D 5 20
8255465 5 21 -8092427 5 22 -1145222 5 23 8267949 5 24 -8101158 D 6 7
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8500075 6 13 1637573 6 14 -8044606 6 15 8473077 6 16 1224520 D 6 17 -
8011051 6 18 8482491 6 19 1179693 6 20 -8076765 6 21 8522036 D 6 22
1162369 6 23 -8082686 6 24 8531096 7 8 -1619993 7 9 1709301 D 7 10
8942694 7 11 -1403504 7 12 1453220 7 13 8945252 7 14 -1397323 D 7 15
1438568 7 16 8942712 7 17 -1386649 7 18 1445933 7 19 8925569 D 7 20 -
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8177806 8 15 -8015530 8 16 -1113857 8 17 8151988 8 18 -8010549 D 8 19 -
1060810 8 20 8174689 8 21 -8018539 8 22 -1040380 8 23 8164851 D 8 24 -

8015908 9 10 1186366 9 11 -8024562 9 12 8464637 9 13 1643441 D 9 14 -
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1134280 9 20 -8038455 9 21 8478173 9 22 1115142 9 23 -8034683 D 9 24
8482165 10 11 -1309516 10 12 1405948 10 13 8845417 10 14 -1132089 D 10 15
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1220625 10 21 1256441 10 22 8985350 10 23 -1258812 10 24 1276676 D 11 12 -
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1084308 11 23 8204901 11 24 -8048353 12 13 1636247 12 14 -8034760 D 12 15
8461837 12 16 1219331 12 17 -8001930 12 18 8470826 12 19 1174038 D 12 20 -
8065087 12 21 8509157 12 22 1156532 12 23 -8070162 12 24 8517760 D 13 14 -
1898743 13 15 1985844 13 16 8844723 13 17 -1608698 13 18 1638967 D 13 19
8815307 13 20 -1586309 13 21 1628987 13 22 8803340 13 23 -1574602 D 13 24
1623877 14 15 -9590235 14 16 -1129409 14 17 8164371 14 18 -8026860 D 14 19 -
1078052 14 20 8196857 14 21 -8039554 14 22 -1058265 14 23 8190538 D 14 24 -
8038629 15 16 1175005 15 17 -8002139 15 18 8449868 15 19 1124331 D 15 20 -
8034502 15 21 8473284 15 22 1104765 15 23 -8028322 15 24 8476155 D 16 17 -
1259485 16 18 1380608 16 19 8987944 16 20 -1218600 16 21 1254408 D 16 22
8986420 16 23 -1257073 16 24 1274781 17 18 -9578917 17 19 -1052118 D 17 20
8157867 17 21 -8002304 17 22 -1031408 17 23 8146450 17 24 -7998815 D 18 19
1152385 18 20 -8046705 18 21 8488013 18 22 1134014 18 23 -8047168 D 18 24
8494141 19 20 -1321750 19 21 1385519 19 22 8988254 19 23 -1222018 D 19 24
1236368 20 21 -9560767 20 22 -1162966 20 23 8270619 20 24 -8100456 D 21 22
1197547 21 23 -8103376 21 24 8550959 22 23 -1348029 22 24 1390390 D 23 24 -
9549374

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	-2799.162	-5539882.560	3150095.693
nola	-2799.155	-5539882.518	3150095.699
gris	-2799.160	-5539882.507	3150095.689
houm	-2799.161	-5539882.468	3150095.678
bvhs	-2799.160	-5539882.497	3150095.686
lmcn	-2799.162	-5539882.480	3150095.679
awes	-2799.167	-5539882.529	3150095.702
sjb1	-2799.159	-5539882.556	3150095.702

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	-0.003	0.040	-0.019	-0.003	0.003	-0.044
nola	0.004	0.082	-0.013	0.004	0.029	-0.077
gris	-0.001	0.092	-0.023	-0.001	0.026	-0.092
houm	-0.002	0.131	-0.034	-0.002	0.036	-0.131
bvhs	-0.001	0.103	-0.026	-0.001	0.028	-0.102
lmcn	-0.003	0.119	-0.033	-0.003	0.031	-0.120
awes	-0.008	0.071	-0.010	-0.008		

0.027 -0.066
sjb1 0.000 0.044 -0.010 0.000
0.013 -0.043

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 471162.255
Easting (X) [feet] 3694578.632
Convergence [degrees] 0.65221197
Point Scale 0.99993253
Combined Factor 0.99993655

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.197 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.465
scatter (mean square distance from rover) is 5916.825
average edop for rover is 1.050
average ndop for rover is 0.760
average hdop for rover is 1.296
average vdop for rover is 2.140
average gdop for rover is 2.920

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:03 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA25.O00 OP1335488371430

FILE: QCFVA25.O00 OP1335488371430

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069v.12o TIME: 01:02:50 UTC

SOFTWARE: rsgps 1.37 RS28.prl 1.73 START: 2012/03/09 21:36:32
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 21:56:32
NAV FILE: brdc0690.12n OBS USED: 1908 / 2520 : 76%
ANT NAME: LEIAT502 NONE QUALITY IND. 26.21/ 9.21
ARP HEIGHT: 1.630 NORMALIZED RMS: 0.344

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18827)

X:	-3532.258(m)	0.004(m)	-3532.990(m)	0.004(m)
Y:	-5531178.943(m)	0.014(m)	-5531177.451(m)	0.014(m)
Z:	3165255.218(m)	0.006(m)	3165255.010(m)	0.006(m)

LAT:	29 56 48.57160	0.005(m)	29 56 48.58993	0.005(m)
E LON:	269 57 48.27756	0.004(m)	269 57 48.25022	0.004(m)
W LON:	90 2 11.72244	0.004(m)	90 2 11.74978	0.004(m)
EL HGT:	-24.757(m)	0.014(m)	-26.154(m)	0.014(m)
ORTHO HGT:	1.236(m)	0.018(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3316587.809	161080.611
Easting (X) [meters]	786030.760	1125172.720
Convergence [degrees]	1.48032893	0.64838834
Point Scale	1.00060953	0.99992619
Combined Factor	1.00061342	0.99993007

US NATIONAL GRID DESIGNATOR: 15RYP8603016587(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	8187.4

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 11812.3
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 30640.7
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 58925.6
DH3836 MSSC STENNIS SPACE CTR CORS ARP N302230.794 W0893649.903 62557.6
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 75908.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 91081.2
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 97687.7
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 114512.5

NEAREST NGS PUBLISHED CONTROL POINT
AU2693 ALGIERS USN WATER TANK N295653.391 W0900201.900 302.4

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.033	-5531876.851	3164070.921
eng6	5594.596	-5534921.910	3158759.191
lwes	-33746.217	-5533652.934	3160795.439
covg	-9174.163	-5501675.360	3215950.514
mssc	37114.976	-5507204.500	3206321.890
gris	4149.691	-5568493.947	3099600.307
bvhs	57650.142	-5564331.456	3106490.833
lmcn	-64275.990	-5568696.903	3098580.623
sjb1	-106395.200	-5505141.441	3208320.253
qcfv	-3532.990	-5531177.451	3165255.010

Covariance matrix of the stations:
1 3.7060E-07 -4.6070E-07 2.7350E-07 -3.2010E-08 6.1350E-08 -3.6050E-08
-3.2620E-08 5.3770E-08 -3.2080E-08 -3.1480E-08 6.3620E-08 -3.5960E-08 -
3.1000E-08 7.1230E-08 -4.0190E-08 -3.2850E-08 5.6160E-08 -3.4780E-08 -
3.2040E-08 6.8130E-08 -4.0700E-08 -3.4140E-08 4.1330E-08 -2.7330E-08 -
3.3360E-08 4.5110E-08 -2.6400E-08 1.5830E-08 1.1260E-08 -4.5150E-09
2 -4.6070E-07 9.3660E-06 -4.8710E-06 6.3320E-08 -1.1500E-06 6.0740E-07
5.1970E-08 -1.1530E-06 6.0840E-07 6.0070E-08 -1.0340E-06 5.6470E-07
7.2270E-08 -1.0450E-06 5.6840E-07 6.1540E-08 -1.2720E-06 6.4990E-07
7.8280E-08 -1.2480E-06 6.4180E-07 3.9740E-08 -1.2850E-06 6.5330E-07
3.3520E-08 -1.0680E-06 5.7680E-07 -6.4100E-09 3.1370E-07 -1.5980E-07
3 2.7350E-07 -4.8710E-06 2.8030E-06 -3.6050E-08 6.0700E-07 -3.3610E-07
-3.2320E-08 6.0760E-07 -3.3650E-07 -3.4680E-08 5.7130E-07 -3.2400E-07 -
3.8760E-08 5.7480E-07 -3.2500E-07 -3.5790E-08 6.4410E-07 -3.4790E-07 -
4.1210E-08 6.3740E-07 -3.4570E-07 -2.8710E-08 6.4730E-07 -3.4880E-07 -
2.5980E-08 5.8120E-07 -3.2780E-07 3.6500E-09 -1.1740E-07 7.8450E-08
4 -3.2010E-08 6.3320E-08 -3.6050E-08 3.7400E-07 -4.8420E-07 2.8620E-07
-3.4360E-08 5.6630E-08 -3.3290E-08 -2.9990E-08 8.7880E-08 -4.2000E-08 -
2.6140E-08 9.4000E-08 -4.6040E-08 -3.3000E-08 3.9910E-08 -3.2890E-08 -
2.7430E-08 5.6250E-08 -3.9620E-08 -4.0280E-08 2.3030E-08 -2.5340E-08 -
3.9640E-08 6.3200E-08 -3.1030E-08 1.0170E-08 7.7580E-08 -4.0410E-08
5 6.1350E-08 -1.1500E-06 6.0700E-07 -4.8420E-07 9.4340E-06 -4.9030E-06
5.6890E-08 -1.1630E-06 6.1250E-07 6.1730E-08 -1.0660E-06 5.7380E-07

7.0450E-08 -1.0740E-06 5.7710E-07 6.4730E-08 -1.2620E-06 6.5070E-07
7.6590E-08 -1.2420E-06 6.4320E-07 4.9100E-08 -1.2730E-06 6.5430E-07
4.3170E-08 -1.0940E-06 5.8480E-07 4.6080E-09 4.1850E-09 6.2430E-09
   6 -3.6050E-08 6.0740E-07 -3.3610E-07 2.8620E-07 -4.9030E-06 2.8170E-06
-3.4400E-08 6.1230E-07 -3.3840E-07 -3.6110E-08 5.8030E-07 -3.2690E-07 -
3.9470E-08 5.8330E-07 -3.2770E-07 -3.7490E-08 6.4460E-07 -3.4910E-07 -
4.1920E-08 6.3860E-07 -3.4700E-07 -3.1670E-08 6.4760E-07 -3.5010E-07 -
2.9030E-08 5.8930E-07 -3.3060E-07 -3.1080E-09 2.8090E-08 -3.5260E-09
   7 -3.2620E-08 5.1970E-08 -3.2320E-08 -3.4360E-08 5.6890E-08 -3.4400E-08
3.7200E-07 -4.3230E-07 2.5770E-07 -3.3960E-08 2.8620E-08 -2.7460E-08 -
3.8440E-08 3.8350E-08 -3.1930E-08 -3.2840E-08 8.1120E-08 -3.8020E-08 -
3.9050E-08 8.6540E-08 -4.2700E-08 -2.5270E-08 6.9410E-08 -3.0750E-08 -
2.4330E-08 1.9390E-08 -2.0050E-08 1.3730E-08 -7.2870E-08 3.7540E-08
   8   5.3770E-08 -1.1530E-06 6.0760E-07 5.6630E-08 -1.1630E-06 6.1230E-07
-4.3230E-07 9.4490E-06 -4.9080E-06 5.3100E-08 -1.0820E-06 5.7740E-07
5.9830E-08 -1.0900E-06 5.8110E-07 5.7640E-08 -1.2520E-06 6.4900E-07
6.6560E-08 -1.2350E-06 6.4260E-07 4.5700E-08 -1.2600E-06 6.5180E-07
3.9320E-08 -1.1030E-06 5.8630E-07 -3.5850E-09 -3.5100E-08 2.6730E-08
   9 -3.2080E-08 6.0840E-07 -3.3650E-07 -3.3290E-08 6.1250E-07 -3.3840E-07
2.5770E-07 -4.9080E-06 2.8190E-06 -3.1830E-08 5.8490E-07 -3.2810E-07 -
3.4660E-08 5.8810E-07 -3.2910E-07 -3.3690E-08 6.4180E-07 -3.4880E-07 -
3.7320E-08 6.3710E-07 -3.4710E-07 -2.8870E-08 6.4370E-07 -3.4940E-07 -
2.6050E-08 5.9160E-07 -3.3090E-07 1.3970E-09 3.9610E-08 -9.7460E-09
  10 -3.1480E-08 6.0070E-08 -3.4680E-08 -2.9990E-08 6.1730E-08 -3.6110E-08
-3.3960E-08 5.3100E-08 -3.1830E-08 3.7080E-07 -4.3250E-07 2.7040E-07 -
2.5240E-08 9.2320E-08 -4.5080E-08 -3.2650E-08 3.5210E-08 -3.1280E-08 -
2.6780E-08 5.2120E-08 -3.8160E-08 -4.0310E-08 1.7820E-08 -2.3600E-08 -
3.9400E-08 6.0210E-08 -2.9570E-08 1.0930E-08 7.7090E-08 -4.0760E-08
  11   6.3620E-08 -1.0340E-06 5.7130E-07 8.7880E-08 -1.0660E-06 5.8030E-07
2.8620E-08 -1.0820E-06 5.8490E-07 -4.3250E-07 9.1590E-06 -4.7190E-06
1.4900E-07 -6.6730E-07 4.7260E-07 6.1860E-08 -1.4930E-06 6.7440E-07
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5.8120E-08 -7.6670E-07 5.0180E-07 -2.0960E-08 1.0160E-06 -5.0480E-07
  12 -3.5960E-08 5.6470E-07 -3.2400E-07 -4.2000E-08 5.7380E-07 -3.2690E-07
-2.7460E-08 5.7740E-07 -3.2810E-07 2.7040E-07 -4.7190E-06 2.7460E-06 -
5.6450E-08 4.7480E-07 -2.9990E-07 -3.6280E-08 6.8040E-07 -3.5070E-07 -
5.7900E-08 6.5790E-07 -3.4540E-07 -8.7410E-09 6.9130E-07 -3.5230E-07 -
5.7120E-09 4.9870E-07 -3.0760E-07 3.7030E-09 -2.1280E-07 1.1270E-07
  13 -3.1000E-08 7.2270E-08 -3.8760E-08 -2.6140E-08 7.0450E-08 -3.9470E-08
-3.8440E-08 5.9830E-08 -3.4660E-08 -2.5240E-08 1.4900E-07 -5.6450E-08
3.9150E-07 -4.3910E-07 2.8960E-07 -3.2950E-08 -8.3150E-09 -2.5970E-08 -
1.4590E-08 2.0120E-08 -3.5010E-08 -5.6370E-08 -3.1100E-08 -1.8030E-08 -
5.5830E-08 1.0700E-07 -4.1390E-08 6.9180E-09 2.3710E-07 -1.2370E-07
  14   7.1230E-08 -1.0450E-06 5.7480E-07 9.4000E-08 -1.0740E-06 5.8330E-07
3.8350E-08 -1.0900E-06 5.8810E-07 9.2320E-08 -6.6730E-07 4.7480E-07 -
4.3910E-07 9.1750E-06 -4.7380E-06 6.9470E-08 -1.4790E-06 6.7380E-07
1.5270E-07 -1.3900E-06 6.5280E-07 -3.6220E-08 -1.5250E-06 6.8030E-07 -
4.3020E-08 -7.9370E-07 5.0970E-07 -9.5910E-09 9.4520E-07 -4.6990E-07
  15 -4.0190E-08 5.6840E-07 -3.2500E-07 -4.6040E-08 5.7710E-07 -3.2770E-07
-3.1930E-08 5.8110E-07 -3.2910E-07 -4.5080E-08 4.7260E-07 -2.9990E-07
2.8960E-07 -4.7380E-06 2.7520E-06 -4.0400E-08 6.8150E-07 -3.5120E-07 -
6.1410E-08 6.5890E-07 -3.4570E-07 -1.3640E-08 6.9290E-07 -3.5310E-07 -
1.0880E-08 5.0520E-07 -3.0950E-07 -1.7250E-09 -2.0360E-07 1.0930E-07
  16 -3.2850E-08 6.1540E-08 -3.5790E-08 -3.3000E-08 6.4730E-08 -3.7490E-08

-3.2840E-08 5.7640E-08 -3.3690E-08 -3.2650E-08 6.1860E-08 -3.6280E-08 -
3.2950E-08 6.9470E-08 -4.0400E-08 3.7480E-07 -4.8700E-07 2.8350E-07 -
3.3630E-08 7.5190E-08 -4.2680E-08 -3.3090E-08 5.0810E-08 -2.9820E-08 -
3.2620E-08 4.5750E-08 -2.7430E-08 1.1060E-08 6.7980E-09 -3.0560E-09
  17 5.6160E-08 -1.2720E-06 6.4410E-07 3.9910E-08 -1.2620E-06 6.4460E-07
8.1120E-08 -1.2520E-06 6.4180E-07 3.5210E-08 -1.4930E-06 6.8040E-07 -
8.3150E-09 -1.4790E-06 6.8150E-07 -4.8700E-07 1.0420E-05 -5.2270E-06
2.6080E-09 -1.1010E-06 6.3650E-07 1.4230E-07 -1.0270E-06 6.3100E-07
1.3760E-07 -1.4200E-06 6.6730E-07 2.5920E-08 -9.8340E-07 5.0140E-07
  18 -3.4780E-08 6.4990E-07 -3.4790E-07 -3.2890E-08 6.5070E-07 -3.4910E-07
-3.8020E-08 6.4900E-07 -3.4880E-07 -3.1280E-08 6.7440E-07 -3.5070E-07 -
2.5970E-08 6.7380E-07 -3.5120E-07 2.8350E-07 -5.2270E-06 2.9110E-06 -
2.9220E-08 6.3630E-07 -3.5100E-07 -4.6790E-08 6.2690E-07 -3.5090E-07 -
4.4300E-08 6.6590E-07 -3.5010E-07 -6.6800E-09 2.1210E-07 -8.8930E-08
  19 -3.2040E-08 7.8280E-08 -4.1210E-08 -2.7430E-08 7.6590E-08 -4.1920E-08
-3.9050E-08 6.6560E-08 -3.7320E-08 -2.6780E-08 1.5040E-07 -5.7900E-08 -
1.4590E-08 1.5270E-07 -6.1410E-08 -3.3630E-08 2.6080E-09 -2.9220E-08
3.9600E-07 -6.1900E-07 3.3390E-07 -5.5720E-08 -1.9060E-08 -2.1510E-08 -
5.5630E-08 1.1100E-07 -4.3670E-08 5.6620E-09 2.3170E-07 -1.1950E-07
  20 6.8130E-08 -1.2480E-06 6.3740E-07 5.6250E-08 -1.2420E-06 6.3860E-07
8.6540E-08 -1.2350E-06 6.3710E-07 5.2120E-08 -1.4000E-06 6.5790E-07
2.0120E-08 -1.3900E-06 6.5890E-07 7.5190E-08 -1.1010E-06 6.3630E-07 -
6.1900E-07 1.0170E-05 -5.1560E-06 1.3210E-07 -1.0870E-06 6.3860E-07
1.2760E-07 -1.3520E-06 6.5170E-07 3.4290E-08 -7.6430E-07 3.9070E-07
  21 -4.0700E-08 6.4180E-07 -3.4570E-07 -3.9620E-08 6.4320E-07 -3.4700E-07
-4.2700E-08 6.4260E-07 -3.4710E-07 -3.8160E-08 6.5300E-07 -3.4540E-07 -
3.5010E-08 6.5280E-07 -3.4570E-07 -4.2680E-08 6.3650E-07 -3.5100E-07
3.3390E-07 -5.1560E-06 2.8910E-06 -4.8470E-08 6.3570E-07 -3.5190E-07 -
4.6110E-08 6.5020E-07 -3.4650E-07 -1.2530E-08 1.6650E-07 -6.6720E-08
  22 -3.4140E-08 3.9740E-08 -2.8710E-08 -4.0280E-08 4.9100E-08 -3.1670E-08
-2.5270E-08 4.5700E-08 -2.8870E-08 -4.0310E-08 -5.0610E-08 -8.7410E-09 -
5.6370E-08 -3.6220E-08 -1.3640E-08 -3.3090E-08 1.4230E-07 -4.6790E-08 -
5.5720E-08 1.3210E-07 -4.8470E-08 4.0030E-07 -2.8500E-07 2.1370E-07 -
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  23 4.1330E-08 -1.2850E-06 6.4730E-07 2.3030E-08 -1.2730E-06 6.4760E-07
6.9410E-08 -1.2600E-06 6.4370E-07 1.7820E-08 -1.5390E-06 6.9130E-07 -
3.1100E-08 -1.5250E-06 6.9290E-07 5.0810E-08 -1.0270E-06 6.2690E-07 -
1.9060E-08 -1.0870E-06 6.3570E-07 -2.8500E-07 1.0560E-05 -5.2590E-06
1.3300E-07 -1.4510E-06 6.7370E-07 1.0940E-08 -1.0910E-06 5.5580E-07
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-3.0750E-08 6.5180E-07 -3.4940E-07 -2.3600E-08 6.8030E-07 -3.5230E-07 -
1.8030E-08 6.8030E-07 -3.5310E-07 -2.9820E-08 6.3100E-07 -3.5090E-07 -
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-2.4330E-08 3.9320E-08 -2.6050E-08 -3.9400E-08 -5.8120E-08 -5.7120E-09 -
5.5830E-08 -4.3020E-08 -1.0880E-08 -3.2620E-08 1.3760E-07 -4.4300E-08 -
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3.9570E-07 -4.1330E-07 2.2580E-07 1.9180E-08 -2.9080E-07 1.5020E-07
  26 4.5110E-08 -1.0680E-06 5.8120E-07 6.3200E-08 -1.0940E-06 5.8930E-07
1.9390E-08 -1.1030E-06 5.9160E-07 6.0210E-08 -7.6670E-07 4.9870E-07
1.0700E-07 -7.9370E-07 5.0520E-07 4.5750E-08 -1.4200E-06 6.6590E-07
1.1100E-07 -1.3520E-06 6.5020E-07 -3.7340E-08 -1.4510E-06 6.6930E-07 -
4.1330E-07 9.1590E-06 -4.7520E-06 -3.5200E-08 7.0600E-07 -3.4650E-07

27 -2.6400E-08 5.7680E-07 -3.2780E-07 -3.1030E-08 5.8480E-07 -3.3060E-07
-2.0050E-08 5.8630E-07 -3.3090E-07 -2.9570E-08 5.0180E-07 -3.0760E-07 -
4.1390E-08 5.0970E-07 -3.0950E-07 -2.7430E-08 6.6730E-07 -3.5010E-07 -
4.3670E-08 6.5170E-07 -3.4650E-07 -6.6960E-09 6.7370E-07 -3.5060E-07
2.2580E-07 -4.7520E-06 2.7650E-06 1.3270E-08 -1.3530E-07 7.3620E-08
28 1.5830E-08 -6.4100E-09 3.6500E-09 1.0170E-08 4.6080E-09 -3.1080E-09
1.3730E-08 -3.5850E-09 1.3970E-09 1.0930E-08 -2.0960E-08 3.7030E-09
6.9180E-09 -9.5910E-09 -1.7250E-09 1.1060E-08 2.5920E-08 -6.6800E-09
5.6620E-09 3.4290E-08 -1.2530E-08 1.7600E-08 1.0940E-08 1.9960E-09
1.9180E-08 -3.5200E-08 1.3270E-08 3.2570E-06 -5.1100E-06 3.1010E-06
29 1.1260E-08 3.1370E-07 -1.1740E-07 7.7580E-08 4.1850E-09 2.8090E-08
-7.2870E-08 -3.5100E-08 3.9610E-08 7.7090E-08 1.0160E-06 -2.1280E-07
2.3710E-07 9.4520E-07 -2.0360E-07 6.7980E-09 -9.8340E-07 2.1210E-07
2.3170E-07 -7.6430E-07 1.6650E-07 -2.7780E-07 -1.0910E-06 2.2270E-07 -
2.9080E-07 7.0600E-07 -1.3530E-07 -5.1100E-06 1.0230E-04 -5.3160E-05
30 -4.5150E-09 -1.5980E-07 7.8450E-08 -4.0410E-08 6.2430E-09 -3.5260E-09
3.7540E-08 2.6730E-08 -9.7460E-09 -4.0760E-08 -5.0480E-07 1.1270E-07 -
1.2370E-07 -4.6990E-07 1.0930E-07 -3.0560E-09 5.0140E-07 -8.8930E-08 -
1.1950E-07 3.9070E-07 -6.6720E-08 1.4420E-07 5.5580E-07 -9.3970E-08
1.5020E-07 -3.4650E-07 7.3620E-08 3.1010E-06 -5.3160E-05 2.9770E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000032570 -0.0000051100 0.0000031010
-0.0000051100 0.0001023000 -0.0000531600
0.0000031010 -0.0000531600 0.0000297700

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000032636 0.0000001515 0.0000060471
0.0000001515 0.0000018296 -0.0000043331
0.0000060471 -0.0000043331 0.0001302338

Horizontal network accuracy = 0.00395 meters.
Vertical network accuracy = 0.02238 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-8071.043	-699.400	-1184.089
eng6	qcfv	9127.586	-3744.459	-6495.819
lwes	qcfv	-30213.227	-2475.483	-4459.570
covg	qcfv	-5641.173	29502.091	50695.504
mssc	qcfv	40647.966	23972.951	41066.880
gris	qcfv	7682.681	-37316.496	-65654.703
bvhs	qcfv	61183.132	-33154.005	-58764.177
lmcn	qcfv	-60743.000	-37519.451	-66674.387
sjb1	qcfv	-102862.210	26036.011	43065.243

Covariance matrix of the 9 vectors
1 3.5959E-06 -5.5756E-06 3.3754E-06 3.1990E-06 -5.0645E-06 3.0726E-06
3.1948E-06 -5.0639E-06 3.0720E-06 3.1988E-06 -5.0367E-06 3.0659E-06
3.2033E-06 -5.0404E-06 3.0671E-06 3.1973E-06 -5.0910E-06 3.0774E-06
3.2035E-06 -5.0874E-06 3.0773E-06 3.1894E-06 -5.0909E-06 3.0762E-06
3.1886E-06 -5.0410E-06 3.0658E-06
2 -5.5756E-06 1.1104E-04 -5.7754E-05 -5.1179E-06 1.0083E-04 -5.2421E-05

-4.9788E-06 1.0087E-04 -5.2431E-05 -5.1206E-06 9.9936E-05 -5.2223E-05 -
5.2684E-06 9.9996E-05 -5.2228E-05 -5.0488E-06 1.0170E-04 -5.2562E-05 -
5.2570E-06 1.0150E-04 -5.2525E-05 -4.7861E-06 1.0179E-04 -5.2570E-05 -
4.7793E-06 1.0021E-04 -5.2288E-05
   3 3.3754E-06 -5.7754E-05 3.2416E-05 3.1017E-06 -5.2442E-05 2.9359E-05
3.0275E-06 -5.2462E-05 2.9365E-05 3.1034E-06 -5.1966E-05 2.9255E-05
3.1823E-06 -5.1998E-05 2.9257E-05 3.0646E-06 -5.2900E-05 2.9433E-05
3.1756E-06 -5.2796E-05 2.9413E-05 2.9244E-06 -5.2951E-05 2.9437E-05
2.9212E-06 -5.2115E-05 2.9290E-05
   4 3.1990E-06 -5.1179E-06 3.1017E-06 3.6107E-06 -5.6764E-06 3.4307E-06
3.1987E-06 -5.1274E-06 3.1067E-06 3.2059E-06 -5.0787E-06 3.0957E-06
3.2138E-06 -5.0840E-06 3.0971E-06 3.2028E-06 -5.1736E-06 3.1152E-06
3.2137E-06 -5.1656E-06 3.1143E-06 3.1889E-06 -5.1755E-06 3.1141E-06
3.1880E-06 -5.0892E-06 3.0971E-06
   5 -5.0645E-06 1.0083E-04 -5.2442E-05 -5.6764E-06 1.1173E-04 -5.8097E-05
-4.9848E-06 1.0117E-04 -5.2593E-05 -5.1300E-06 1.0021E-04 -5.2380E-05 -
5.2813E-06 1.0028E-04 -5.2386E-05 -5.0567E-06 1.0202E-04 -5.2728E-05 -
5.2697E-06 1.0182E-04 -5.2690E-05 -4.7877E-06 1.0211E-04 -5.2735E-05 -
4.7806E-06 1.0050E-04 -5.2446E-05
   6 3.0726E-06 -5.2421E-05 2.9359E-05 3.4307E-06 -5.8097E-05 3.2594E-05
3.0322E-06 -5.2603E-05 2.9445E-05 3.1088E-06 -5.2103E-05 2.9334E-05
3.1883E-06 -5.2135E-05 2.9337E-05 3.0697E-06 -5.3045E-05 2.9513E-05
3.1817E-06 -5.2940E-05 2.9493E-05 2.9282E-06 -5.3096E-05 2.9517E-05
2.9249E-06 -5.2252E-05 2.9369E-05
   7 3.1948E-06 -4.9788E-06 3.0275E-06 3.1987E-06 -4.9848E-06 3.0322E-06
3.6015E-06 -5.4658E-06 3.3198E-06 3.1984E-06 -4.9876E-06 3.0323E-06
3.1979E-06 -4.9892E-06 3.0333E-06 3.1994E-06 -4.9819E-06 3.0321E-06
3.1986E-06 -4.9849E-06 3.0333E-06 3.2004E-06 -4.9787E-06 3.0307E-06
3.1998E-06 -4.9825E-06 3.0301E-06
   8 -5.0639E-06 1.0087E-04 -5.2462E-05 -5.1274E-06 1.0117E-04 -5.2603E-05
-5.4658E-06 1.1182E-04 -5.8134E-05 -5.1304E-06 1.0024E-04 -5.2397E-05 -
5.2837E-06 1.0030E-04 -5.2402E-05 -5.0556E-06 1.0207E-04 -5.2750E-05 -
5.2716E-06 1.0186E-04 -5.2711E-05 -4.7829E-06 1.0217E-04 -5.2758E-05 -
4.7763E-06 1.0053E-04 -5.2465E-05
   9 3.0720E-06 -5.2431E-05 2.9365E-05 3.1067E-06 -5.2593E-05 2.9445E-05
3.3198E-06 -5.8134E-05 3.2608E-05 3.1085E-06 -5.2110E-05 2.9339E-05
3.1886E-06 -5.2142E-05 2.9341E-05 3.0690E-06 -5.3059E-05 2.9520E-05
3.1818E-06 -5.2953E-05 2.9499E-05 2.9265E-06 -5.3112E-05 2.9524E-05
2.9234E-06 -5.2262E-05 2.9375E-05
  10 3.1988E-06 -5.1206E-06 3.1034E-06 3.2059E-06 -5.1300E-06 3.1088E-06
3.1984E-06 -5.1304E-06 3.1085E-06 3.6059E-06 -5.5986E-06 3.4085E-06
3.2139E-06 -5.0852E-06 3.0984E-06 3.2024E-06 -5.1778E-06 3.1172E-06
3.2136E-06 -5.1693E-06 3.1161E-06 3.1882E-06 -5.1802E-06 3.1162E-06
3.1875E-06 -5.0917E-06 3.0989E-06
  11 -5.0367E-06 9.9936E-05 -5.1966E-05 -5.0787E-06 1.0021E-04 -5.2103E-05
-4.9876E-06 1.0024E-04 -5.2110E-05 -5.5986E-06 1.0943E-04 -5.7161E-05 -
5.1771E-06 9.9672E-05 -5.1979E-05 -5.0340E-06 1.0077E-04 -5.2193E-05 -
5.1703E-06 1.0065E-04 -5.2169E-05 -4.8618E-06 1.0084E-04 -5.2198E-05 -
4.8564E-06 9.9811E-05 -5.2018E-05
  12 3.0659E-06 -5.2223E-05 2.9255E-05 3.0957E-06 -5.2380E-05 2.9334E-05
3.0323E-06 -5.2397E-05 2.9339E-05 3.4085E-06 -5.7161E-05 3.2291E-05
3.1645E-06 -5.2003E-05 2.9248E-05 3.0641E-06 -5.2768E-05 2.9396E-05
3.1589E-06 -5.2680E-05 2.9379E-05 2.9444E-06 -5.2812E-05 2.9399E-05
2.9414E-06 -5.2102E-05 2.9276E-05

13 3.2033E-06 -5.2684E-06 3.1823E-06 3.2138E-06 -5.2813E-06 3.1883E-06
3.1979E-06 -5.2837E-06 3.1886E-06 3.2139E-06 -5.1771E-06 3.1645E-06
3.6347E-06 -5.7766E-06 3.5160E-06 3.2061E-06 -5.3813E-06 3.2054E-06
3.2298E-06 -5.3613E-06 3.2022E-06 3.1761E-06 -5.3891E-06 3.2047E-06
3.1751E-06 -5.2049E-06 3.1700E-06
14 -5.0404E-06 9.9996E-05 -5.1998E-05 -5.0840E-06 1.0028E-04 -5.2135E-05
-4.9892E-06 1.0030E-04 -5.2142E-05 -5.0852E-06 9.9672E-05 -5.2003E-05 -
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3.0333E-06 -5.2402E-05 2.9341E-05 3.0984E-06 -5.1979E-05 2.9248E-05
3.5160E-06 -5.7225E-05 3.2303E-05 3.0654E-06 -5.2776E-05 2.9398E-05
3.1608E-06 -5.2688E-05 2.9382E-05 2.9449E-06 -5.2819E-05 2.9402E-05
2.9416E-06 -5.2105E-05 2.9278E-05
16 3.1973E-06 -5.0488E-06 3.0646E-06 3.2028E-06 -5.0567E-06 3.0697E-06
3.1994E-06 -5.0556E-06 3.0690E-06 3.2024E-06 -5.0340E-06 3.0641E-06
3.2061E-06 -5.0377E-06 3.0654E-06 3.6097E-06 -5.6297E-06 3.3942E-06
3.2066E-06 -5.0759E-06 3.0739E-06 3.1953E-06 -5.0769E-06 3.0722E-06
3.1941E-06 -5.0358E-06 3.0634E-06
17 -5.0910E-06 1.0170E-04 -5.2900E-05 -5.1736E-06 1.0202E-04 -5.3045E-05
-4.9819E-06 1.0207E-04 -5.3059E-05 -5.1778E-06 1.0077E-04 -5.2768E-05 -
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4.7075E-06 1.0116E-04 -5.2859E-05
18 3.0774E-06 -5.2562E-05 2.9433E-05 3.1152E-06 -5.2728E-05 2.9513E-05
3.0321E-06 -5.2750E-05 2.9520E-05 3.1172E-06 -5.2193E-05 2.9396E-05
3.2054E-06 -5.2228E-05 2.9398E-05 3.3942E-06 -5.9101E-05 3.2859E-05
3.1980E-06 -5.3127E-05 2.9575E-05 2.9167E-06 -5.3301E-05 2.9602E-05
2.9132E-06 -5.2360E-05 2.9435E-05
19 3.2035E-06 -5.2570E-06 3.1756E-06 3.2137E-06 -5.2697E-06 3.1817E-06
3.1986E-06 -5.2716E-06 3.1818E-06 3.2136E-06 -5.1703E-06 3.1589E-06
3.2298E-06 -5.1794E-06 3.1608E-06 3.2066E-06 -5.3650E-06 3.1980E-06
3.6417E-06 -5.9950E-06 3.5669E-06 3.1780E-06 -5.3717E-06 3.1970E-06
3.1765E-06 -5.1955E-06 3.1636E-06
20 -5.0874E-06 1.0150E-04 -5.2796E-05 -5.1656E-06 1.0182E-04 -5.2940E-05
-4.9849E-06 1.0186E-04 -5.2953E-05 -5.1693E-06 1.0065E-04 -5.2680E-05 -
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21 3.0773E-06 -5.2525E-05 2.9413E-05 3.1143E-06 -5.2690E-05 2.9493E-05
3.0333E-06 -5.2711E-05 2.9499E-05 3.1161E-06 -5.2169E-05 2.9379E-05
3.2022E-06 -5.2204E-05 2.9382E-05 3.0739E-06 -5.3191E-05 2.9575E-05
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5.3717E-06 1.0307E-04 -5.3247E-05 -5.1281E-06 1.1504E-04 -5.9197E-05 -

4.6971E-06 1.0123E-04 -5.2907E-05
  24   3.0762E-06 -5.2570E-05 2.9437E-05 3.1141E-06 -5.2735E-05 2.9517E-05
3.0307E-06 -5.2758E-05 2.9524E-05 3.1162E-06 -5.2198E-05 2.9399E-05
3.2047E-06 -5.2232E-05 2.9402E-05 3.0722E-06 -5.3253E-05 2.9602E-05
3.1970E-06 -5.3135E-05 2.9579E-05 3.1685E-06 -5.9197E-05 3.2876E-05
2.9115E-06 -5.2367E-05 2.9440E-05
  25   3.1886E-06 -4.7793E-06 2.9212E-06 3.1880E-06 -4.7806E-06 2.9249E-06
3.1998E-06 -4.7763E-06 2.9234E-06 3.1875E-06 -4.8564E-06 2.9414E-06
3.1751E-06 -4.8526E-06 2.9416E-06 3.1941E-06 -4.7075E-06 2.9132E-06
3.1765E-06 -4.7259E-06 2.9172E-06 3.2164E-06 -4.6971E-06 2.9115E-06
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  26 -5.0410E-06 1.0021E-04 -5.2115E-05 -5.0892E-06 1.0050E-04 -5.2252E-05
-4.9825E-06 1.0053E-04 -5.2262E-05 -5.0917E-06 9.9811E-05 -5.2102E-05 -
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5.1955E-06 1.0101E-04 -5.2330E-05 -4.8343E-06 1.0123E-04 -5.2367E-05 -
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  27   3.0658E-06 -5.2288E-05 2.9290E-05 3.0971E-06 -5.2446E-05 2.9369E-05
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3.1636E-06 -5.2764E-05 2.9417E-05 2.9368E-06 -5.2907E-05 2.9440E-05
3.1633E-06 -5.7430E-05 3.2388E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -2.7903E-01 3.1263E-01 8.8780E-01 -2.5267E-01 2.8381E-01
8.8776E-01 -2.5253E-01 2.8370E-01 8.8831E-01 -2.5391E-01 2.8452E-01
8.8604E-01 -2.5391E-01 2.8457E-01 8.8744E-01 -2.5069E-01 2.8311E-01
8.8525E-01 -2.5127E-01 2.8338E-01 8.8374E-01 -2.5030E-01 2.8292E-01
8.8447E-01 -2.5341E-01 2.8409E-01
   2 -2.7903E-01 1.0000E+00 -9.6264E-01 -2.5560E-01 9.0529E-01 -8.7136E-01
-2.4897E-01 9.0523E-01 -8.7134E-01 -2.5590E-01 9.0662E-01 -8.7214E-01 -
2.6225E-01 9.0651E-01 -8.7206E-01 -2.5219E-01 9.0119E-01 -8.7019E-01 -
2.6143E-01 9.0217E-01 -8.7042E-01 -2.3865E-01 9.0064E-01 -8.7008E-01 -
2.3857E-01 9.0656E-01 -8.7192E-01
   3   3.1263E-01 -9.6264E-01 1.0000E+00 2.8670E-01 -8.7141E-01 9.0322E-01
2.8019E-01 -8.7137E-01 9.0319E-01 2.8705E-01 -8.7253E-01 9.0423E-01
2.9318E-01 -8.7243E-01 9.0413E-01 2.8331E-01 -8.6760E-01 9.0182E-01
2.9228E-01 -8.6850E-01 9.0210E-01 2.6989E-01 -8.6709E-01 9.0172E-01
2.6987E-01 -8.7255E-01 9.0396E-01
   4   8.8780E-01 -2.5560E-01 2.8670E-01 1.0000E+00 -2.8262E-01 3.1624E-01
8.8704E-01 -2.5518E-01 2.8631E-01 8.8848E-01 -2.5551E-01 2.8670E-01
8.8713E-01 -2.5559E-01 2.8677E-01 8.8715E-01 -2.5424E-01 2.8600E-01
8.8627E-01 -2.5461E-01 2.8620E-01 8.8181E-01 -2.5394E-01 2.8582E-01
8.8249E-01 -2.5531E-01 2.8640E-01
   5 -2.5267E-01 9.0529E-01 -8.7141E-01 -2.8262E-01 1.0000E+00 -9.6274E-01
-2.4850E-01 9.0512E-01 -8.7134E-01 -2.5558E-01 9.0634E-01 -8.7206E-01 -
2.6208E-01 9.0625E-01 -8.7199E-01 -2.5180E-01 9.0124E-01 -8.7023E-01 -
2.6125E-01 9.0219E-01 -8.7046E-01 -2.3800E-01 9.0070E-01 -8.7012E-01 -
2.3790E-01 9.0632E-01 -8.7186E-01
   6   2.8381E-01 -8.7136E-01 9.0322E-01 3.1624E-01 -9.6274E-01 1.0000E+00
2.7986E-01 -8.7132E-01 9.0318E-01 2.8675E-01 -8.7243E-01 9.0420E-01
2.9293E-01 -8.7234E-01 9.0410E-01 2.8300E-01 -8.6760E-01 9.0183E-01
2.9204E-01 -8.6849E-01 9.0210E-01 2.6950E-01 -8.6710E-01 9.0172E-01
2.6948E-01 -8.7246E-01 9.0393E-01
   7   8.8776E-01 -2.4897E-01 2.8019E-01 8.8704E-01 -2.4850E-01 2.7986E-01

1.0000E+00 -2.7237E-01 3.0634E-01 8.8752E-01 -2.5124E-01 2.8118E-01
8.8387E-01 -2.5114E-01 2.8122E-01 8.8733E-01 -2.4513E-01 2.7873E-01
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8.8687E-01 -2.5028E-01 2.8056E-01
   8 -2.5253E-01 9.0523E-01 -8.7137E-01 -2.5518E-01 9.0512E-01 -8.7132E-01
-2.7237E-01 1.0000E+00 -9.6274E-01 -2.5550E-01 9.0617E-01 -8.7198E-01 -
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2.3758E-01 9.0622E-01 -8.7181E-01
   9   2.8370E-01 -8.7134E-01 9.0319E-01 2.8631E-01 -8.7134E-01 9.0318E-01
3.0634E-01 -9.6274E-01 1.0000E+00 2.8667E-01 -8.7235E-01 9.0415E-01
2.9289E-01 -8.7226E-01 9.0405E-01 2.8287E-01 -8.6764E-01 9.0183E-01
2.9198E-01 -8.6851E-01 9.0208E-01 2.6928E-01 -8.6715E-01 9.0173E-01
2.6928E-01 -8.7242E-01 9.0391E-01
  10   8.8831E-01 -2.5590E-01 2.8705E-01 8.8848E-01 -2.5558E-01 2.8675E-01
8.8752E-01 -2.5550E-01 2.8667E-01 1.0000E+00 -2.8184E-01 3.1587E-01
8.8775E-01 -2.5581E-01 2.8708E-01 8.8762E-01 -2.5461E-01 2.8637E-01
8.8682E-01 -2.5496E-01 2.8655E-01 8.8217E-01 -2.5434E-01 2.8620E-01
8.8293E-01 -2.5560E-01 2.8675E-01
  11 -2.5391E-01 9.0662E-01 -8.7253E-01 -2.5551E-01 9.0634E-01 -8.7243E-01
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  12   2.8452E-01 -8.7214E-01 9.0423E-01 2.8670E-01 -8.7206E-01 9.0420E-01
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2.9130E-01 -8.6828E-01 9.0280E-01 2.7225E-01 -8.6649E-01 9.0231E-01
2.7227E-01 -8.7403E-01 9.0528E-01
  13   8.8604E-01 -2.6225E-01 2.9318E-01 8.8713E-01 -2.6208E-01 2.9293E-01
8.8387E-01 -2.6209E-01 2.9289E-01 8.8775E-01 -2.5959E-01 2.9211E-01
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  15   2.8457E-01 -8.7206E-01 9.0413E-01 2.8677E-01 -8.7199E-01 9.0410E-01
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G-FILE for the vectors

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C00100004 -56411728 18 295020910 104 506955042 56
C00100005 406479658 19 239729511 104 410668801 56
C00100006 76826807 18 -373164957 107 -656547031 57
C00100007 611831323 19 -331540050 106 -587641771 57
C00100008 -607430005 19 -375194513 107 -666743866 57
C00100009-1028622098 19 260360105 104 430652428 56
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12 2845161 1 13 8860388 1 14 -2539144 1 15 2845709 1 16 8874366 D 1
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22 8837443 1 23 -2502981 1 24 2829226 1 25 8844706 1 26 -2534061 D 1
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8670944 3 24 9017163 3 25 2698745 3 26 -8725542 3 27 9039625 D 4 5 -
2826196 4 6 3162441 4 7 8870365 4 8 -2551777 4 9 2863148 D 4 10
8884823 4 11 -2555056 4 12 2867005 4 13 8871348 4 14 -2555856 D 4 15
2867722 4 16 8871521 4 17 -2542388 4 18 2860002 4 19 8862709 D 4 20 -
2546123 4 21 2862001 4 22 8818083 4 23 -2539393 4 24 2858225 D 4 25
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2798594 6 8 -8713230 6 9 9031817 6 10 2867533 6 11 -8724312 D 6 12
9041967 6 13 2929294 6 14 -8723374 6 15 9040977 6 16 2830014 D 6 17 -
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2694988 6 23 -8670952 6 24 9017159 6 25 2694784 6 26 -8724630 D 6 27
9039284 7 8 -2723673 7 9 3063356 7 10 8875170 7 11 -2512354 D 7 12
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8860942 7 23 -2445908 7 24 2785234 7 25 8868675 7 26 -2502750 D 7 27
2805615 8 9 -9627404 8 10 -2554960 8 11 9061666 8 12 -8719795 D 8 13 -
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2692783 9 26 -8724237 9 27 9039104 10 11 -2818449 10 12 3158715 D 10 13
8877539 10 14 -2558127 10 15 2870812 10 16 8876189 10 17 -2546122 D 10 18
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2543372 10 24 2862015 10 25 8829275 10 26 -2556011 10 27 2867547 D 11 12 -
9616179 11 13 -2595945 11 14 9101940 11 15 -8742619 11 16 -2532880 D 11 17
8995623 11 18 -8704081 11 19 -2590038 11 20 9011445 11 21 -8708586 D 11 22 -
2442075 11 23 8987215 11 24 -8702603 11 25 -2441935 11 26 9095537 D 11 27 -
8737793 12 13 2921065 12 14 -8742012 12 15 9055980 12 16 2838093 D 12 17 -
8671166 12 18 9024372 12 19 2913042 12 20 -8682763 12 21 9028034 D 12 22
2722526 12 23 -8664906 12 24 9023083 12 25 2722697 12 26 -8740317 D 12 27
9052830 13 14 -2894450 13 15 3244858 13 16 8851294 13 17 -2635731 D 13 18
2933088 13 19 8877626 13 20 -2633818 13 21 2933046 13 22 8753534 D 13 23 -
2635476 13 24 2931653 13 25 8760057 13 26 -2602502 13 27 2921743 D 14 15 -
9617963 14 16 -2532948 14 17 8996716 14 18 -8703736 14 19 -2592715 D 14 20
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8664436 15 24 9022093 15 25 2722398 15 26 -8739039 15 27 9051500 D 16 17 -
2766913 16 18 3116602 16 19 8844357 16 20 -2502238 16 21 2825245 D 16 22
8836703 16 23 -2491371 16 24 2820211 16 25 8843111 16 26 -2526673 D 16 27
2833170 17 18 -9627381 17 19 -2625205 17 20 9003387 17 21 -8673304 D 17 22 -
2313770 17 23 8997350 17 24 -8672595 17 25 -2312176 17 26 9004338 D 17 27 -
8673015 18 19 2923453 18 20 -8680309 18 21 9009345 18 22 2673522 D 18 23 -
8669237 18 24 9006493 18 25 2673169 18 26 -8707265 18 27 9022989 D 19 20 -
2942307 19 21 3263952 19 22 8750351 19 23 -2624417 19 24 2921810 D 19 25
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9000096 20 24 -8679409 20 25 -2328194 20 26 9017986 20 27 -8683504 D 21 22
2679972 21 23 -8668891 21 24 9008266 21 25 2679504 21 26 -8710836 D 21 27
9026136 22 23 -2512183 22 24 2903587 22 25 8889442 22 26 -2421407 D 22 27
2711494 23 24 -9625782 23 25 -2303513 23 26 8997235 23 27 -8667479 D 24 25
2670901 24 26 -8706200 24 27 9022036 25 26 -2605998 25 27 2923745 D 26 27 -
9619683

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-3532.988	-5531177.449	3165255.011
eng6	-3532.990	-5531177.460	3165255.009
lwes	-3532.989	-5531177.445	3165255.008
covg	-3532.995	-5531177.452	3165255.008
mssc	-3532.996	-5531177.453	3165255.004
gris	-3532.993	-5531177.433	3165255.005
bvhs	-3532.987	-5531177.461	3165255.022
lmcn	-3532.994	-5531177.427	3165255.003
sjb1	-3532.986	-5531177.469	3165255.017

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.002	0.002	0.001	0.002	0.002	-0.001
eng6	0.000	-0.009	-0.001	0.000	-0.005	0.008
lwes	0.001	0.007	-0.002	0.001	0.002	-0.006
covg	-0.005	-0.001	-0.002	-0.005	-0.002	-0.000

mssc	-0.006	-0.002	-0.006	-0.006	-0.006	-0.001
gris	-0.003	0.018	-0.005	-0.003	0.004	-0.018
bvhs	0.003	-0.010	0.012	0.003	0.006	0.014
lmcn	-0.004	0.024	-0.006	-0.004	0.006	-0.024
sjb1	0.004	-0.018	0.007	0.004	0.003	0.019

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 528478.637
Easting (X) [feet] 3691504.166
Convergence [degrees] 0.64838834
Point Scale 0.99992619
Combined Factor 0.99993007

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.143 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.348
scatter (mean square distance from rover) is 5026.972
average edop for rover is 0.770
average ndop for rover is 0.570
average hdop for rover is 0.958
average vdop for rover is 1.760
average gdop for rover is 2.280

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:03 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA26.O00 OP1335488413852

FILE: QCFVA26.O00 OP1335488413852

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069w.12o TIME: 01:02:12 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/09 22:35:34
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 22:55:34
NAV FILE: brdc0690.12n OBS USED: 1458 / 1611 : 91%
ANT NAME: LEIAT502 NONE QUALITY IND. 7.88/ 25.39
ARP HEIGHT: 1.542 NORMALIZED RMS: 0.292

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18838)

X:	771.205(m)	0.003(m)	770.473(m)	0.003(m)
Y:	-5535578.602(m)	0.021(m)	-5535577.109(m)	0.021(m)
Z:	3157604.352(m)	0.014(m)	3157604.143(m)	0.014(m)

LAT:	29 52 1.96425	0.006(m)	29 52 1.98251	0.006(m)
E LON:	270 0 28.73637	0.003(m)	270 0 28.70910	0.003(m)
W LON:	89 59 31.26363	0.003(m)	89 59 31.29090	0.003(m)
EL HGT:	-26.583(m)	0.025(m)	-27.981(m)	0.025(m)
ORTHO HGT:	-0.836(m)	0.027(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3307831.793	152306.196
Easting (X) [meters]	210976.726	1129578.278
Convergence [degrees]	-1.49103434	0.67067485
Point Scale	1.00063079	0.99992845
Combined Factor	1.00063496	0.99993262

US NATIONAL GRID DESIGNATOR: 16RBU1097607831(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	5003.6

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 14444.4
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 34717.3
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 39195.6
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 77061.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 81698.7
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 93870.9
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 99054.0
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 122404.8

NEAREST NGS PUBLISHED CONTROL POINT
AT1348 CHASSE N295148.817 W0895848.991 1204.2

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.596	-5534921.920	3158759.201
nola	-11604.032	-5531876.844	3164070.916
lwes	-33746.218	-5533652.952	3160795.446
dstr	-36892.837	-5530079.558	3166960.866
houm	-70100.646	-5550262.351	3131144.937
bvhs	57650.143	-5564331.447	3106490.828
lmcn	-64275.984	-5568696.845	3098580.587
awes	-94742.052	-5521868.800	3179990.045
sjb1	-106395.195	-5505141.460	3208320.260
qcfv	770.473	-5535577.109	3157604.143

Covariance matrix of the stations:
1 3.1010E-07 6.1010E-07 -2.9160E-07 -1.2800E-08 -7.4740E-08 3.9040E-08
-2.1240E-08 -8.0340E-08 4.1660E-08 -2.2610E-08 -8.2120E-08 4.5110E-08 -
3.4260E-08 -8.3790E-08 3.3490E-08 1.6510E-08 -2.7480E-08 -1.1300E-08 -
3.1210E-08 -7.8060E-08 1.7980E-08 -4.4370E-08 -9.1070E-08 5.6790E-08 -
4.8960E-08 -9.2410E-08 6.8680E-08 6.8160E-08 5.2460E-07 -3.0280E-07
2 6.1010E-07 1.1090E-05 -6.4840E-06 -7.0520E-08 -1.3800E-06 8.1750E-07
-7.4580E-08 -1.3780E-06 8.1550E-07 -7.5180E-08 -1.3790E-06 8.1760E-07 -
8.1000E-08 -1.3680E-06 8.0370E-07 -5.6690E-08 -1.3620E-06 7.9330E-07 -
7.9970E-08 -1.3640E-06 7.9370E-07 -8.5160E-08 -1.3730E-06 8.1740E-07 -
8.7010E-08 -1.3750E-06 8.2520E-07 -6.9700E-09 -9.2360E-08 6.1560E-08
3 -2.9160E-07 -6.4840E-06 4.1620E-06 3.3930E-08 8.1820E-07 -5.1190E-07
3.5800E-08 8.1620E-07 -5.1050E-07 3.6260E-08 8.1910E-07 -5.1290E-07
3.8010E-08 8.0160E-07 -4.9880E-07 2.6160E-08 7.8710E-07 -4.8720E-07
3.6600E-08 7.8770E-07 -4.8730E-07 4.1470E-08 8.2140E-07 -5.1610E-07
4.3290E-08 8.3280E-07 -5.2620E-07 7.1560E-09 8.5950E-08 -3.4200E-08
4 -1.2800E-08 -7.0520E-08 3.3930E-08 3.0600E-07 6.5030E-07 -3.1420E-07
-2.2510E-08 -8.3430E-08 4.2440E-08 -2.3360E-08 -8.4880E-08 4.4760E-08 -
3.0890E-08 -8.9690E-08 3.9730E-08 1.0010E-09 -4.0470E-08 4.2570E-09 -
2.9050E-08 -8.5590E-08 2.9870E-08 -3.7210E-08 -9.6800E-08 5.5540E-08 -
4.0080E-08 -9.8840E-08 6.3560E-08 4.2780E-08 3.0610E-07 -1.7690E-07
5 -7.4740E-08 -1.3800E-06 8.1820E-07 6.5030E-07 1.1130E-05 -6.5240E-06
-8.0420E-08 -1.3830E-06 8.2030E-07 -8.0810E-08 -1.3840E-06 8.2190E-07 -

8.5210E-08 -1.3740E-06 8.0980E-07 -6.7590E-08 -1.3740E-06 8.0550E-07 -
8.4690E-08 -1.3700E-06 8.0210E-07 -8.7860E-08 -1.3760E-06 8.1990E-07 -
8.8990E-08 -1.3780E-06 8.2580E-07 -1.7970E-08 -2.7380E-07 1.6890E-07
   6 3.9040E-08 8.1750E-07 -5.1190E-07 -3.1420E-07 -6.5240E-06 4.1960E-06
3.9430E-08 8.2030E-07 -5.1360E-07 3.9570E-08 8.2290E-07 -5.1520E-07
3.8880E-08 8.0680E-07 -5.0480E-07 3.8290E-08 7.9950E-07 -5.0030E-07
3.8230E-08 7.9440E-07 -4.9690E-07 3.9990E-08 8.2560E-07 -5.1710E-07
4.0720E-08 8.3680E-07 -5.2470E-07 2.1260E-08 2.7730E-07 -1.5030E-07
   7 -2.1240E-08 -7.4580E-08 3.5800E-08 -2.2510E-08 -8.0420E-08 3.9430E-08
3.0850E-07 6.9940E-07 -3.4300E-07 -2.4350E-08 -8.7930E-08 4.3920E-08 -
2.6900E-08 -9.6530E-08 4.6840E-08 -1.7770E-08 -5.5760E-08 2.2570E-08 -
2.6520E-08 -9.4360E-08 4.3790E-08 -2.8660E-08 -1.0350E-07 5.3630E-08 -
2.9450E-08 -1.0640E-07 5.7010E-08 1.6200E-08 4.0130E-08 -2.3130E-08
   8 -8.0340E-08 -1.3780E-06 8.1620E-07 -8.3430E-08 -1.3830E-06 8.2030E-07
6.9940E-07 1.1100E-05 -6.4990E-06 -8.7340E-08 -1.3800E-06 8.1920E-07 -
9.2410E-08 -1.3680E-06 8.0550E-07 -7.1820E-08 -1.3730E-06 8.0250E-07 -
9.1770E-08 -1.3660E-06 7.9730E-07 -9.5500E-08 -1.3690E-06 8.1590E-07 -
9.6810E-08 -1.3690E-06 8.2190E-07 -2.0120E-08 -2.2310E-07 1.3890E-07
   9 4.1660E-08 8.1550E-07 -5.1050E-07 4.2440E-08 8.2030E-07 -5.1360E-07
-3.4300E-07 -6.4990E-06 4.1780E-06 4.3190E-08 8.2000E-07 -5.1360E-07
4.3200E-08 8.0300E-07 -5.0170E-07 3.9480E-08 7.9740E-07 -4.9730E-07
4.2400E-08 7.9080E-07 -4.9310E-07 4.4850E-08 8.2070E-07 -5.1470E-07
4.5810E-08 8.3130E-07 -5.2270E-07 2.0720E-08 2.3050E-07 -1.2290E-07
  10 -2.2610E-08 -7.5180E-08 3.6260E-08 -2.3360E-08 -8.0810E-08 3.9570E-08
-2.4350E-08 -8.7340E-08 4.3190E-08 3.0930E-07 7.0680E-07 -3.4870E-07 -
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2.6050E-08 -9.5730E-08 4.6260E-08 -2.7170E-08 -1.0440E-07 5.3410E-08 -
2.7610E-08 -1.0750E-07 5.6000E-08 1.1790E-08 -4.2400E-09 2.7100E-09
  11 -8.2120E-08 -1.3790E-06 8.1910E-07 -8.4880E-08 -1.3840E-06 8.2290E-07
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9.6480E-08 -1.3690E-06 8.2300E-07 -2.3540E-08 -2.4790E-07 1.5540E-07
  12 4.5110E-08 8.1760E-07 -5.1290E-07 4.4760E-08 8.2190E-07 -5.1520E-07
4.3920E-08 8.1920E-07 -5.1360E-07 -3.4870E-07 -6.5200E-06 4.2010E-06
4.2080E-08 8.0580E-07 -5.0580E-07 4.6730E-08 8.0400E-07 -5.0590E-07
4.1830E-08 7.9440E-07 -4.9970E-07 4.2030E-08 8.2320E-07 -5.1540E-07
4.2210E-08 8.3390E-07 -5.2160E-07 3.0730E-08 3.2710E-07 -1.8010E-07
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-2.6900E-08 -9.2410E-08 4.3200E-08 -2.6180E-08 -9.2870E-08 4.2080E-08
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1.3850E-08 -1.1810E-07 4.6670E-08 -2.4100E-08 -3.6030E-07 2.0760E-07
  14 -8.3790E-08 -1.3680E-06 8.0160E-07 -8.9690E-08 -1.3740E-06 8.0680E-07
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1.1730E-07 -1.3510E-06 8.1160E-07 -5.7730E-09 4.0470E-08 -2.3000E-08
  15 3.3490E-08 8.0370E-07 -4.9880E-07 3.9730E-08 8.0980E-07 -5.0480E-07
4.6840E-08 8.0550E-07 -5.0170E-07 4.8150E-08 8.0850E-07 -5.0580E-07 -
3.7250E-07 -6.3750E-06 4.0700E-06 1.3070E-08 7.6770E-07 -4.5750E-07
5.3640E-08 7.6910E-07 -4.5910E-07 6.6530E-08 8.0080E-07 -5.0770E-07
7.1080E-08 8.0920E-07 -5.2350E-07 -2.0420E-08 -2.5600E-07 1.6400E-07
  16 1.6510E-08 -5.6690E-08 2.6160E-08 1.0010E-09 -6.7590E-08 3.8290E-08

-1.7770E-08 -7.1820E-08 3.9480E-08 -2.0880E-08 -7.4700E-08 4.6730E-08 -
4.6310E-08 -6.5830E-08 1.3070E-08 3.6640E-07 5.3770E-07 -2.9000E-07 -
3.9220E-08 -5.4760E-08 -2.1320E-08 -6.9070E-08 -7.3560E-08 6.1300E-08 -
7.9400E-08 -7.2460E-08 8.6040E-08 1.3740E-07 1.2620E-06 -7.3090E-07
  17 -2.7480E-08 -1.3620E-06 7.8710E-07 -4.0470E-08 -1.3740E-06 7.9950E-07
-5.5760E-08 -1.3730E-06 7.9740E-07 -5.8290E-08 -1.3760E-06 8.0400E-07 -
7.8980E-08 -1.3560E-06 7.6770E-07 5.3770E-07 1.1030E-05 -6.3370E-06 -
7.3340E-08 -1.3430E-06 7.3610E-07 -9.7350E-08 -1.3670E-06 8.1130E-07 -
1.0570E-07 -1.3700E-06 8.3450E-07 8.4840E-08 5.4800E-07 -3.2790E-07
  18 -1.1300E-08 7.9330E-07 -4.8720E-07 4.2570E-09 8.0550E-07 -5.0030E-07
2.2570E-08 8.0250E-07 -4.9730E-07 2.5810E-08 8.0740E-07 -5.0590E-07
4.9420E-08 7.7420E-07 -4.5750E-07 -2.9000E-07 -6.3370E-06 4.0370E-06
4.1490E-08 7.5070E-07 -4.1550E-07 7.3210E-08 7.9740E-07 -5.1570E-07
8.4310E-08 8.0620E-07 -5.4710E-07 -1.1600E-07 -1.0010E-06 6.0180E-07
  19 -3.1210E-08 -7.9970E-08 3.6600E-08 -2.9050E-08 -8.4690E-08 3.8230E-08
-2.6520E-08 -9.1770E-08 4.2400E-08 -2.6050E-08 -9.2410E-08 4.1830E-08 -
2.3070E-08 -1.0530E-07 5.3640E-08 -3.9220E-08 -7.3340E-08 4.1490E-08
3.2440E-07 7.5590E-07 -3.5340E-07 -1.9780E-08 -1.1220E-07 5.0530E-08 -
1.8280E-08 -1.1620E-07 4.8820E-08 -1.4070E-08 -2.5860E-07 1.4780E-07
  20 -7.8060E-08 -1.3640E-06 7.8770E-07 -8.5590E-08 -1.3700E-06 7.9440E-07
-9.4360E-08 -1.3660E-06 7.9080E-07 -9.5730E-08 -1.3670E-06 7.9440E-07 -
1.0790E-07 -1.3500E-06 7.6910E-07 -5.4760E-08 -1.3430E-06 7.5070E-07
7.5590E-07 1.0970E-05 -6.2840E-06 -1.1750E-07 -1.3510E-06 7.9240E-07 -
1.2180E-07 -1.3500E-06 8.0500E-07 8.3130E-09 1.6600E-07 -1.0670E-07
  21   1.7980E-08 7.9370E-07 -4.8730E-07 2.9870E-08 8.0210E-07 -4.9690E-07
4.3790E-08 7.9730E-07 -4.9310E-07 4.6260E-08 8.0110E-07 -4.9970E-07
6.4130E-08 7.7010E-07 -4.5910E-07 -2.1320E-08 7.3610E-07 -4.1550E-07 -
3.5340E-07 -6.2840E-06 3.9950E-06 8.2120E-08 7.8790E-07 -5.0420E-07
9.0500E-08 7.9500E-07 -5.2860E-07 -6.8730E-08 -7.3930E-07 4.4980E-07
  22 -4.4370E-08 -8.5160E-08 4.1470E-08 -3.7210E-08 -8.7860E-08 3.9990E-08
-2.8660E-08 -9.5500E-08 4.4850E-08 -2.7170E-08 -9.5430E-08 4.2030E-08 -
1.6180E-08 -1.1420E-07 6.6530E-08 -6.9070E-08 -9.7350E-08 7.3210E-08 -
1.9780E-08 -1.1750E-07 8.2120E-08 3.5400E-07 8.1840E-07 -4.2930E-07 -
5.8030E-10 -1.2550E-07 3.9260E-08 -5.6200E-08 -6.8170E-07 3.9500E-07
  23 -9.1070E-08 -1.3730E-06 8.2140E-07 -9.6800E-08 -1.3760E-06 8.2560E-07
-1.0350E-07 -1.3690E-06 8.2070E-07 -1.0440E-07 -1.3690E-06 8.2320E-07 -
1.1390E-07 -1.3520E-06 8.0080E-07 -7.3560E-08 -1.3670E-06 7.9740E-07 -
1.1220E-07 -1.3510E-06 7.8790E-07 8.1840E-07 1.1010E-05 -6.5010E-06 -
1.2310E-07 -1.3430E-06 8.2420E-07 -1.1430E-08 5.8400E-08 -1.6280E-08
  24   5.6790E-08 8.1740E-07 -5.1610E-07 5.5540E-08 8.1990E-07 -5.1710E-07
5.3630E-08 8.1590E-07 -5.1470E-07 5.3410E-08 8.1770E-07 -5.1540E-07
5.0240E-08 8.0180E-07 -5.0770E-07 6.1300E-08 8.1130E-07 -5.1570E-07
5.0530E-08 7.9240E-07 -5.0420E-07 -4.2930E-07 -6.5010E-06 4.2190E-06
4.8040E-08 8.2520E-07 -5.1710E-07 4.5620E-08 3.7500E-07 -2.1120E-07
  25 -4.8960E-08 -8.7010E-08 4.3290E-08 -4.0080E-08 -8.8990E-08 4.0720E-08
-2.9450E-08 -9.6810E-08 4.5810E-08 -2.7610E-08 -9.6480E-08 4.2210E-08 -
1.3850E-08 -1.1730E-07 7.1080E-08 -7.9400E-08 -1.0570E-07 8.4310E-08 -
1.8280E-08 -1.2180E-07 9.0500E-08 -5.8030E-10 -1.2310E-07 4.8040E-08
3.6920E-07 8.3710E-07 -4.6580E-07 -7.0750E-08 -8.2720E-07 4.8020E-07
  26 -9.2410E-08 -1.3750E-06 8.3280E-07 -9.8840E-08 -1.3780E-06 8.3680E-07
-1.0640E-07 -1.3690E-06 8.3130E-07 -1.0750E-07 -1.3690E-06 8.3390E-07 -
1.1810E-07 -1.3510E-06 8.0920E-07 -7.2460E-08 -1.3700E-06 8.0620E-07 -
1.1620E-07 -1.3500E-06 7.9500E-07 -1.2550E-07 -1.3430E-06 8.2520E-07
8.3710E-07 1.1020E-05 -6.5710E-06 -7.2240E-09 1.3560E-07 -5.1050E-08

27 6.8680E-08 8.2520E-07 -5.2620E-07 6.3560E-08 8.2580E-07 -5.2470E-07
5.7010E-08 8.2190E-07 -5.2270E-07 5.6000E-08 8.2300E-07 -5.2160E-07
4.6670E-08 8.1160E-07 -5.2350E-07 8.6040E-08 8.3450E-07 -5.4710E-07
4.8820E-08 8.0500E-07 -5.2860E-07 3.9260E-08 8.2420E-07 -5.1710E-07 -
4.6580E-07 -6.5710E-06 4.3230E-06 7.9510E-08 7.0060E-07 -4.0560E-07
28 6.8160E-08 -6.9700E-09 7.1560E-09 4.2780E-08 -1.7970E-08 2.1260E-08
1.6200E-08 -2.0120E-08 2.0720E-08 1.1790E-08 -2.3540E-08 3.0730E-08 -
2.4100E-08 -5.7730E-09 -2.0420E-08 1.3740E-07 8.4840E-08 -1.1600E-07 -
1.4070E-08 8.3130E-09 -6.8730E-08 -5.6200E-08 -1.1430E-08 4.5620E-08 -
7.0750E-08 -7.2240E-09 7.9510E-08 3.2270E-06 1.0040E-05 -5.1800E-06
29 5.2460E-07 -9.2360E-08 8.5950E-08 3.0610E-07 -2.7380E-07 2.7730E-07
4.0130E-08 -2.2310E-07 2.3050E-07 -4.2400E-09 -2.4790E-07 3.2710E-07 -
3.6030E-07 4.0470E-08 -2.5600E-07 1.2620E-06 5.4800E-07 -1.0010E-06 -
2.5860E-07 1.6600E-07 -7.3930E-07 -6.8170E-07 5.8400E-08 3.7500E-07 -
8.2720E-07 1.3560E-07 7.0060E-07 1.0040E-05 1.5660E-04 -9.1480E-05
30 -3.0280E-07 6.1560E-08 -3.4200E-08 -1.7690E-07 1.6890E-07 -1.5030E-07
-2.3130E-08 1.3890E-07 -1.2290E-07 2.7100E-09 1.5540E-07 -1.8010E-07
2.0760E-07 -2.3000E-08 1.6400E-07 -7.3090E-07 -3.2790E-07 6.0180E-07
1.4780E-07 -1.0670E-07 4.4980E-07 3.9500E-07 -1.6280E-08 -2.1120E-07
4.8020E-07 -5.1050E-08 -4.0560E-07 -5.1800E-06 -9.1480E-05 5.7110E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000032270 0.0000100400 -0.0000051800
0.0000100400 0.0001566000 -0.0000914800
-0.0000051800 -0.0000914800 0.0000571100

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000032298 0.0000004747 -0.0000113124
0.0000004747 0.0000027918 0.0000037456
-0.0000113124 0.0000037456 0.0002109154

Horizontal network accuracy = 0.00426 meters.
Vertical network accuracy = 0.02848 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	4824.123	655.189	1155.059
nola	qcfv	-12374.505	3700.265	6466.774
lwes	qcfv	-34516.691	1924.157	3191.303
dstr	qcfv	-37663.311	5497.551	9356.724
houm	qcfv	-70871.119	-14685.242	-26459.206
bvhs	qcfv	56879.670	-28754.338	-51113.314
lmcn	qcfv	-65046.457	-33119.736	-59023.556
awes	qcfv	-95512.525	13708.309	22385.903
sjb1	qcfv	-107165.669	30435.649	50716.118

Covariance matrix of the 9 vectors
1 3.4008E-06 1.0132E-05 -5.1760E-06 3.1033E-06 9.4586E-06 -4.8594E-06
3.1214E-06 9.4552E-06 -4.8563E-06 3.1244E-06 9.4568E-06 -4.8628E-06
3.1487E-06 9.4374E-06 -4.8233E-06 3.0380E-06 9.4031E-06 -4.7725E-06
3.1417E-06 9.4290E-06 -4.7905E-06 3.1707E-06 9.4358E-06 -4.8660E-06
3.1806E-06 9.4302E-06 -4.8880E-06
2 1.0132E-05 1.6787E-04 -9.8112E-05 9.6703E-06 1.5559E-04 -9.1001E-05

9.9323E-06 1.5554E-04 -9.0957E-05 9.9760E-06 1.5556E-04 -9.1051E-05
1.0326E-05 1.5528E-04 -9.0482E-05 8.7283E-06 1.5478E-04 -8.9747E-05
1.0226E-05 1.5516E-04 -9.0009E-05 1.0644E-05 1.5526E-04 -9.1099E-05
1.0787E-05 1.5518E-04 -9.1417E-05
   3 -5.1760E-06 -9.8112E-05 6.1340E-05 -4.9763E-06 -9.0917E-05 5.6783E-05
-5.1282E-06 -9.0889E-05 5.6757E-05 -5.1536E-06 -9.0902E-05 5.6811E-05 -
5.3567E-06 -9.0741E-05 5.6481E-05 -4.4301E-06 -9.0451E-05 5.6055E-05 -
5.2984E-06 -9.0672E-05 5.6207E-05 -5.5407E-06 -9.0728E-05 5.6839E-05 -
5.6241E-06 -9.0682E-05 5.7024E-05
   4   3.1033E-06 9.6703E-06 -4.9763E-06 3.4474E-06 1.0402E-05 -5.3386E-06
3.1455E-06 9.6706E-06 -4.9814E-06 3.1491E-06 9.6726E-06 -4.9891E-06
3.1774E-06 9.6500E-06 -4.9430E-06 3.0478E-06 9.6086E-06 -4.8828E-06
3.1692E-06 9.6400E-06 -4.9045E-06 3.2032E-06 9.6485E-06 -4.9932E-06
3.2149E-06 9.6423E-06 -5.0191E-06
   5   9.4586E-06 1.5559E-04 -9.0917E-05 1.0402E-05 1.6828E-04 -9.8450E-05
9.9374E-06 1.5571E-04 -9.1059E-05 9.9814E-06 1.5574E-04 -9.1154E-05
1.0333E-05 1.5546E-04 -9.0583E-05 8.7284E-06 1.5495E-04 -8.9842E-05
1.0232E-05 1.5534E-04 -9.0108E-05 1.0652E-05 1.5544E-04 -9.1204E-05
1.0796E-05 1.5536E-04 -9.1524E-05
   6 -4.8594E-06 -9.1001E-05 5.6783E-05 -5.3386E-06 -9.8450E-05 6.1607E-05
-5.1387E-06 -9.1076E-05 5.6870E-05 -5.1644E-06 -9.1090E-05 5.6925E-05 -
5.3700E-06 -9.0927E-05 5.6592E-05 -4.4321E-06 -9.0630E-05 5.6158E-05 -
5.3108E-06 -9.0856E-05 5.6314E-05 -5.5563E-06 -9.0915E-05 5.6954E-05 -
5.6407E-06 -9.0869E-05 5.7141E-05
   7   3.1214E-06 9.9323E-06 -5.1282E-06 3.1455E-06 9.9374E-06 -5.1387E-06
3.5031E-06 1.0719E-05 -5.5206E-06 3.1747E-06 9.9355E-06 -5.1437E-06
3.2080E-06 9.9091E-06 -5.0896E-06 3.0556E-06 9.8593E-06 -5.0183E-06
3.1984E-06 9.8972E-06 -5.0444E-06 3.2383E-06 9.9078E-06 -5.1489E-06
3.2521E-06 9.9007E-06 -5.1794E-06
   8   9.4552E-06 1.5554E-04 -9.0889E-05 9.6706E-06 1.5571E-04 -9.1076E-05
1.0719E-05 1.6815E-04 -9.8348E-05 9.9770E-06 1.5569E-04 -9.1127E-05
1.0328E-05 1.5541E-04 -9.0557E-05 8.7263E-06 1.5490E-04 -8.9815E-05
1.0227E-05 1.5529E-04 -9.0082E-05 1.0646E-05 1.5540E-04 -9.1178E-05
1.0791E-05 1.5532E-04 -9.1498E-05
   9 -4.8563E-06 -9.0957E-05 5.6757E-05 -4.9814E-06 -9.1059E-05 5.6870E-05
-5.5206E-06 -9.8348E-05 6.1534E-05 -5.1602E-06 -9.1046E-05 5.6899E-05 -
5.3651E-06 -9.0885E-05 5.6567E-05 -4.4303E-06 -9.0585E-05 5.6134E-05 -
5.3061E-06 -9.0813E-05 5.6290E-05 -5.5509E-06 -9.0874E-05 5.6929E-05 -
5.6351E-06 -9.0828E-05 5.7116E-05
  10   3.1244E-06 9.9760E-06 -5.1536E-06 3.1491E-06 9.9814E-06 -5.1644E-06
3.1747E-06 9.9770E-06 -5.1602E-06 3.5127E-06 1.0775E-05 -5.5621E-06
3.2131E-06 9.9525E-06 -5.1141E-06 3.0569E-06 9.9011E-06 -5.0409E-06
3.2032E-06 9.9402E-06 -5.0677E-06 3.2442E-06 9.9513E-06 -5.1749E-06
3.2584E-06 9.9440E-06 -5.2062E-06
  11   9.4568E-06 1.5556E-04 -9.0902E-05 9.6726E-06 1.5574E-04 -9.1090E-05
9.9355E-06 1.5569E-04 -9.1046E-05 1.0775E-05 1.6820E-04 -9.8483E-05
1.0331E-05 1.5544E-04 -9.0571E-05 8.7268E-06 1.5492E-04 -8.9827E-05
1.0230E-05 1.5531E-04 -9.0095E-05 1.0650E-05 1.5542E-04 -9.1193E-05
1.0794E-05 1.5534E-04 -9.1513E-05
  12 -4.8628E-06 -9.1051E-05 5.6811E-05 -4.9891E-06 -9.1154E-05 5.6925E-05
-5.1437E-06 -9.1127E-05 5.6899E-05 -5.5621E-06 -9.8483E-05 6.1671E-05 -
5.3763E-06 -9.0978E-05 5.6620E-05 -4.4331E-06 -9.0675E-05 5.6182E-05 -
5.3167E-06 -9.0906E-05 5.6341E-05 -5.5637E-06 -9.0968E-05 5.6986E-05 -
5.6487E-06 -9.0922E-05 5.7174E-05

13 3.1487E-06 1.0326E-05 -5.3567E-06 3.1774E-06 1.0333E-05 -5.3700E-06
3.2080E-06 1.0328E-05 -5.3651E-06 3.2131E-06 1.0331E-05 -5.3763E-06
3.6040E-06 1.1176E-05 -5.7397E-06 3.0674E-06 1.0236E-05 -5.2222E-06
3.2421E-06 1.0284E-05 -5.2547E-06 3.2911E-06 1.0298E-05 -5.3830E-06
3.3080E-06 1.0289E-05 -5.4204E-06
14 9.4374E-06 1.5528E-04 -9.0741E-05 9.6500E-06 1.5546E-04 -9.0927E-05
9.9091E-06 1.5541E-04 -9.0885E-05 9.9525E-06 1.5544E-04 -9.0978E-05
1.1176E-05 1.6752E-04 -9.7576E-05 8.7179E-06 1.5466E-04 -8.9682E-05
1.0199E-05 1.5504E-04 -8.9948E-05 1.0613E-05 1.5515E-04 -9.1030E-05
1.0756E-05 1.5507E-04 -9.1346E-05
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-5.0896E-06 -9.0557E-05 5.6567E-05 -5.1141E-06 -9.0571E-05 5.6620E-05 -
5.7397E-06 -9.7576E-05 6.0852E-05 -4.4156E-06 -9.0128E-05 5.5887E-05 -
5.2537E-06 -9.0348E-05 5.6037E-05 -5.4881E-06 -9.0407E-05 5.6650E-05 -
5.5687E-06 -9.0364E-05 5.6828E-05
16 3.0380E-06 8.7283E-06 -4.4301E-06 3.0478E-06 8.7284E-06 -4.4321E-06
3.0556E-06 8.7263E-06 -4.4303E-06 3.0569E-06 8.7268E-06 -4.4331E-06
3.0674E-06 8.7179E-06 -4.4156E-06 3.3186E-06 9.2309E-06 -4.6231E-06
3.0645E-06 8.7149E-06 -4.4017E-06 3.0767E-06 8.7159E-06 -4.4334E-06
3.0810E-06 8.7128E-06 -4.4426E-06
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9.8593E-06 1.5490E-04 -9.0585E-05 9.9011E-06 1.5492E-04 -9.0675E-05
1.0236E-05 1.5466E-04 -9.0128E-05 9.2309E-06 1.6653E-04 -9.6488E-05
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-5.0183E-06 -8.9815E-05 5.6134E-05 -5.0409E-06 -8.9827E-05 5.6182E-05 -
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5.4599E-06 -8.9622E-05 5.6367E-05
19 3.1417E-06 1.0226E-05 -5.2984E-06 3.1692E-06 1.0232E-05 -5.3108E-06
3.1984E-06 1.0227E-05 -5.3061E-06 3.2032E-06 1.0230E-05 -5.3167E-06
3.2421E-06 1.0199E-05 -5.2537E-06 3.0645E-06 1.0140E-05 -5.1703E-06
3.5795E-06 1.1046E-05 -5.6125E-06 3.2775E-06 1.0198E-05 -5.3229E-06
3.2935E-06 1.0190E-05 -5.3585E-06
20 9.4290E-06 1.5516E-04 -9.0672E-05 9.6400E-06 1.5534E-04 -9.0856E-05
9.8972E-06 1.5529E-04 -9.0813E-05 9.9402E-06 1.5531E-04 -9.0906E-05
1.0284E-05 1.5504E-04 -9.0348E-05 8.7149E-06 1.5454E-04 -8.9622E-05
1.1046E-05 1.6724E-04 -9.6918E-05 1.0596E-05 1.5502E-04 -9.0956E-05
1.0737E-05 1.5495E-04 -9.1269E-05
21 -4.7905E-06 -9.0009E-05 5.6207E-05 -4.9045E-06 -9.0108E-05 5.6314E-05
-5.0444E-06 -9.0082E-05 5.6290E-05 -5.0677E-06 -9.0095E-05 5.6341E-05 -
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  25   3.1806E-06 1.0787E-05 -5.6241E-06 3.2149E-06 1.0796E-05 -5.6407E-06
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3.7377E-06 1.1712E-05 -6.2055E-06
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1.0289E-05 1.5507E-04 -9.0364E-05 8.7128E-06 1.5455E-04 -8.9622E-05
1.0190E-05 1.5495E-04 -8.9895E-05 1.0603E-05 1.5506E-04 -9.0979E-05
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  27 -4.8880E-06 -9.1417E-05 5.7024E-05 -5.0191E-06 -9.1524E-05 5.7141E-05
-5.1794E-06 -9.1498E-05 5.7116E-05 -5.2062E-06 -9.1513E-05 5.7174E-05 -
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6.2055E-06 -9.8701E-05 6.2244E-05

Correlation matrix of the 9 vectors
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9.0434E-01 3.9540E-01 -3.3570E-01 9.0398E-01 3.9541E-01 -3.3578E-01
8.9939E-01 3.9539E-01 -3.3529E-01 9.0430E-01 3.9512E-01 -3.3426E-01
9.0045E-01 3.9538E-01 -3.3479E-01 8.9464E-01 3.9536E-01 -3.3579E-01
8.9212E-01 3.9529E-01 -3.3597E-01
   2   4.2407E-01 1.0000E+00 -9.6684E-01 4.0198E-01 9.2569E-01 -8.9483E-01
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3.6028E-01 -8.9516E-01 9.2447E-01 -3.1050E-01 -8.9493E-01 9.2443E-01 -
3.5756E-01 -8.9522E-01 9.2491E-01 -3.6811E-01 -8.9510E-01 9.2353E-01 -
3.7143E-01 -8.9503E-01 9.2285E-01
   4   9.0632E-01 4.0198E-01 -3.4221E-01 1.0000E+00 4.3188E-01 -3.6632E-01
9.0514E-01 4.0166E-01 -3.4201E-01 9.0492E-01 4.0168E-01 -3.4216E-01
9.0144E-01 4.0156E-01 -3.4127E-01 9.0108E-01 4.0101E-01 -3.3967E-01
9.0218E-01 4.0148E-01 -3.4043E-01 8.9768E-01 4.0153E-01 -3.4222E-01
8.9560E-01 4.0144E-01 -3.4263E-01
   5   3.9539E-01 9.2569E-01 -8.9486E-01 4.3188E-01 1.0000E+00 -9.6692E-01
4.0929E-01 9.2570E-01 -8.9486E-01 4.1054E-01 9.2571E-01 -8.9479E-01
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   6 -3.3572E-01 -8.9483E-01 9.2369E-01 -3.6632E-01 -9.6692E-01 1.0000E+00
-3.4979E-01 -8.9484E-01 9.2365E-01 -3.5106E-01 -8.9485E-01 9.2353E-01 -
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   7   9.0434E-01 4.0957E-01 -3.4984E-01 9.0514E-01 4.0929E-01 -3.4979E-01

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9.0285E-01 4.0905E-01 -3.4859E-01 8.9618E-01 4.0819E-01 -3.4631E-01
9.0320E-01 4.0890E-01 -3.4735E-01 9.0029E-01 4.0903E-01 -3.5008E-01
8.9874E-01 4.0891E-01 -3.5075E-01
   8 3.9540E-01 9.2576E-01 -8.9494E-01 4.0166E-01 9.2570E-01 -8.9484E-01
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4.3042E-01 9.2591E-01 -8.9437E-01
   9 -3.3570E-01 -8.9492E-01 9.2382E-01 -3.4201E-01 -8.9486E-01 9.2365E-01
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G-FILE for the vectors

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4081943 7 18 -3463057 7 19 9032045 7 20 4089012 7 21 -3473451 D 7 22
9002911 7 23 4090273 7 24 -3500752 7 25 8987427 7 26 4089103 D 7 27 -
3507528 8 9 -9668673 8 10 4105211 8 11 9257898 8 12 -8948729 D 8 13
4195471 8 14 9260112 8 15 -8952472 8 16 3694104 8 17 9256830 D 8 18 -
8946158 8 19 4168588 8 20 9260523 8 21 -8953198 8 22 4272113 D 8 23
9259699 8 24 -8947941 8 25 4304237 8 26 9259091 8 27 -8943689 D 9 10 -
3509871 9 11 -8949441 9 12 9236546 9 13 -3602717 9 14 -8951603 D 9 15
9244222 9 16 -3100292 9 17 -8948472 9 18 9242658 9 19 -3575251 D 9 20 -
8952074 9 21 9248188 9 22 -3682061 9 23 -8951213 9 24 9235413 D 9 25 -
3715722 9 26 -8950603 9 27 9228900 10 11 4432727 10 12 -3779017 D 10 13
9030548 10 14 4102765 10 15 -3497948 10 16 8953364 10 17 4093649 D 10 18 -
3473886 10 19 9033431 10 20 4101150 10 21 -3484761 10 22 9006955 D 10 23

4102590 10 24 -3513649 10 25 8992361 10 26 4101346 10 27 -3520880 D 11 12 -
9669639 11 13 4196054 11 14 9260164 11 15 -8952486 11 16 3693788 D 11 17
9256768 11 18 -8945994 11 19 4169106 11 20 9260577 11 21 -8953140 D 11 22
4272884 11 23 9259811 11 24 -8948064 11 25 4305098 11 26 9259203 D 11 27 -
8943876 12 13 -3606167 12 14 -8950854 12 15 9242586 12 16 -3098766 D 12 17 -
8947379 12 18 9240349 12 19 -3578387 12 20 -8951253 12 21 9246184 D 12 22 -
3686458 12 23 -8950494 12 24 9234275 12 25 -3720545 12 26 -8949879 D 12 27
9228023 13 14 4548585 13 15 -3875768 13 16 8869500 13 17 4178369 D 13 18 -
3552947 13 19 9026521 13 20 4188956 13 21 -3567312 13 22 9020656 D 13 23
4191357 13 24 -3608335 13 25 9013031 13 26 4189742 13 27 -3619034 D 14 15 -
9664368 14 16 3697468 14 17 9259379 14 18 -8949556 14 19 4164999 D 14 20
9263050 14 21 -8956529 14 22 4266817 14 23 9262295 14 24 -8950143 D 14 25
4298364 14 26 9261739 14 27 -8945569 15 16 -3107247 15 17 -8953086 D 15 18
9253379 15 19 -3559733 15 20 -8956010 15 21 9258070 15 22 -3660727 D 15 23 -
8955001 15 24 9241346 15 25 -3692446 15 26 -8954586 15 27 9233710 D 16 17
3926569 16 18 -3277820 16 19 8891222 16 20 3699293 16 21 -3114040 D 16 22
8788176 16 23 3696874 16 24 -3096977 16 25 8747923 16 26 3697151 D 16 27 -
3091059 17 18 -9657208 17 19 4153276 17 20 9260413 17 21 -8955924 D 17 22
4249675 17 23 9258362 17 24 -8945571 17 25 4279388 17 26 9257551 D 17 27 -
8939790 18 19 -3529655 18 20 -8951061 18 21 9262353 18 22 -3619641 D 18 23 -
8948602 18 24 9237848 18 25 -3647631 18 26 -8948112 18 27 9227891 D 19 20
4514724 19 21 -3823161 19 22 9013938 19 23 4164813 19 24 -3580226 D 19 25
9004241 19 26 4163257 19 27 -3589875 20 21 -9658712 20 22 4263405 D 20 23
9262634 20 24 -8950349 20 25 4294541 20 26 9262075 20 27 -8945526 D 21 22 -
3637481 21 23 -8956117 21 24 9244540 21 25 -3667071 21 26 -8955808 D 21 27
9235642 22 23 4644380 22 24 -4006019 22 25 9025391 22 26 4265025 D 22 27 -
3703449 23 24 -9669565 23 25 4298639 23 26 9261861 23 27 -8945683 D 24 25 -
3724092 24 26 -8949633 24 27 9227771 25 26 4682738 25 27 -4068420 D 26 27 -
9670720

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	770.476	-5535577.109	3157604.132
nola	770.474	-5535577.114	3157604.144
lwes	770.474	-5535577.071	3157604.124
dstr	770.477	-5535577.073	3157604.119
houm	770.475	-5535577.108	3157604.131
bvhs	770.475	-5535577.099	3157604.133
lmcn	770.471	-5535577.097	3157604.140
awes	770.479	-5535577.089	3157604.125
sjb1	770.473	-5535577.119	3157604.149

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.003	-0.000	-0.011	0.003	-0.010	-0.005
nola	0.001	-0.005	0.002	0.001	-0.001	0.005
lwes	0.001	0.038	-0.019	0.001	0.002	-0.042
dstr	0.004	0.036	-0.024	0.004	-0.003	-0.043

houm 0.002 0.001 -0.011 0.002 -
0.009 -0.007
bvhs 0.002 0.010 -0.010 0.002 -
0.003 -0.013
lmcn -0.002 0.012 -0.003 -0.002
0.004 -0.012
awes 0.006 0.020 -0.017 0.006 -
0.005 -0.026
sjb1 -0.000 -0.010 0.006 -0.000
0.001 0.011

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 499691.244
Easting (X) [feet] 3705958.067
Convergence [degrees] 0.67067485
Point Scale 0.99992845
Combined Factor 0.99993262

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.909 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.479
scatter (mean square distance from rover) is 5465.743
average edop for rover is 0.840
average ndop for rover is 1.060
average hdop for rover is 1.352
average vdop for rover is 2.350
average gdop for rover is 3.240

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:04 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA27.O00 OP1335488456820

FILE: QCFVA27.O00 OP1335488456820

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069x.12o TIME: 01:04:04 UTC

SOFTWARE: rsgps 1.37 RS10.prl 1.73 START: 2012/03/09 23:18:44
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 23:38:44
NAV FILE: brdc0690.12n OBS USED: 1584 / 1782 : 89%
ANT NAME: LEIAT502 NONE QUALITY IND. 22.48/ 19.86
ARP HEIGHT: 1.494 NORMALIZED RMS: 0.297

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18847)

X:	4758.157(m)	0.002(m)	4757.425(m)	0.002(m)
Y:	-5533241.647(m)	0.021(m)	-5533240.154(m)	0.021(m)
Z:	3161667.023(m)	0.013(m)	3161666.815(m)	0.013(m)

LAT:	29 54 34.14382	0.004(m)	29 54 34.16216	0.004(m)
E LON:	270 2 57.37163	0.002(m)	270 2 57.34439	0.002(m)
W LON:	89 57 2.62837	0.002(m)	89 57 2.65561	0.002(m)
EL HGT:	-26.515(m)	0.024(m)	-27.914(m)	0.024(m)
ORTHO HGT:	-0.649(m)	0.027(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3312415.813	157038.809
Easting (X) [meters]	215087.224	1133510.154
Convergence [degrees]	-1.47231910	0.69131916
Point Scale	1.00060166	0.99992701
Combined Factor	1.00060583	0.99993117

US NATIONAL GRID DESIGNATOR: 16RBU1508712415(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	3461.7

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 16593.2
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 38515.7
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 42104.2
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 64320.7
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 71382.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 82514.8
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 100013.3
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 123778.0

NEAREST NGS PUBLISHED CONTROL POINT
AT1400 STAN N295508.992 W0895715.595 1132.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.596	-5534921.899	3158759.188
nola	-11604.034	-5531876.853	3164070.921
lwes	-33746.218	-5533652.940	3160795.438
dstr	-36892.838	-5530079.557	3166960.870
covg	-9174.162	-5501675.344	3215950.502
gris	4149.691	-5568493.952	3099600.309
bvhs	57650.142	-5564331.456	3106490.832
lmcn	-64275.989	-5568696.885	3098580.618
sjb1	-106395.196	-5505141.450	3208320.260
qcfv	4757.425	-5533240.154	3161666.815

Covariance matrix of the stations:
1 3.3920E-07 7.9620E-07 -7.1730E-07 -2.3140E-08 -8.2910E-08 8.0760E-08
-3.0820E-08 -1.0960E-07 9.7520E-08 -3.1530E-08 -1.0900E-07 9.8900E-08 -
1.9530E-08 -4.5810E-08 7.0800E-08 -2.1070E-08 -9.4380E-08 7.2260E-08 -
3.5490E-09 -2.6670E-08 3.0840E-08 -4.5540E-08 -1.8170E-07 1.2860E-07 -
5.2890E-08 -1.4600E-07 1.3750E-07 4.7000E-08 6.9200E-07 -3.7530E-07
2 7.9620E-07 1.6190E-05 -9.4250E-06 -8.3030E-08 -1.9570E-06 1.1480E-06
-1.0670E-07 -2.0330E-06 1.1990E-06 -1.0860E-07 -2.0260E-06 1.2000E-06 -
7.0190E-08 -1.8120E-06 1.0960E-06 -7.8850E-08 -2.0380E-06 1.1500E-06 -
2.3610E-08 -1.8420E-06 1.0230E-06 -1.5460E-07 -2.2870E-06 1.3180E-06 -
1.7090E-07 -2.0860E-06 1.2900E-06 6.9180E-08 1.1530E-06 -6.3960E-07
3 -7.1730E-07 -9.4250E-06 6.4270E-06 7.9080E-08 1.1460E-06 -7.7090E-07
9.4100E-08 1.1970E-06 -8.0430E-07 9.5390E-08 1.1950E-06 -8.0650E-07
7.1180E-08 1.0700E-06 -7.4660E-07 7.6100E-08 1.1730E-06 -7.5990E-07
4.1590E-08 1.0420E-06 -6.7690E-07 1.2390E-07 1.3420E-06 -8.7220E-07
1.3600E-07 1.2610E-06 -8.7860E-07 -5.0630E-08 -8.5600E-07 5.0090E-07
4 -2.3140E-08 -8.3030E-08 7.9080E-08 3.3600E-07 8.5420E-07 -7.4580E-07
-2.9290E-08 -1.1460E-07 9.8460E-08 -2.9590E-08 -1.1490E-07 9.9330E-08 -
2.3600E-08 -7.5340E-08 8.0230E-08 -2.5180E-08 -9.9870E-08 8.3740E-08 -
1.7270E-08 -5.3530E-08 5.7060E-08 -3.6980E-08 -1.6190E-07 1.2100E-07 -
3.9850E-08 -1.5100E-07 1.2690E-07 2.4260E-08 2.7270E-07 -1.4610E-07
5 -8.2910E-08 -1.9570E-06 1.1460E-06 8.5420E-07 1.6460E-05 -9.6110E-06
-1.1350E-07 -2.0670E-06 1.2210E-06 -1.1480E-07 -2.0610E-06 1.2210E-06 -

8.4970E-08 -1.8800E-06 1.1300E-06 -9.3620E-08 -2.0740E-06 1.1880E-06 -
5.2030E-08 -1.9090E-06 1.0820E-06 -1.5140E-07 -2.2850E-06 1.3290E-06 -
1.6120E-07 -2.1170E-06 1.2940E-06 2.3830E-08 4.2370E-07 -2.1920E-07
   6   8.0760E-08 1.1480E-06 -7.7090E-07 -7.4580E-07 -9.6110E-06 6.5490E-06
9.6400E-08 1.2180E-06 -8.1680E-07 9.7080E-08 1.2180E-06 -8.1810E-07
8.1560E-08 1.1270E-06 -7.7110E-07 8.6530E-08 1.1960E-06 -7.8790E-07
6.5860E-08 1.0960E-06 -7.2630E-07 1.1610E-07 1.3280E-06 -8.7250E-07
1.2170E-07 1.2810E-06 -8.7380E-07 -1.0220E-08 -1.6540E-07 9.8860E-08
   7 -3.0820E-08 -1.0670E-07 9.4100E-08 -2.9290E-08 -1.1350E-07 9.6400E-08
3.4280E-07 9.5280E-07 -8.0110E-07 -2.7160E-08 -1.2360E-07 1.0030E-07 -
2.9390E-08 -1.1630E-07 9.3550E-08 -3.1000E-08 -1.0800E-07 9.9780E-08 -
3.6200E-08 -9.0880E-08 9.3230E-08 -2.5520E-08 -1.3550E-07 1.1100E-07 -
2.2300E-08 -1.5850E-07 1.1280E-07 -3.4900E-10 -2.8420E-07 1.5280E-07
   8 -1.0960E-07 -2.0330E-06 1.1970E-06 -1.1460E-07 -2.0670E-06 1.2180E-06
9.5280E-07 1.6860E-05 -9.8750E-06 -1.2230E-07 -2.1080E-06 1.2450E-06 -
1.0810E-07 -1.9880E-06 1.1780E-06 -1.1670E-07 -2.1210E-06 1.2410E-06 -
9.9930E-08 -2.0120E-06 1.1740E-06 -1.4170E-07 -2.2660E-06 1.3320E-06 -
1.4000E-07 -2.1590E-06 1.2890E-06 -3.4790E-08 -6.6250E-07 3.6960E-07
   9   9.7520E-08 1.1990E-06 -8.0430E-07 9.8460E-08 1.2210E-06 -8.1680E-07
-8.0110E-07 -9.8750E-06 6.7170E-06 1.0010E-07 1.2470E-06 -8.3220E-07
9.5770E-08 1.2000E-06 -8.0210E-07 1.0070E-07 1.2250E-06 -8.2280E-07
9.7930E-08 1.1660E-06 -7.8880E-07 1.0670E-07 1.3090E-06 -8.7160E-07
1.0400E-07 1.3080E-06 -8.6700E-07 2.9510E-08 6.1110E-07 -3.2090E-07
  10 -3.1530E-08 -1.0860E-07 9.5390E-08 -2.9590E-08 -1.1480E-07 9.7080E-08
-2.7160E-08 -1.2230E-07 1.0010E-07 3.4350E-07 9.5920E-07 -8.0580E-07 -
2.9900E-08 -1.2000E-07 9.4630E-08 -3.1530E-08 -1.0840E-07 1.0120E-07 -
3.8090E-08 -9.4240E-08 9.6730E-08 -2.4250E-08 -1.3230E-07 1.0970E-07 -
2.0390E-08 -1.5870E-07 1.1110E-07 -2.8240E-09 -3.4150E-07 1.8360E-07
  11 -1.0900E-07 -2.0260E-06 1.1950E-06 -1.1490E-07 -2.0610E-06 1.2180E-06
-1.2360E-07 -2.1080E-06 1.2470E-06 9.5920E-07 1.6830E-05 -9.8740E-06 -
1.0800E-07 -1.9760E-06 1.1760E-06 -1.1660E-07 -2.1190E-06 1.2400E-06 -
9.6940E-08 -2.0030E-06 1.1680E-06 -1.4530E-07 -2.2700E-06 1.3360E-06 -
1.4490E-07 -2.1540E-06 1.2930E-06 -3.0700E-08 -5.4350E-07 3.0820E-07
  12   9.8900E-08 1.2000E-06 -8.0650E-07 9.9330E-08 1.2210E-06 -8.1810E-07
1.0030E-07 1.2450E-06 -8.3220E-07 -8.0580E-07 -9.8740E-06 6.7270E-06
9.6890E-08 1.2030E-06 -8.0380E-07 1.0190E-07 1.2250E-06 -8.2540E-07
1.0080E-07 1.1690E-06 -7.9400E-07 1.0560E-07 1.3040E-06 -8.7070E-07
1.0210E-07 1.3060E-06 -8.6490E-07 3.3150E-08 6.8300E-07 -3.6070E-07
  13 -1.9530E-08 -7.0190E-08 7.1180E-08 -2.3600E-08 -8.4970E-08 8.1560E-08
-2.9390E-08 -1.0810E-07 9.5770E-08 -2.9900E-08 -1.0800E-07 9.6890E-08
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  14 -4.5810E-08 -1.8120E-06 1.0700E-06 -7.5340E-08 -1.8800E-06 1.1270E-06
-1.1630E-07 -1.9880E-06 1.2000E-06 -1.2000E-07 -1.9760E-06 1.2030E-06
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3.2290E-08 -1.7140E-06 9.2190E-07 -1.9470E-07 -2.3550E-06 1.3600E-06 -
2.2950E-07 -2.0290E-06 1.3350E-06 1.3090E-07 2.7760E-06 -1.4700E-06
  15   7.0800E-08 1.0960E-06 -7.4660E-07 8.0230E-08 1.1300E-06 -7.7110E-07
9.3550E-08 1.1780E-06 -8.0210E-07 9.4630E-08 1.1760E-06 -8.0380E-07 -
7.1550E-07 -9.3290E-06 6.4250E-06 7.8160E-08 1.1590E-06 -7.6490E-07
4.7620E-08 1.0370E-06 -6.8830E-07 1.2070E-07 1.3160E-06 -8.6860E-07
1.3030E-07 1.2370E-06 -8.6850E-07 -3.2220E-08 -6.0050E-07 3.2690E-07
  16 -2.1070E-08 -7.8850E-08 7.6100E-08 -2.5180E-08 -9.3620E-08 8.6530E-08

-3.1000E-08 -1.1670E-07 1.0070E-07 -3.1530E-08 -1.1660E-07 1.0190E-07 -
2.2360E-08 -6.4370E-08 7.8160E-08 3.4330E-07 8.4450E-07 -7.5210E-07 -
1.0640E-08 -4.3960E-08 4.5510E-08 -4.2400E-08 -1.7720E-07 1.2750E-07 -
4.7850E-08 -1.5310E-07 1.3550E-07 3.3070E-08 4.8840E-07 -2.6170E-07
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-1.0800E-07 -2.1210E-06 1.2250E-06 -1.0840E-07 -2.1190E-06 1.2250E-06 -
9.3160E-08 -2.0010E-06 1.1590E-06 8.4450E-07 1.6920E-05 -9.7040E-06 -
8.3600E-08 -2.0030E-06 1.1420E-06 -1.2860E-07 -2.2710E-06 1.3080E-06 -
1.2840E-07 -2.1850E-06 1.2780E-06 -1.6620E-08 -5.7020E-07 2.9390E-07
  18   7.2260E-08 1.1500E-06 -7.5990E-07 8.3740E-08 1.1880E-06 -7.8790E-07
9.9780E-08 1.2410E-06 -8.2280E-07 1.0120E-07 1.2400E-06 -8.2540E-07
7.5640E-08 1.1110E-06 -7.6490E-07 -7.5210E-07 -9.7040E-06 6.5510E-06
4.3190E-08 1.0760E-06 -6.8610E-07 1.3110E-07 1.3880E-06 -8.9040E-07
1.4500E-07 1.3100E-06 -9.0290E-07 -4.0430E-08 -8.4550E-07 4.7290E-07
  19 -3.5490E-09 -2.3610E-08 4.1590E-08 -1.7270E-08 -5.2030E-08 6.5860E-08
-3.6200E-08 -9.9930E-08 9.7930E-08 -3.8090E-08 -9.6940E-08 1.0080E-07 -
9.3470E-09 3.2290E-08 4.7620E-08 -1.0640E-08 -8.3600E-08 4.3190E-08
3.8730E-07 7.0160E-07 -7.2000E-07 -7.0500E-08 -2.4140E-07 1.5270E-07 -
9.0440E-08 -1.3620E-07 1.7020E-07 9.0940E-08 1.8140E-06 -9.7240E-07
  20 -2.6670E-08 -1.8420E-06 1.0420E-06 -5.3530E-08 -1.9090E-06 1.0960E-06
-9.0880E-08 -2.0120E-06 1.1660E-06 -9.4240E-08 -2.0030E-06 1.1690E-06 -
3.5360E-08 -1.7140E-06 1.0370E-06 -4.3960E-08 -2.0030E-06 1.0760E-06
7.0160E-07 1.6010E-05 -9.2020E-06 -1.6260E-07 -2.3420E-06 1.3110E-06 -
1.9460E-07 -2.0790E-06 1.3040E-06 1.4050E-07 2.4520E-06 -1.3400E-06
  21   3.0840E-08 1.0230E-06 -6.7690E-07 5.7060E-08 1.0820E-06 -7.2630E-07
9.3230E-08 1.1740E-06 -7.8880E-07 9.6730E-08 1.1680E-06 -7.9400E-07
4.1070E-08 9.2190E-07 -6.8830E-07 4.5510E-08 1.1420E-06 -6.8610E-07 -
7.2000E-07 -9.2020E-06 6.2990E-06 1.5980E-07 1.4450E-06 -8.9950E-07
1.9580E-07 1.2440E-06 -9.2720E-07 -1.4340E-07 -2.9190E-06 1.5910E-06
  22 -4.5540E-08 -1.5460E-07 1.2390E-07 -3.6980E-08 -1.5140E-07 1.1610E-07
-2.5520E-08 -1.4170E-07 1.0670E-07 -2.4250E-08 -1.4530E-07 1.0560E-07 -
4.0900E-08 -1.9470E-07 1.2070E-07 -4.2400E-08 -1.2860E-07 1.3110E-07 -
7.0500E-08 -1.6260E-07 1.5980E-07 3.9030E-07 1.2570E-06 -9.5570E-07
6.9750E-09 -1.7810E-07 9.2000E-08 -4.4630E-08 -1.2630E-06 6.7820E-07
  23 -1.8170E-07 -2.2870E-06 1.3420E-06 -1.6190E-07 -2.2850E-06 1.3280E-06
-1.3550E-07 -2.2660E-06 1.3090E-06 -1.3230E-07 -2.2700E-06 1.3040E-06 -
1.6880E-07 -2.3550E-06 1.3160E-06 -1.7720E-07 -2.2710E-06 1.3880E-06 -
2.4140E-07 -2.3420E-06 1.4450E-06 1.2570E-06 1.8510E-05 -1.0690E-05 -
5.7190E-08 -2.3220E-06 1.2600E-06 -2.1000E-07 -4.1680E-06 2.2450E-06
  24   1.2860E-07 1.3180E-06 -8.7220E-07 1.2100E-07 1.3290E-06 -8.7250E-07
1.1100E-07 1.3320E-06 -8.7160E-07 1.0970E-07 1.3360E-06 -8.7070E-07
1.2310E-07 1.3600E-06 -8.6860E-07 1.2750E-07 1.3080E-06 -8.9040E-07
1.5270E-07 1.3110E-06 -8.9950E-07 -9.5570E-07 -1.0690E-05 7.1320E-06
8.1700E-08 1.3970E-06 -8.7550E-07 9.5770E-08 1.8460E-06 -9.8200E-07
  25 -5.2890E-08 -1.7090E-07 1.3600E-07 -3.9850E-08 -1.6120E-07 1.2170E-07
-2.2300E-08 -1.4000E-07 1.0400E-07 -2.0390E-08 -1.4490E-07 1.0210E-07 -
4.6010E-08 -2.2950E-07 1.3030E-07 -4.7850E-08 -1.2840E-07 1.4500E-07 -
9.0440E-08 -1.9460E-07 1.9580E-07 6.9750E-09 -5.7190E-08 8.1700E-08
4.2370E-07 1.2260E-06 -1.0160E-06 -7.0820E-08 -1.8710E-06 1.0050E-06
  26 -1.4600E-07 -2.0860E-06 1.2610E-06 -1.5100E-07 -2.1170E-06 1.2810E-06
-1.5850E-07 -2.1590E-06 1.3080E-06 -1.5870E-07 -2.1540E-06 1.3060E-06 -
1.4460E-07 -2.0290E-06 1.2370E-06 -1.5310E-07 -2.1850E-06 1.3100E-06 -
1.3620E-07 -2.0790E-06 1.2440E-06 -1.7810E-07 -2.3220E-06 1.3970E-06
1.2260E-06 1.7240E-05 -1.0340E-05 -7.2250E-08 -7.4960E-07 4.5150E-07

27 1.3750E-07 1.2900E-06 -8.7860E-07 1.2690E-07 1.2940E-06 -8.7380E-07
1.1280E-07 1.2890E-06 -8.6700E-07 1.1110E-07 1.2930E-06 -8.6490E-07
1.3030E-07 1.3350E-06 -8.6850E-07 1.3550E-07 1.2780E-06 -9.0290E-07
1.7020E-07 1.3040E-06 -9.2720E-07 9.2000E-08 1.2600E-06 -8.7550E-07 -
1.0160E-06 -1.0340E-05 7.1690E-06 1.1840E-07 2.2460E-06 -1.2170E-06
28 4.7000E-08 6.9180E-08 -5.0630E-08 2.4260E-08 2.3830E-08 -1.0220E-08
-3.4900E-10 -3.4790E-08 2.9510E-08 -2.8240E-09 -3.0700E-08 3.3150E-08
3.4440E-08 1.3090E-07 -3.2220E-08 3.3070E-08 -1.6620E-08 -4.0430E-08
9.0940E-08 1.4050E-07 -1.4340E-07 -4.4630E-08 -2.1000E-07 9.5770E-08 -
7.0820E-08 -7.2250E-08 1.1840E-07 3.4550E-06 1.1620E-05 -9.2970E-06
29 6.9200E-07 1.1530E-06 -8.5600E-07 2.7270E-07 4.2370E-07 -1.6540E-07
-2.8420E-07 -6.6250E-07 6.1110E-07 -3.4150E-07 -5.4350E-07 6.8300E-07
4.9290E-07 2.7760E-06 -6.0050E-07 4.8840E-07 -5.7020E-07 -8.4550E-07
1.8140E-06 2.4520E-06 -2.9190E-06 -1.2630E-06 -4.1680E-06 1.8460E-06 -
1.8710E-06 -7.4960E-07 2.2460E-06 1.1620E-05 2.6160E-04 -1.4790E-04
30 -3.7530E-07 -6.3960E-07 5.0090E-07 -1.4610E-07 -2.1920E-07 9.8860E-08
1.5280E-07 3.6960E-07 -3.2090E-07 1.8360E-07 3.0820E-07 -3.6070E-07 -
2.6440E-07 -1.4700E-06 3.2690E-07 -2.6170E-07 2.9390E-07 4.7290E-07 -
9.7240E-07 -1.3400E-06 1.5910E-06 6.7820E-07 2.2450E-06 -9.8200E-07
1.0050E-06 4.5150E-07 -1.2170E-06 -9.2970E-06 -1.4790E-04 9.3500E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000034550 0.0000116200 -0.0000092970
0.0000116200 0.0002616000 -0.0001479000
-0.0000092970 -0.0001479000 0.0000935000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000034752 -0.0000023076 -0.0000149573
-0.0000023076 0.0000074590 0.0000026886
-0.0000149573 0.0000026886 0.0003476208

Horizontal network accuracy = 0.00599 meters.
Vertical network accuracy = 0.03656 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	837.171	-1681.745	-2907.627
nola	qcfv	-16361.459	1363.301	2404.105
lwes	qcfv	-38503.643	-412.786	-871.378
dstr	qcfv	-41650.263	3160.597	5294.054
covg	qcfv	-13931.587	31564.810	54283.687
gris	qcfv	-607.734	-35253.799	-62066.507
bvhs	qcfv	52892.717	-31091.303	-55175.983
lmcn	qcfv	-69033.414	-35456.731	-63086.197
sjb1	qcfv	-111152.621	28098.704	46653.445

Covariance matrix of the 9 vectors
1 3.7002E-06 1.1655E-05 -9.5884E-06 3.3606E-06 1.0821E-05 -8.8307E-06
3.3775E-06 1.0853E-05 -8.8537E-06 3.3793E-06 1.0850E-05 -8.8559E-06
3.3540E-06 1.0751E-05 -8.8187E-06 3.3539E-06 1.0850E-05 -8.8090E-06
3.3135E-06 1.0761E-05 -8.7475E-06 3.4071E-06 1.0956E-05 -8.8889E-06
3.4259E-06 1.0854E-05 -8.9026E-06
2 1.1655E-05 2.7548E-04 -1.5583E-04 1.1195E-05 2.5807E-04 -1.4595E-04

1.1728E-05 2.5908E-04 -1.4667E-04 1.1784E-05 2.5896E-04 -1.4674E-04
1.0988E-05 2.5586E-04 -1.4556E-04 1.0984E-05 2.5898E-04 -1.4526E-04
9.7132E-06 2.5615E-04 -1.4332E-04 1.2659E-05 2.6233E-04 -1.4779E-04
1.3251E-05 2.5911E-04 -1.4822E-04
   3 -9.5884E-06 -1.5583E-04 9.8925E-05 -9.0212E-06 -1.4568E-04 9.2129E-05
-9.3051E-06 -1.4622E-04 9.2516E-05 -9.3346E-06 -1.4616E-04 9.2553E-05 -
8.9108E-06 -1.4450E-04 9.1926E-05 -8.9086E-06 -1.4616E-04 9.1766E-05 -
8.2324E-06 -1.4466E-04 9.0731E-05 -9.8007E-06 -1.4795E-04 9.3109E-05 -
1.0115E-05 -1.4623E-04 9.3337E-05
   4   3.3606E-06 1.1195E-05 -9.0212E-06 3.7425E-06 1.2178E-05 -9.8865E-06
3.4018E-06 1.1267E-05 -9.0819E-06 3.4040E-06 1.1263E-05 -9.0847E-06
3.3727E-06 1.1141E-05 -9.0384E-06 3.3725E-06 1.1264E-05 -9.0267E-06
3.3225E-06 1.1153E-05 -8.9504E-06 3.4384E-06 1.1395E-05 -9.1257E-06
3.4617E-06 1.1269E-05 -9.1424E-06
   5   1.0821E-05 2.5807E-04 -1.4568E-04 1.2178E-05 2.7721E-04 -1.5713E-04
1.1767E-05 2.5977E-04 -1.4707E-04 1.1823E-05 2.5966E-04 -1.4714E-04
1.1018E-05 2.5652E-04 -1.4595E-04 1.1014E-05 2.5967E-04 -1.4565E-04
9.7301E-06 2.5682E-04 -1.4368E-04 1.2708E-05 2.6306E-04 -1.4820E-04
1.3306E-05 2.5981E-04 -1.4863E-04
   6 -8.8307E-06 -1.4595E-04 9.2129E-05 -9.8865E-06 -1.5713E-04 9.9851E-05
-9.3432E-06 -1.4689E-04 9.2905E-05 -9.3733E-06 -1.4682E-04 9.2944E-05 -
8.9408E-06 -1.4514E-04 9.2303E-05 -8.9385E-06 -1.4683E-04 9.2140E-05 -
8.2485E-06 -1.4530E-04 9.1084E-05 -9.8489E-06 -1.4865E-04 9.3511E-05 -
1.0170E-05 -1.4691E-04 9.3744E-05
   7   3.3775E-06 1.1728E-05 -9.3051E-06 3.4018E-06 1.1767E-05 -9.3432E-06
3.7985E-06 1.2892E-05 -1.0280E-05 3.4310E-06 1.1811E-05 -9.3826E-06
3.3915E-06 1.1657E-05 -9.3240E-06 3.3913E-06 1.1813E-05 -9.3096E-06
3.3282E-06 1.1673E-05 -9.2132E-06 3.4745E-06 1.1979E-05 -9.4346E-06
3.5039E-06 1.1818E-05 -9.4554E-06
   8   1.0853E-05 2.5908E-04 -1.4622E-04 1.1267E-05 2.5977E-04 -1.4689E-04
1.2892E-05 2.7979E-04 -1.5876E-04 1.1874E-05 2.6070E-04 -1.4771E-04
1.1054E-05 2.5750E-04 -1.4649E-04 1.1050E-05 2.6071E-04 -1.4618E-04
9.7409E-06 2.5780E-04 -1.4418E-04 1.2776E-05 2.6416E-04 -1.4878E-04
1.3386E-05 2.6085E-04 -1.4923E-04
   9 -8.8537E-06 -1.4667E-04 9.2516E-05 -9.0819E-06 -1.4707E-04 9.2905E-05
-1.0280E-05 -1.5876E-04 1.0086E-04 -9.4100E-06 -1.4757E-04 9.3349E-05 -
8.9663E-06 -1.4584E-04 9.2692E-05 -8.9641E-06 -1.4758E-04 9.2525E-05 -
8.2562E-06 -1.4601E-04 9.1441E-05 -9.8980E-06 -1.4945E-04 9.3931E-05 -
1.0228E-05 -1.4765E-04 9.4171E-05
  10   3.3793E-06 1.1784E-05 -9.3346E-06 3.4040E-06 1.1823E-05 -9.3733E-06
3.4310E-06 1.1874E-05 -9.4100E-06 3.8041E-06 1.2951E-05 -1.0320E-05
3.3935E-06 1.1711E-05 -9.3538E-06 3.3932E-06 1.1870E-05 -9.3390E-06
3.3288E-06 1.1727E-05 -9.2405E-06 3.4782E-06 1.2039E-05 -9.4667E-06
3.5083E-06 1.1875E-05 -9.4879E-06
  11   1.0850E-05 2.5896E-04 -1.4616E-04 1.1263E-05 2.5966E-04 -1.4682E-04
1.1811E-05 2.6070E-04 -1.4757E-04 1.2951E-05 2.7952E-04 -1.5877E-04
1.1050E-05 2.5739E-04 -1.4643E-04 1.1046E-05 2.6059E-04 -1.4612E-04
9.7398E-06 2.5769E-04 -1.4412E-04 1.2768E-05 2.6404E-04 -1.4872E-04
1.3377E-05 2.6074E-04 -1.4916E-04
  12 -8.8559E-06 -1.4674E-04 9.2553E-05 -9.0847E-06 -1.4714E-04 9.2944E-05
-9.3826E-06 -1.4771E-04 9.3349E-05 -1.0320E-05 -1.5877E-04 1.0095E-04 -
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1.0233E-05 -1.4773E-04 9.4213E-05

13 3.3540E-06 1.0988E-05 -8.9108E-06 3.3727E-06 1.1018E-05 -8.9408E-06
3.3915E-06 1.1054E-05 -8.9663E-06 3.3935E-06 1.1050E-05 -8.9689E-06
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3.3203E-06 1.0951E-05 -8.8481E-06 3.4243E-06 1.1168E-05 -9.0053E-06
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14 1.0751E-05 2.5586E-04 -1.4450E-04 1.1141E-05 2.5652E-04 -1.4514E-04
1.1657E-05 2.5750E-04 -1.4584E-04 1.1711E-05 2.5739E-04 -1.4591E-04
1.1809E-05 2.7192E-04 -1.5516E-04 1.0936E-05 2.5739E-04 -1.4447E-04
9.7074E-06 2.5466E-04 -1.4259E-04 1.2557E-05 2.6064E-04 -1.4692E-04
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15 -8.8187E-06 -1.4556E-04 9.1926E-05 -9.0384E-06 -1.4595E-04 9.2303E-05
-9.3240E-06 -1.4649E-04 9.2692E-05 -9.3538E-06 -1.4643E-04 9.2730E-05 -
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16 3.3539E-06 1.0984E-05 -8.9086E-06 3.3725E-06 1.1014E-05 -8.9385E-06
3.3913E-06 1.1050E-05 -8.9641E-06 3.3932E-06 1.1046E-05 -8.9665E-06
3.3651E-06 1.0936E-05 -8.9249E-06 3.7322E-06 1.1993E-05 -9.7470E-06
3.3203E-06 1.0947E-05 -8.8464E-06 3.4242E-06 1.1164E-05 -9.0036E-06
3.4449E-06 1.1051E-05 -9.0182E-06
17 1.0850E-05 2.5898E-04 -1.4616E-04 1.1264E-05 2.5967E-04 -1.4683E-04
1.1813E-05 2.6071E-04 -1.4758E-04 1.1870E-05 2.6059E-04 -1.4765E-04
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1.0117E-05 -1.4620E-04 9.3341E-05
19 3.3135E-06 9.7132E-06 -8.2324E-06 3.3225E-06 9.7301E-06 -8.2485E-06
3.3282E-06 9.7409E-06 -8.2562E-06 3.3288E-06 9.7398E-06 -8.2569E-06
3.3203E-06 9.7074E-06 -8.2448E-06 3.3203E-06 9.7390E-06 -8.2410E-06
3.6604E-06 1.0367E-05 -8.9012E-06 3.3382E-06 9.7746E-06 -8.2677E-06
3.3444E-06 9.7421E-06 -8.2728E-06
20 1.0761E-05 2.5615E-04 -1.4466E-04 1.1153E-05 2.5682E-04 -1.4530E-04
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1.0951E-05 2.5466E-04 -1.4492E-04 1.0947E-05 2.5772E-04 -1.4464E-04
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21 -8.7475E-06 -1.4332E-04 9.0731E-05 -8.9504E-06 -1.4368E-04 9.1084E-05
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22 3.4071E-06 1.2659E-05 -9.8007E-06 3.4384E-06 1.2708E-05 -9.8489E-06
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23 1.0956E-05 2.6233E-04 -1.4795E-04 1.1395E-05 2.6306E-04 -1.4865E-04
1.1979E-05 2.6416E-04 -1.4945E-04 1.2039E-05 2.6404E-04 -1.4952E-04
1.1168E-05 2.6064E-04 -1.4823E-04 1.1164E-05 2.6407E-04 -1.4791E-04
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1.3644E-05 2.6420E-04 -1.5113E-04
  24 -8.8889E-06 -1.4779E-04 9.3109E-05 -9.1257E-06 -1.4820E-04 9.3511E-05
-9.4346E-06 -1.4878E-04 9.3931E-05 -9.4667E-06 -1.4872E-04 9.3972E-05 -
9.0053E-06 -1.4692E-04 9.3286E-05 -9.0036E-06 -1.4873E-04 9.3119E-05 -
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1.0316E-05 -1.4880E-04 9.4823E-05
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1.1436E-05 -1.6094E-04 1.0310E-04

Correlation matrix of the 9 vectors
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9.0426E-01 3.3894E-01 -4.6013E-01 9.0251E-01 3.3730E-01 -4.6001E-01
9.0035E-01 3.3876E-01 -4.6264E-01 8.9294E-01 3.3537E-01 -4.5621E-01
8.8825E-01 3.3701E-01 -4.5579E-01
   2   3.6505E-01 1.0000E+00 -9.4395E-01 3.4866E-01 9.3385E-01 -8.7997E-01
3.6256E-01 9.3318E-01 -8.7992E-01 3.6400E-01 9.3323E-01 -8.7996E-01
3.4332E-01 9.3483E-01 -8.8023E-01 3.4254E-01 9.3304E-01 -8.7915E-01
3.0588E-01 9.3455E-01 -8.7847E-01 3.8451E-01 9.3060E-01 -8.7908E-01
3.9817E-01 9.3238E-01 -8.7945E-01
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4.3262E-01 -8.8075E-01 9.2806E-01 -4.9677E-01 -8.7583E-01 9.2421E-01 -
5.0722E-01 -8.7812E-01 9.2420E-01
   4   9.0308E-01 3.4866E-01 -4.6885E-01 1.0000E+00 3.7808E-01 -5.1143E-01
9.0224E-01 3.4821E-01 -4.6746E-01 9.0215E-01 3.4824E-01 -4.6739E-01
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8.9768E-01 3.4912E-01 -4.7069E-01 8.9604E-01 3.4683E-01 -4.6571E-01
8.9244E-01 3.4789E-01 -4.6542E-01
   5   3.3788E-01 9.3385E-01 -8.7970E-01 3.7808E-01 1.0000E+00 -9.4442E-01
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3.9912E-01 9.3141E-01 -8.7861E-01
   9 -4.5831E-01 -8.7992E-01 9.2620E-01 -4.6746E-01 -8.7956E-01 9.2578E-01
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G-FILE for the vectors

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8786503 12 13 -4629411 12 14 -8806764 12 15 9263154 12 16 -4619505 D 12 17 -
8787671 12 18 9254152 12 19 -4295408 12 20 -8803915 12 21 9262521 D 12 22 -
4968874 12 23 -8762518 12 24 9233865 12 25 -5079535 12 26 -8781579 D 12 27
9234737 13 14 3714013 13 15 -5057184 13 16 9033582 13 17 3426944 D 13 18 -
4645002 13 19 9000085 13 20 3439174 13 21 -4668345 13 22 8952838 D 13 23
3410304 13 24 -4610731 13 25 8911335 13 26 3424091 13 27 -4607261 D 14 15 -
9443760 14 16 3432989 14 17 9333888 14 18 -8800776 14 19 3076932 D 14 20
9351709 14 21 -8797121 14 22 3839128 14 23 9306466 14 24 -8795993 D 14 25
3971313 14 26 9328064 14 27 -8799722 15 16 -4636738 15 17 -8788524 D 15 18
9268777 15 19 -4325147 15 20 -8807990 15 21 9281023 15 22 -4969956 D 15 23 -
8759671 15 24 9243617 15 25 -5075427 15 26 -8782649 15 27 9244100 D 16 17
3712120 16 18 -5068054 16 19 8983349 16 20 3431414 16 21 -4658640 D 16 22
8935643 16 23 3402694 16 24 -4601181 16 25 8893344 16 26 3416407 D 16 27 -
4597313 17 18 -9433674 17 19 3043927 17 20 9332053 17 21 -8768410 D 17 22
3850011 17 23 9297511 17 24 -8780584 17 25 3990101 17 26 9311970 D 17 27 -
8784292 18 19 -4326783 18 20 -8798088 18 21 9274097 18 22 -4964692 D 18 23 -
8748255 18 24 9234714 18 25 -5068199 18 26 -8770924 18 27 9233992 D 19 20
3281288 19 21 -4733216 19 22 8796248 19 23 3008162 19 24 -4266310 D 19 25
8718194 19 26 3041185 19 27 -4258448 20 21 -9416108 20 22 3840446 D 20 23
9305026 20 24 -8793977 20 25 3973212 20 26 9324487 20 27 -8796601 D 21 22 -
4960682 21 23 -8732566 21 24 9239654 21 25 -5055024 21 26 -8761166 D 21 27
9237678 22 23 4259626 22 24 -5488214 22 25 8994790 22 26 3847193 D 22 27 -
4965760 23 24 -9456694 23 25 4006563 23 26 9290763 23 27 -8763662 D 24 25 -
5079461 24 26 -8773992 24 27 9219664 25 26 4405273 25 27 -5617231 D 26 27 -
9466287

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	4757.425	-5533240.172	3161666.818
nola	4757.427	-5533240.161	3161666.822
lwes	4757.424	-5533240.177	3161666.836
dstr	4757.425	-5533240.156	3161666.812
covg	4757.424	-5533240.186	3161666.827
gris	4757.423	-5533240.156	3161666.818
bvhs	4757.422	-5533240.183	3161666.836
lmcn	4757.424	-5533240.163	3161666.817
sjb1	4757.427	-5533240.179	3161666.829

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.000	-0.019	0.003	0.000	-0.006	0.018
nola	0.002	-0.008	0.007	0.002	0.003	0.010
lwes	-0.001	-0.023	0.020	-0.001	0.006	0.030
dstr	-0.000	-0.002	-0.003	-0.000	-0.004	0.000

covg	-0.001	-0.032	0.012	-0.001	-
0.006	0.034				
gris	-0.002	-0.003	0.003	-0.002	
0.001	0.004				
bvhs	-0.003	-0.029	0.021	-0.003	
0.004	0.035				
lmcn	-0.001	-0.009	0.001	-0.001	-
0.003	0.009				
sjb1	0.002	-0.026	0.014	0.002	-
0.001	0.029				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 515218.160
Easting (X) [feet] 3718857.898
Convergence [degrees] 0.69131916
Point Scale 0.99992701
Combined Factor 0.99993117

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.719 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.422
scatter (mean square distance from rover) is 4989.542
average edop for rover is 1.050
average ndop for rover is 2.070
average hdop for rover is 2.321
average vdop for rover is 4.280
average gdop for rover is 6.020

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:13 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA28.O00 OP1335488504570

FILE: QCFVA28.O00 OP1335488504570

6011 Warning - OPUS-RS was able to find a set of reference stations
6011 with data suitable for use with your dataset. However, your
6011 position does not fall within the polygon enclosing these reference
6011 stations. This means that the geographic interpolation algorithms
6011 performed within OPUS-RS must instead perform extrapolation.
6011 Extrapolation, especially if your position is far from the
6011 reference stations, is prone to error. Use this solution with
6011 caution.
Your station is 12.3 KM outside the polygon enclosing the reference stations.

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069q.12o TIME: 01:12:26 UTC

SOFTWARE: rsgps 1.37 RS11.prl 1.73 START: 2012/03/09 16:17:01
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 16:37:02
NAV FILE: brdc0690.12n OBS USED: 2394 / 2574 : 93%
ANT NAME: LEIAT502 NONE QUALITY IND. 3.14/ 10.75
ARP HEIGHT: 1.576 NORMALIZED RMS: 0.391

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18767)

X:	13328.489(m)	0.005(m)	13327.756(m)	0.005(m)
Y:	-5524066.659(m)	0.020(m)	-5524065.168(m)	0.020(m)
Z:	3177541.115(m)	0.023(m)	3177540.908(m)	0.023(m)

LAT:	30 4 29.35499	0.016(m)	30 4 29.37347	0.016(m)
E LON:	270 8 17.67554	0.005(m)	270 8 17.64831	0.005(m)
W LON:	89 51 42.32446	0.005(m)	89 51 42.35169	0.005(m)
EL HGT:	-25.599(m)	0.026(m)	-26.994(m)	0.026(m)
ORTHO HGT:	0.693(m)	0.028(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 16)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3330530.356	175470.870
Easting (X) [meters]	224139.961	1141865.996

Convergence [degrees] -1.43502078 0.73580694
Point Scale 1.00053898 0.99992657
Combined Factor 1.00054300 0.99993059

US NATIONAL GRID DESIGNATOR: 16RBU2413930530(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	23030.9
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	29394.8
DG6568	COVG COVINGTON CORS ARP	N302833.269	W0900543.923	49829.1
DH7121	GRIS GRAND ISLE CORS ARP	N291555.883	W0895726.262	90182.5
DG5315	HOUM HOUMA CORS ARP	N293532.109	W0904324.988	98990.8
DL8635	GVMS GALVEZ MIDDLE SCH CORS ARP	N301851.796	W0905413.030	103782.2
DL8631	AWES AWES 147 BC ALWES CORS ARP	N300600.962	W0905858.635	108119.9
DF5771	LMCN LUMCON CORS ARP	N291517.904	W0903940.653	119369.4
DF8160	SJB1 SJB GROUP COOP CORS ARP	N302345.830	W0910625.854	125056.2

NEAREST NGS PUBLISHED CONTROL POINT

BH2819	WHYNOT	N300439.451	W0895122.885	606.7

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.599	-5534921.937	3158759.206
nola	-11604.034	-5531876.863	3164070.917
covg	-9174.168	-5501675.318	3215950.496
gris	4149.696	-5568493.961	3099600.295
houm	-70100.638	-5550262.333	3131144.918
gvms	-86907.675	-5510048.223	3200500.231
awes	-94742.053	-5521868.802	3179990.056
lmcn	-64275.983	-5568696.882	3098580.598
sjb1	-106395.200	-5505141.451	3208320.275
qcfv	13327.756	-5524065.168	3177540.908

Covariance matrix of the stations:
1 2.8670E-07 -7.9860E-07 5.6030E-07 -1.0300E-08 1.2980E-07 -9.3960E-08
-7.9810E-09 1.4290E-07 -7.2510E-08 -1.0190E-08 1.4110E-07 -1.3790E-07 -
2.6510E-08 8.0940E-08 -7.5650E-08 -2.8580E-08 8.0530E-08 -3.1140E-08 -
3.1380E-08 6.8820E-08 -3.5420E-08 -2.6700E-08 8.5780E-08 -9.7970E-08 -
3.4040E-08 6.8860E-08 -1.5870E-08 -6.1010E-10 3.0450E-07 -1.8510E-07
2 -7.9860E-07 9.1880E-06 -5.1380E-06 1.3250E-07 -1.0680E-06 5.8580E-07
1.3860E-07 -1.0290E-06 6.4260E-07 1.3300E-07 -1.0450E-06 4.6910E-07
8.6980E-08 -1.1820E-06 6.2440E-07 8.1190E-08 -1.1760E-06 7.4230E-07
7.3370E-08 -1.2050E-06 7.2870E-07 8.6550E-08 -1.1720E-06 5.6510E-07
6.6010E-08 -1.2010E-06 7.7970E-07 -2.6190E-08 7.6250E-07 -4.5050E-07
3 5.6030E-07 -5.1380E-06 3.3310E-06 -9.8390E-08 5.8250E-07 -3.5200E-07

-1.0680E-07 5.7350E-07 -4.1870E-07 -9.5320E-08 5.3140E-07 -2.3100E-07 -
5.7330E-08 6.6800E-07 -3.7650E-07 -5.5880E-08 6.9900E-07 -5.0320E-07 -
4.8020E-08 7.1420E-07 -4.8440E-07 -5.5330E-08 6.4320E-07 -3.1490E-07 -
4.3060E-08 7.2590E-07 -5.3950E-07 2.5030E-08 -6.4600E-07 4.1030E-07
   4 -1.0300E-08 1.3250E-07 -9.8390E-08 2.7450E-07 -7.9570E-07 5.6910E-07
-1.1230E-08 1.3190E-07 -7.3910E-08 -1.2760E-08 1.3060E-07 -1.1950E-07 -
2.3810E-08 8.3680E-08 -7.3110E-08 -2.5230E-08 8.2800E-08 -4.1480E-08 -
2.7140E-08 7.3800E-08 -4.4000E-08 -2.3960E-08 8.7230E-08 -8.8870E-08 -
2.8970E-08 7.3230E-08 -2.9870E-08 8.4500E-10 2.3000E-07 -1.4020E-07
   5   1.2980E-07 -1.0680E-06 5.8250E-07 -7.9570E-07 9.2350E-06 -5.1820E-06
1.2640E-07 -1.0590E-06 6.4720E-07 1.2280E-07 -1.0770E-06 5.2290E-07
8.9290E-08 -1.1800E-06 6.3920E-07 8.4920E-08 -1.1740E-06 7.2490E-07
7.9270E-08 -1.1970E-06 7.1580E-07 8.9040E-08 -1.1740E-06 5.9620E-07
7.3850E-08 -1.1930E-06 7.5320E-07 -6.3230E-09 3.6080E-07 -2.1850E-07
   6 -9.3960E-08 5.8580E-07 -3.5200E-07 5.6910E-07 -5.1820E-06 3.3640E-06
-9.4750E-08 6.0710E-07 -4.2090E-07 -8.5420E-08 5.6560E-07 -2.8920E-07 -
6.1880E-08 6.6450E-07 -3.9020E-07 -6.2120E-08 6.9550E-07 -4.8030E-07 -
5.6740E-08 7.0340E-07 -4.6660E-07 -6.0070E-08 6.4380E-07 -3.4710E-07 -
5.4030E-08 7.1620E-07 -5.0620E-07 8.0500E-09 -3.0930E-07 2.0420E-07
   7 -7.9810E-09 1.3860E-07 -1.0680E-07 -1.1230E-08 1.2640E-07 -9.4750E-08
2.8200E-07 -7.8950E-07 6.1320E-07 -1.1270E-08 1.3750E-07 -1.3450E-07 -
2.5560E-08 8.1700E-08 -7.7750E-08 -2.7280E-08 8.0120E-08 -3.7250E-08 -
2.9780E-08 6.9680E-08 -4.1080E-08 -2.5790E-08 8.6510E-08 -9.7950E-08 -
3.2090E-08 6.9070E-08 -2.3210E-08 -2.0170E-09 2.8540E-07 -1.7680E-07
   8   1.4290E-07 -1.0290E-06 5.7350E-07 1.3190E-07 -1.0590E-06 6.0710E-07
-7.8950E-07 9.1410E-06 -5.2270E-06 1.3340E-07 -1.0420E-06 4.9090E-07
8.5090E-08 -1.1780E-06 6.4810E-07 7.8210E-08 -1.1650E-06 7.6440E-07
7.0350E-08 -1.1970E-06 7.5180E-07 8.5050E-08 -1.1720E-06 5.8920E-07
6.2390E-08 -1.1890E-06 8.0190E-07 -1.3860E-08 5.9570E-07 -3.3900E-07
   9 -7.2510E-08 6.4260E-07 -4.1870E-07 -7.3910E-08 6.4720E-07 -4.2090E-07
6.1320E-07 -5.2270E-06 3.5120E-06 -7.1060E-08 6.2710E-07 -4.1410E-07 -
7.7100E-08 6.4720E-07 -4.2260E-07 -8.0440E-08 6.7490E-07 -4.3470E-07 -
8.0290E-08 6.6890E-07 -4.3220E-07 -7.5860E-08 6.3660E-07 -4.1880E-07 -
8.2060E-08 6.8270E-07 -4.3900E-07 -1.6930E-08 1.8960E-07 -1.1610E-07
  10 -1.0190E-08 1.3300E-07 -9.5320E-08 -1.2760E-08 1.2280E-07 -8.5420E-08
-1.1270E-08 1.3340E-07 -7.1060E-08 2.7570E-07 -7.9120E-07 5.1180E-07 -
2.3960E-08 8.3420E-08 -6.9570E-08 -2.5540E-08 8.3690E-08 -3.8200E-08 -
2.7450E-08 7.4270E-08 -4.0560E-08 -2.4050E-08 8.6510E-08 -8.5270E-08 -
2.9370E-08 7.4200E-08 -2.6570E-08 6.5730E-10 2.3340E-07 -1.3870E-07
  11   1.4110E-07 -1.0450E-06 5.3140E-07 1.3060E-07 -1.0770E-06 5.6560E-07
1.3750E-07 -1.0420E-06 6.2710E-07 -7.9120E-07 9.2640E-06 -5.0730E-06
8.4190E-08 -1.1890E-06 6.0270E-07 7.9150E-08 -1.1910E-06 7.2770E-07
7.0980E-08 -1.2180E-06 7.1240E-07 8.3360E-08 -1.1750E-06 5.4020E-07
6.3850E-08 -1.2170E-06 7.6650E-07 -1.6330E-08 5.8760E-07 -3.8640E-07
  12 -1.3790E-07 4.6910E-07 -2.3100E-07 -1.1950E-07 5.2290E-07 -2.8920E-07
-1.3450E-07 4.9090E-07 -4.1410E-07 5.1180E-07 -5.0730E-06 3.3440E-06 -
3.6430E-08 6.8950E-07 -3.3550E-07 -3.0370E-08 7.2310E-07 -5.7070E-07 -
1.5190E-08 7.5840E-07 -5.3650E-07 -3.3720E-08 6.5140E-07 -2.1900E-07 -
3.8020E-09 7.6780E-07 -6.3740E-07 5.1260E-08 -1.2560E-06 8.0060E-07
  13 -2.6510E-08 8.6980E-08 -5.7330E-08 -2.3810E-08 8.9290E-08 -6.1880E-08
-2.5560E-08 8.5090E-08 -7.7100E-08 -2.3960E-08 8.4190E-08 -3.6430E-08
2.5080E-07 -7.1890E-07 5.2720E-07 -1.1050E-08 9.2970E-08 -8.3230E-08 -
9.1080E-09 9.5370E-08 -7.7970E-08 -1.2260E-08 9.2400E-08 -4.5740E-08 -
7.3990E-09 9.2580E-08 -8.7530E-08 1.9300E-08 -1.4500E-07 8.9780E-08

14 8.0940E-08 -1.1820E-06 6.6800E-07 8.3680E-08 -1.1800E-06 6.6450E-07
8.1700E-08 -1.1780E-06 6.4720E-07 8.3420E-08 -1.1890E-06 6.8950E-07 -
7.1890E-07 9.5560E-06 -5.2940E-06 9.6320E-08 -1.1780E-06 6.4660E-07
9.8150E-08 -1.1760E-06 6.5200E-07 9.4910E-08 -1.1830E-06 6.8250E-07
9.9890E-08 -1.1780E-06 6.4340E-07 1.2580E-08 -3.9610E-07 2.3510E-07
15 -7.5650E-08 6.2440E-07 -3.7650E-07 -7.3110E-08 6.3920E-07 -3.9020E-07
-7.7750E-08 6.4810E-07 -4.2260E-07 -6.9570E-08 6.0270E-07 -3.3550E-07
5.2720E-07 -5.2940E-06 3.3930E-06 -6.0590E-08 7.0370E-07 -4.5970E-07 -
5.7230E-08 7.0450E-07 -4.4960E-07 -5.6760E-08 6.5160E-07 -3.7080E-07 -
5.6560E-08 7.1930E-07 -4.7690E-07 7.9210E-09 -9.6080E-08 7.9840E-08
16 -2.8580E-08 8.1190E-08 -5.5880E-08 -2.5230E-08 8.4920E-08 -6.2120E-08
-2.7280E-08 7.8210E-08 -8.0440E-08 -2.5540E-08 7.9150E-08 -3.0370E-08 -
1.1050E-08 9.6320E-08 -6.0590E-08 2.5130E-07 -7.0450E-07 5.1700E-07 -
6.8790E-09 9.7280E-08 -8.5380E-08 -1.0980E-08 9.3620E-08 -4.4570E-08 -
4.6770E-09 9.3730E-08 -9.7500E-08 2.1430E-08 -1.9070E-07 1.1410E-07
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8.0120E-08 -1.1650E-06 6.7490E-07 8.3690E-08 -1.1910E-06 7.2310E-07
9.2970E-08 -1.1780E-06 7.0370E-07 -7.0450E-07 9.5150E-06 -5.5700E-06
9.5070E-08 -1.1690E-06 6.8320E-07 9.3510E-08 -1.1860E-06 7.1760E-07
9.6160E-08 -1.1660E-06 6.7270E-07 1.1380E-08 -3.8350E-07 2.6260E-07
18 -3.1140E-08 7.4230E-07 -5.0320E-07 -4.1480E-08 7.2490E-07 -4.8030E-07
-3.7250E-08 7.6440E-07 -4.3470E-07 -3.8200E-08 7.2770E-07 -5.7070E-07 -
8.3230E-08 6.4660E-07 -4.5970E-07 5.1700E-07 -5.5700E-06 3.8020E-06 -
9.7820E-08 6.5020E-07 -3.8530E-07 -8.2370E-08 6.4620E-07 -5.0520E-07 -
1.0570E-07 6.6770E-07 -3.5110E-07 -3.4590E-08 8.5040E-07 -5.2160E-07
19 -3.1380E-08 7.3370E-08 -4.8020E-08 -2.7140E-08 7.9270E-08 -5.6740E-08
-2.9780E-08 7.0350E-08 -8.0290E-08 -2.7450E-08 7.0980E-08 -1.5190E-08 -
9.1080E-09 9.8150E-08 -5.7230E-08 -6.8790E-09 9.5070E-08 -9.7820E-08
2.5290E-07 -6.7890E-07 4.9840E-07 -8.9790E-09 9.4320E-08 -3.6250E-08 -
1.0320E-09 9.7250E-08 -1.0670E-07 2.4580E-08 -2.5510E-07 1.5440E-07
20 6.8820E-08 -1.2050E-06 7.1420E-07 7.3800E-08 -1.1970E-06 7.0340E-07
6.9680E-08 -1.1970E-06 6.6890E-07 7.4270E-08 -1.2180E-06 7.5840E-07
9.5370E-08 -1.1760E-06 7.0450E-07 9.7280E-08 -1.1690E-06 6.5020E-07 -
6.7890E-07 9.6230E-06 -5.5710E-06 9.5890E-08 -1.1870E-06 7.3230E-07
1.0410E-07 -1.1640E-06 6.3860E-07 1.7020E-08 -5.7710E-07 3.7180E-07
21 -3.5420E-08 7.2870E-07 -4.8440E-07 -4.4000E-08 7.1580E-07 -4.6660E-07
-4.1080E-08 7.5180E-07 -4.3220E-07 -4.0560E-08 7.1240E-07 -5.3650E-07 -
7.7970E-08 6.5200E-07 -4.4960E-07 -8.5380E-08 6.8320E-07 -3.8530E-07
4.9840E-07 -5.5710E-06 3.7180E-06 -7.6930E-08 6.4870E-07 -4.8470E-07 -
9.7230E-08 6.7800E-07 -3.6740E-07 -2.6760E-08 7.2140E-07 -4.3660E-07
22 -2.6700E-08 8.6550E-08 -5.5330E-08 -2.3960E-08 8.9040E-08 -6.0070E-08
-2.5790E-08 8.5050E-08 -7.5860E-08 -2.4050E-08 8.3360E-08 -3.3720E-08 -
1.2260E-08 9.4910E-08 -5.6760E-08 -1.0980E-08 9.3510E-08 -8.2370E-08 -
8.9790E-09 9.5890E-08 -7.6930E-08 2.5120E-07 -7.2170E-07 5.2790E-07 -
7.2570E-09 9.3300E-08 -8.6900E-08 1.9500E-08 -1.4920E-07 9.3920E-08
23 8.5780E-08 -1.1720E-06 6.4320E-07 8.7230E-08 -1.1740E-06 6.4380E-07
8.6510E-08 -1.1720E-06 6.3660E-07 8.6510E-08 -1.1750E-06 6.5140E-07
9.2400E-08 -1.1830E-06 6.5160E-07 9.3620E-08 -1.1860E-06 6.4620E-07
9.4320E-08 -1.1870E-06 6.4870E-07 -7.2170E-07 9.5490E-06 -5.1690E-06
9.5320E-08 -1.1900E-06 6.4770E-07 7.8620E-09 -2.9480E-07 1.5780E-07
24 -9.7970E-08 5.6510E-07 -3.1490E-07 -8.8870E-08 5.9620E-07 -3.4710E-07
-9.7950E-08 5.8920E-07 -4.1880E-07 -8.5270E-08 5.4020E-07 -2.1900E-07 -
4.5740E-08 6.8250E-07 -3.7080E-07 -4.4570E-08 7.1760E-07 -5.0520E-07 -
3.6250E-08 7.3230E-07 -4.8470E-07 5.2790E-07 -5.1690E-06 3.3150E-06 -

3.1190E-08 7.4540E-07 -5.4300E-07 2.9750E-08 -5.7560E-07 3.8230E-07
  25 -3.4040E-08 6.6010E-08 -4.3060E-08 -2.8970E-08 7.3850E-08 -5.4030E-08
-3.2090E-08 6.2390E-08 -8.2060E-08 -2.9370E-08 6.3850E-08 -3.8020E-09 -
7.3990E-09 9.9890E-08 -5.6560E-08 -4.6770E-09 9.6160E-08 -1.0570E-07 -
1.0320E-09 1.0410E-07 -9.7230E-08 -7.2570E-09 9.5320E-08 -3.1190E-08
2.5600E-07 -6.6170E-07 4.7380E-07 2.7370E-08 -3.1430E-07 1.8900E-07
  26   6.8860E-08 -1.2010E-06 7.2590E-07 7.3230E-08 -1.1930E-06 7.1620E-07
6.9070E-08 -1.1890E-06 6.8270E-07 7.4200E-08 -1.2170E-06 7.6780E-07
9.2580E-08 -1.1780E-06 7.1930E-07 9.3730E-08 -1.1660E-06 6.6770E-07
9.7250E-08 -1.1640E-06 6.7800E-07 9.3300E-08 -1.1900E-06 7.4540E-07 -
6.6170E-07 9.6090E-06 -5.7040E-06 1.4010E-08 -5.4390E-07 3.6720E-07
  27 -1.5870E-08 7.7970E-07 -5.3950E-07 -2.9870E-08 7.5320E-07 -5.0620E-07
-2.3210E-08 8.0190E-07 -4.3900E-07 -2.6570E-08 7.6650E-07 -6.3740E-07 -
8.7530E-08 6.4340E-07 -4.7690E-07 -9.7500E-08 6.7270E-07 -3.5110E-07 -
1.0670E-07 6.3860E-07 -3.6740E-07 -8.6900E-08 6.4770E-07 -5.4300E-07
4.7380E-07 -5.7040E-06 3.9720E-06 -4.3850E-08 1.1210E-06 -6.9150E-07
  28 -6.1010E-10 -2.6190E-08 2.5030E-08 8.4500E-10 -6.3230E-09 8.0500E-09
-2.0170E-09 -1.3860E-08 -1.6930E-08 6.5730E-10 -1.6330E-08 5.1260E-08
1.9300E-08 1.2580E-08 7.9210E-09 2.1430E-08 1.1380E-08 -3.4590E-08
2.4580E-08 1.7020E-08 -2.6760E-08 1.9500E-08 7.8620E-09 2.9750E-08
2.7370E-08 1.4010E-08 -4.3850E-08 2.9610E-06 -1.0650E-05 7.3780E-06
  29   3.0450E-07 7.6250E-07 -6.4600E-07 2.3000E-07 3.6080E-07 -3.0930E-07
2.8540E-07 5.9570E-07 1.8960E-07 2.3340E-07 5.8760E-07 -1.2560E-06 -
1.4500E-07 -3.9610E-07 -9.6080E-08 -1.9070E-07 -3.8350E-07 8.5040E-07 -
2.5510E-07 -5.7710E-07 7.2140E-07 -1.4920E-07 -2.9480E-07 -5.7560E-07 -
3.1430E-07 -5.4390E-07 1.1210E-06 -1.0650E-05 1.1150E-04 -6.3120E-05
  30 -1.8510E-07 -4.5050E-07 4.1030E-07 -1.4020E-07 -2.1850E-07 2.0420E-07
-1.7680E-07 -3.3900E-07 -1.1610E-07 -1.3870E-07 -3.8640E-07 8.0060E-07
8.9780E-08 2.3510E-07 7.9840E-08 1.1410E-07 2.6260E-07 -5.2160E-07
1.5440E-07 3.7180E-07 -4.3660E-07 9.3920E-08 1.5780E-07 3.8230E-07
1.8900E-07 3.6720E-07 -6.9150E-07 7.3780E-06 -6.3120E-05 4.0110E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
   0.0000029610   -0.0000106500   0.0000073780
  -0.0000106500   0.0001115000   -0.0000631200
   0.0000073780   -0.0000631200   0.0000401100

Covariance Matrix for the enu OPUS Position (meters^2).
   0.0000029102   0.0000010838   0.0000126074
   0.0000010838   0.0000032938   0.0000008665
   0.0000126074   0.0000008665   0.0001483669

Horizontal network accuracy =   0.00439 meters.
Vertical network accuracy   =   0.02388 meters.

		Vectors		
To	From	X	Y	Z
eng6	qcfv	-7733.157	-10856.768	-18781.702
nola	qcfv	-24931.789	-7811.695	-13469.991
covg	qcfv	-22501.924	22389.851	38409.589
gris	qcfv	-9178.060	-44428.793	-77940.613
houm	qcfv	-83428.394	-26197.164	-46395.990
gvms	qcfv	-100235.430	14016.945	22959.323

awes qcfv -108069.809 2196.366 2449.148
lmcn qcfv -77603.738 -44631.714 -78960.310
sjb1 qcfv -119722.955 18923.717 30779.368

Covariance matrix of the 9 vectors
1 3.2489E-06 -1.1727E-05 8.0984E-06 2.9505E-06 -1.0818E-05 7.4611E-06
2.9556E-06 -1.0798E-05 7.5075E-06 2.9508E-06 -1.0797E-05 7.3739E-06
2.9158E-06 -1.0886E-05 7.4795E-06 2.9116E-06 -1.0885E-05 7.5666E-06
2.9057E-06 -1.0903E-05 7.5544E-06 2.9154E-06 -1.0877E-05 7.4354E-06
2.9002E-06 -1.0900E-05 7.5911E-06
2 -1.1727E-05 1.1916E-04 -6.7162E-05 -1.0721E-05 1.0931E-04 -6.1774E-05
-1.0771E-05 1.0911E-04 -6.2217E-05 -1.0724E-05 1.0910E-04 -6.0944E-05 -
1.0392E-05 1.0995E-04 -6.1949E-05 -1.0352E-05 1.0995E-04 -6.2778E-05 -
1.0295E-05 1.1011E-04 -6.2662E-05 -1.0388E-05 1.0986E-04 -6.1529E-05 -
1.0243E-05 1.1008E-04 -6.3011E-05
3 8.0984E-06 -6.7162E-05 4.2620E-05 7.3948E-06 -6.1673E-05 3.9144E-05
7.4230E-06 -6.1562E-05 3.9397E-05 7.3963E-06 -6.1556E-05 3.8668E-05
7.2059E-06 -6.2041E-05 3.9243E-05 7.1830E-06 -6.2038E-05 3.9718E-05
7.1506E-06 -6.2132E-05 3.9652E-05 7.2037E-06 -6.1989E-05 3.9002E-05
7.1209E-06 -6.2115E-05 3.9852E-05
4 2.9505E-06 -1.0721E-05 7.3948E-06 3.2338E-06 -1.1669E-05 8.0793E-06
2.9509E-06 -1.0734E-05 7.4612E-06 2.9467E-06 -1.0733E-05 7.3474E-06
2.9170E-06 -1.0809E-05 7.4372E-06 2.9135E-06 -1.0809E-05 7.5113E-06
2.9084E-06 -1.0823E-05 7.5010E-06 2.9167E-06 -1.0801E-05 7.3996E-06
2.9038E-06 -1.0821E-05 7.5322E-06
5 -1.0818E-05 1.0931E-04 -6.1673E-05 -1.1669E-05 1.2001E-04 -6.7774E-05
-1.0803E-05 1.0948E-04 -6.2444E-05 -1.0754E-05 1.0947E-04 -6.1123E-05 -
1.0409E-05 1.1036E-04 -6.2166E-05 -1.0368E-05 1.1035E-04 -6.3027E-05 -
1.0309E-05 1.1052E-04 -6.2907E-05 -1.0405E-05 1.1026E-04 -6.1730E-05 -
1.0256E-05 1.1049E-04 -6.3269E-05
6 7.4611E-06 -6.1774E-05 3.9144E-05 8.0793E-06 -6.7774E-05 4.3066E-05
7.4520E-06 -6.1865E-05 3.9601E-05 7.4232E-06 -6.1859E-05 3.8816E-05
7.2183E-06 -6.2381E-05 3.9436E-05 7.1937E-06 -6.2378E-05 3.9947E-05
7.1588E-06 -6.2479E-05 3.9876E-05 7.2160E-06 -6.2325E-05 3.9176E-05
7.1269E-06 -6.2462E-05 4.0091E-05
7 2.9556E-06 -1.0771E-05 7.4230E-06 2.9509E-06 -1.0803E-05 7.4520E-06
3.2470E-06 -1.1711E-05 8.1849E-06 2.9511E-06 -1.0782E-05 7.3690E-06
2.9182E-06 -1.0866E-05 7.4691E-06 2.9143E-06 -1.0867E-05 7.5521E-06
2.9087E-06 -1.0883E-05 7.5405E-06 2.9177E-06 -1.0857E-05 7.4271E-06
2.9036E-06 -1.0880E-05 7.5754E-06
8 -1.0798E-05 1.0911E-04 -6.1562E-05 -1.0734E-05 1.0948E-04 -6.1865E-05
-1.1711E-05 1.1945E-04 -6.8198E-05 -1.0736E-05 1.0927E-04 -6.1034E-05 -
1.0406E-05 1.1012E-04 -6.2037E-05 -1.0367E-05 1.1012E-04 -6.2867E-05 -
1.0311E-05 1.1028E-04 -6.2751E-05 -1.0402E-05 1.1003E-04 -6.1616E-05 -
1.0259E-05 1.1026E-04 -6.3100E-05
9 7.5075E-06 -6.2217E-05 3.9397E-05 7.4612E-06 -6.2444E-05 3.9601E-05
8.1849E-06 -6.8198E-05 4.3854E-05 7.4626E-06 -6.2296E-05 3.9011E-05
7.2281E-06 -6.2897E-05 3.9724E-05 7.2004E-06 -6.2897E-05 4.0313E-05
7.1602E-06 -6.3013E-05 4.0231E-05 7.2252E-06 -6.2831E-05 3.9425E-05
7.1239E-06 -6.2994E-05 4.0479E-05
10 2.9508E-06 -1.0724E-05 7.3964E-06 2.9467E-06 -1.0754E-05 7.4232E-06
2.9511E-06 -1.0736E-05 7.4626E-06 3.2354E-06 -1.1658E-05 7.9772E-06
2.9171E-06 -1.0813E-05 7.4392E-06 2.9134E-06 -1.0811E-05 7.5131E-06
2.9083E-06 -1.0826E-05 7.5029E-06 2.9168E-06 -1.0805E-05 7.4017E-06

2.9036E-06 -1.0823E-05 7.5340E-06
11 -1.0797E-05 1.0910E-04 -6.1556E-05 -1.0733E-05 1.0947E-04 -6.1859E-05
-1.0782E-05 1.0927E-04 -6.2296E-05 -1.1658E-05 1.1959E-04 -6.6551E-05 -
1.0404E-05 1.1012E-04 -6.2035E-05 -1.0364E-05 1.1010E-04 -6.2856E-05 -
1.0308E-05 1.1027E-04 -6.2743E-05 -1.0401E-05 1.1003E-04 -6.1618E-05 -
1.0256E-05 1.1024E-04 -6.3088E-05
12 7.3739E-06 -6.0944E-05 3.8668E-05 7.3474E-06 -6.1123E-05 3.8816E-05
7.3690E-06 -6.1034E-05 3.9011E-05 7.9772E-06 -6.6551E-05 4.1853E-05
7.2005E-06 -6.1410E-05 3.8894E-05 7.1823E-06 -6.1404E-05 3.9260E-05
7.1572E-06 -6.1477E-05 3.9209E-05 7.1991E-06 -6.1370E-05 3.8708E-05
7.1339E-06 -6.1463E-05 3.9364E-05
13 2.9158E-06 -1.0392E-05 7.2059E-06 2.9170E-06 -1.0409E-05 7.2183E-06
2.9182E-06 -1.0406E-05 7.2281E-06 2.9171E-06 -1.0404E-05 7.2005E-06
3.1732E-06 -1.1236E-05 7.8075E-06 2.9092E-06 -1.0423E-05 7.2396E-06
2.9080E-06 -1.0427E-05 7.2370E-06 2.9099E-06 -1.0420E-05 7.2127E-06
2.9069E-06 -1.0426E-05 7.2445E-06
14 -1.0886E-05 1.0995E-04 -6.2041E-05 -1.0809E-05 1.1036E-04 -6.2381E-05
-1.0866E-05 1.1012E-04 -6.2897E-05 -1.0813E-05 1.1012E-04 -6.1410E-05 -
1.1236E-05 1.2185E-04 -6.8553E-05 -1.0376E-05 1.1110E-04 -6.3559E-05 -
1.0309E-05 1.1130E-04 -6.3425E-05 -1.0418E-05 1.1101E-04 -6.2097E-05 -
1.0248E-05 1.1126E-04 -6.3833E-05
15 7.4795E-06 -6.1949E-05 3.9243E-05 7.4372E-06 -6.2166E-05 3.9436E-05
7.4691E-06 -6.2037E-05 3.9724E-05 7.4392E-06 -6.2035E-05 3.8894E-05
7.8075E-06 -6.8553E-05 4.3343E-05 7.1954E-06 -6.2583E-05 4.0092E-05
7.1584E-06 -6.2691E-05 4.0017E-05 7.2194E-06 -6.2530E-05 3.9277E-05
7.1245E-06 -6.2672E-05 4.0245E-05
16 2.9116E-06 -1.0352E-05 7.1830E-06 2.9135E-06 -1.0368E-05 7.1937E-06
2.9143E-06 -1.0367E-05 7.2004E-06 2.9134E-06 -1.0364E-05 7.1823E-06
2.9092E-06 -1.0376E-05 7.1954E-06 3.1694E-06 -1.1175E-05 7.8155E-06
2.9081E-06 -1.0379E-05 7.2053E-06 2.9091E-06 -1.0374E-05 7.1896E-06
2.9075E-06 -1.0380E-05 7.2103E-06
17 -1.0885E-05 1.0995E-04 -6.2038E-05 -1.0809E-05 1.1035E-04 -6.2378E-05
-1.0867E-05 1.1012E-04 -6.2897E-05 -1.0811E-05 1.1010E-04 -6.1404E-05 -
1.0423E-05 1.1110E-04 -6.2583E-05 -1.1175E-05 1.2178E-04 -6.9803E-05 -
1.0311E-05 1.1129E-04 -6.3421E-05 -1.0419E-05 1.1099E-04 -6.2089E-05 -
1.0251E-05 1.1126E-04 -6.3831E-05
18 7.5666E-06 -6.2778E-05 3.9718E-05 7.5113E-06 -6.3027E-05 3.9947E-05
7.5521E-06 -6.2867E-05 4.0313E-05 7.5131E-06 -6.2856E-05 3.9260E-05
7.2396E-06 -6.3559E-05 4.0092E-05 7.8155E-06 -6.9803E-05 4.4955E-05
7.1604E-06 -6.3692E-05 4.0683E-05 7.2363E-06 -6.3482E-05 3.9744E-05
7.1179E-06 -6.3670E-05 4.0972E-05
19 2.9057E-06 -1.0295E-05 7.1506E-06 2.9084E-06 -1.0309E-05 7.1588E-06
2.9087E-06 -1.0311E-05 7.1602E-06 2.9083E-06 -1.0308E-05 7.1572E-06
2.9080E-06 -1.0309E-05 7.1584E-06 2.9081E-06 -1.0311E-05 7.1604E-06
3.1647E-06 -1.1091E-05 7.7488E-06 2.9079E-06 -1.0308E-05 7.1576E-06
2.9080E-06 -1.0312E-05 7.1608E-06
20 -1.0903E-05 1.1011E-04 -6.2132E-05 -1.0823E-05 1.1052E-04 -6.2479E-05
-1.0883E-05 1.1028E-04 -6.3013E-05 -1.0826E-05 1.1027E-04 -6.1477E-05 -
1.0427E-05 1.1130E-04 -6.2691E-05 -1.0379E-05 1.1129E-04 -6.3692E-05 -
1.1091E-05 1.2228E-04 -6.9784E-05 -1.0422E-05 1.1118E-04 -6.2184E-05 -
1.0249E-05 1.1146E-04 -6.3974E-05
21 7.5544E-06 -6.2662E-05 3.9652E-05 7.5010E-06 -6.2907E-05 3.9876E-05
7.5405E-06 -6.2751E-05 4.0231E-05 7.5029E-06 -6.2743E-05 3.9209E-05
7.2370E-06 -6.3425E-05 4.0017E-05 7.2053E-06 -6.3421E-05 4.0683E-05

7.7488E-06 -6.9784E-05 4.4701E-05 7.2339E-06 -6.3351E-05 3.9680E-05
7.1185E-06 -6.3531E-05 4.0871E-05
  22   2.9154E-06 -1.0388E-05 7.2037E-06 2.9167E-06 -1.0405E-05 7.2160E-06
2.9177E-06 -1.0402E-05 7.2252E-06 2.9168E-06 -1.0401E-05 7.1991E-06
2.9099E-06 -1.0418E-05 7.2194E-06 2.9091E-06 -1.0419E-05 7.2363E-06
2.9079E-06 -1.0422E-05 7.2339E-06 3.1732E-06 -1.1230E-05 7.7822E-06
2.9069E-06 -1.0422E-05 7.2410E-06
  23 -1.0877E-05 1.0986E-04 -6.1989E-05 -1.0801E-05 1.1026E-04 -6.2325E-05
-1.0857E-05 1.1003E-04 -6.2831E-05 -1.0805E-05 1.1003E-04 -6.1370E-05 -
1.0420E-05 1.1101E-04 -6.2530E-05 -1.0374E-05 1.1099E-04 -6.3482E-05 -
1.0308E-05 1.1118E-04 -6.3351E-05 -1.1230E-05 1.2164E-04 -6.7871E-05 -
1.0248E-05 1.1115E-04 -6.3751E-05
  24   7.4354E-06 -6.1529E-05 3.9002E-05 7.3996E-06 -6.1730E-05 3.9176E-05
7.4271E-06 -6.1616E-05 3.9425E-05 7.4017E-06 -6.1618E-05 3.8708E-05
7.2127E-06 -6.2097E-05 3.9277E-05 7.1896E-06 -6.2089E-05 3.9744E-05
7.1576E-06 -6.2184E-05 3.9680E-05 7.7822E-06 -6.7871E-05 4.2660E-05
7.1281E-06 -6.2166E-05 3.9876E-05
  25   2.9002E-06 -1.0243E-05 7.1209E-06 2.9038E-06 -1.0256E-05 7.1269E-06
2.9036E-06 -1.0259E-05 7.1239E-06 2.9036E-06 -1.0256E-05 7.1339E-06
2.9069E-06 -1.0248E-05 7.1245E-06 2.9075E-06 -1.0251E-05 7.1179E-06
2.9080E-06 -1.0249E-05 7.1185E-06 2.9069E-06 -1.0248E-05 7.1281E-06
3.1623E-06 -1.1011E-05 7.7067E-06
  26 -1.0900E-05 1.1008E-04 -6.2115E-05 -1.0821E-05 1.1049E-04 -6.2462E-05
-1.0880E-05 1.1026E-04 -6.2994E-05 -1.0823E-05 1.1024E-04 -6.1463E-05 -
1.0426E-05 1.1126E-04 -6.2672E-05 -1.0380E-05 1.1126E-04 -6.3670E-05 -
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1.1011E-05 1.2220E-04 -7.0312E-05
  27   7.5911E-06 -6.3011E-05 3.9852E-05 7.5322E-06 -6.3269E-05 4.0091E-05
7.5754E-06 -6.3100E-05 4.0479E-05 7.5340E-06 -6.3088E-05 3.9364E-05
7.2445E-06 -6.3833E-05 4.0245E-05 7.2103E-06 -6.3831E-05 4.0972E-05
7.1608E-06 -6.3974E-05 4.0871E-05 7.2410E-06 -6.3751E-05 3.9876E-05
7.7067E-06 -7.0312E-05 4.5465E-05

Correlation matrix of the 9 vectors
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9.0811E-01 -5.4714E-01 6.3029E-01 9.0734E-01 -5.4724E-01 6.2609E-01
9.0616E-01 -5.4701E-01 6.2686E-01 9.0799E-01 -5.4713E-01 6.3157E-01
9.0481E-01 -5.4703E-01 6.2459E-01
   2 -5.9600E-01 1.0000E+00 -9.4241E-01 -5.4616E-01 9.1405E-01 -8.6233E-01
-5.4755E-01 9.1456E-01 -8.6066E-01 -5.4617E-01 9.1396E-01 -8.6298E-01 -
5.3441E-01 9.1248E-01 -8.6199E-01 -5.3267E-01 9.1267E-01 -8.5772E-01 -
5.3015E-01 9.1218E-01 -8.5857E-01 -5.3421E-01 9.1250E-01 -8.6297E-01 -
5.2769E-01 9.1224E-01 -8.5606E-01
   3   6.8821E-01 -9.4241E-01 1.0000E+00 6.2988E-01 -8.6233E-01 9.1366E-01
6.3099E-01 -8.6280E-01 9.1128E-01 6.2986E-01 -8.6222E-01 9.1555E-01
6.1962E-01 -8.6092E-01 9.1305E-01 6.1802E-01 -8.6110E-01 9.0738E-01
6.1569E-01 -8.6066E-01 9.0844E-01 6.1944E-01 -8.6093E-01 9.1468E-01
6.1338E-01 -8.6072E-01 9.0531E-01
   4   9.1026E-01 -5.4616E-01 6.2988E-01 1.0000E+00 -5.9235E-01 6.8462E-01
9.1067E-01 -5.4616E-01 6.2654E-01 9.1101E-01 -5.4578E-01 6.3156E-01
9.1062E-01 -5.4452E-01 6.2819E-01 9.1005E-01 -5.4465E-01 6.2297E-01
9.0914E-01 -5.4429E-01 6.2388E-01 9.1051E-01 -5.4457E-01 6.3000E-01
9.0806E-01 -5.4434E-01 6.2119E-01

5 -5.4787E-01 9.1405E-01 -8.6233E-01 -5.9235E-01 1.0000E+00 -9.4272E-01
-5.4723E-01 9.1442E-01 -8.6074E-01 -5.4576E-01 9.1380E-01 -8.6243E-01 -
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9.0777E-01 -5.4433E-01 6.2119E-01
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G-FILE for the vectors

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8611770 15 24 9134092 15 25 6085491 15 26 -8611549 15 27 9065873 D 16 17 -
5688158 16 18 6547492 16 19 9182283 16 20 -5272215 16 21 6053408 D 16 22
9173121 16 23 -5283237 16 24 6183007 16 25 9184025 16 26 -5274224 D 16 27
6006485 17 18 -9433928 17 19 -5252294 17 20 9120068 17 21 -8595686 D 17 22 -
5299952 17 23 9119385 17 24 -8614170 17 25 -5223631 17 26 9120592 D 17 27 -
8578291 18 19 6003112 18 20 -8590573 18 21 9075328 18 22 6058678 D 18 23 -
8584696 18 24 9075493 18 25 5969837 18 26 -8590417 18 27 9062720 D 19 20 -
5637958 19 21 6514837 19 22 9176305 19 23 -5253978 19 24 6160074 D 19 25
9192407 19 26 -5243601 19 27 5969677 20 21 -9438973 20 22 -5290865 D 20 23
9116693 20 24 -8609793 20 25 -5211873 20 26 9118107 20 27 -8580123 D 21 22
6073860 21 23 -8591218 21 24 9086470 21 25 5987312 21 26 -8595941 D 21 27
9065961 22 23 -5716225 22 24 6688717 22 25 9176531 22 26 -5292392 D 22 27
6028552 23 24 -9421875 23 25 -5225343 23 26 9116723 23 27 -8572616 D 24 25
6137056 24 26 -8610174 24 27 9054463 25 26 -5601627 25 27 6427295 D 26 27 -
9433267

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	13327.755	-5524065.171	3177540.905
nola	13327.762	-5524065.173	3177540.919
covg	13327.760	-5524065.177	3177540.903
gris	13327.749	-5524065.143	3177540.925
houm	13327.750	-5524065.165	3177540.904
gvms	13327.756	-5524065.131	3177540.871
awes	13327.760	-5524065.174	3177540.896
lmcn	13327.751	-5524065.200	3177540.950
sjb1	13327.759	-5524065.164	3177540.886

Residuals of position determined by individual baselines from the final

position

	X	Y	Z	East	North	Up
eng6	-0.000	-0.003	-0.003	-0.000	-0.004	0.001
nola	0.006	-0.004	0.011	0.006	0.008	0.009
covg	0.004	-0.009	-0.005	0.004	-0.009	0.006
gris	-0.007	0.025	0.017	-0.007	0.027	-0.014
houm	-0.005	0.003	-0.004	-0.005	-0.002	-0.004
gvms	0.000	0.037	-0.037	0.000	-0.013	-0.050
awes	0.004	-0.005	-0.012	0.004	-0.013	-0.001
lmcn	-0.004	-0.031	0.042	-0.004	0.020	0.048
sjb1	0.004	0.004	-0.022	0.004	-0.017	-0.014

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 575690.680
Easting (X) [feet] 3746272.023
Convergence [degrees] 0.73580694
Point Scale 0.99992657
Combined Factor 0.99993059

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.603 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.647
scatter (mean square distance from rover) is 8239.265
average edop for rover is 0.720
average ndop for rover is 0.890
average hdop for rover is 1.145
average vdop for rover is 2.080
average gdop for rover is 2.720

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:09 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA29.O00 OP1335488572085

FILE: QCFVA29.O00 OP1335488572085

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069p.12o TIME: 01:09:02 UTC

SOFTWARE: rsgps 1.37 RS40.prl 1.73 START: 2012/03/09 15:33:50
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 15:54:37
NAV FILE: brdc0690.12n OBS USED: 1624 / 1800 : 90%
ANT NAME: LEIAT502 NONE QUALITY IND. 7.64/ 26.28
ARP HEIGHT: 1.591 NORMALIZED RMS: 0.377

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18758)

X:	16140.947(m)	0.006(m)	16140.214(m)	0.006(m)
Y:	-5524496.449(m)	0.047(m)	-5524494.958(m)	0.047(m)
Z:	3176785.882(m)	0.023(m)	3176785.675(m)	0.023(m)

LAT:	30 4 1.01383	0.010(m)	30 4 1.03231	0.010(m)
E LON:	270 10 2.64313	0.006(m)	270 10 2.61593	0.006(m)
W LON:	89 49 57.35687	0.006(m)	89 49 57.38407	0.006(m)
EL HGT:	-25.591(m)	0.051(m)	-26.987(m)	0.051(m)
ORTHO HGT:	0.684(m)	0.053(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3329587.390	174634.765
Easting (X) [meters]	226930.137	1144688.183
Convergence [degrees]	-1.42004464	0.75038615
Point Scale	1.00052008	0.99992641
Combined Factor	1.00052410	0.99993043

US NATIONAL GRID DESIGNATOR: 16RBU2693029587(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	23342.8

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 31399.0
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 51917.6
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 89650.8
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 106723.7
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 110959.6
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 119936.2
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 127999.7

NEAREST NGS PUBLISHED CONTROL POINT
BH2815 CHEF MENTEUR ATT MICROWAVE TWR N300400.535 W0894958.649 37.6

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.595	-5534921.905	3158759.185
nola	-11604.029	-5531876.875	3164070.916
covg	-9174.160	-5501675.344	3215950.502
gris	4149.687	-5568493.933	3099600.309
gvms	-86907.676	-5510048.203	3200500.212
awes	-94742.054	-5521868.850	3179990.071
msga	130192.498	-5504708.296	3208174.556
sjb1	-106395.197	-5505141.452	3208320.263
qcfv	16140.214	-5524494.958	3176785.675

Covariance matrix of the stations:
1 4.1980E-07 1.6710E-06 -9.1530E-07 -4.1910E-08 -2.5310E-07 1.3600E-07
-3.7760E-08 -2.0700E-07 1.1940E-07 -4.3350E-08 -2.9640E-07 1.4800E-07 -
4.8740E-08 -2.4160E-07 1.3480E-07 -5.1700E-08 -2.6370E-07 1.4330E-07 -
2.0930E-08 -1.7030E-07 9.9610E-08 -5.0370E-08 -2.3860E-07 1.3410E-07
3.6450E-08 1.3330E-07 -7.4840E-08
2 1.6710E-06 1.9540E-05 -1.0420E-05 -2.4130E-07 -2.7050E-06 1.4720E-06
-2.4570E-07 -2.7950E-06 1.4600E-06 -2.5690E-07 -2.6600E-06 1.5230E-06 -
2.0330E-07 -2.8820E-06 1.5300E-06 -1.9770E-07 -2.8560E-06 1.5390E-06 -
3.3110E-07 -2.5850E-06 1.3440E-06 -1.9490E-07 -2.9290E-06 1.5480E-06 -
2.7040E-07 -2.2680E-06 1.2610E-06
3 -9.1530E-07 -1.0420E-05 5.8270E-06 1.3170E-07 1.4710E-06 -8.1070E-07
1.3240E-07 1.4900E-06 -8.0570E-07 1.3620E-07 1.4610E-06 -8.2550E-07
1.2100E-07 1.5190E-06 -8.2600E-07 1.1970E-07 1.5140E-06 -8.2970E-07
1.5570E-07 1.4300E-06 -7.7370E-07 1.1860E-07 1.5310E-06 -8.3080E-07
9.9210E-08 8.3350E-07 -4.3960E-07
4 -4.1910E-08 -2.4130E-07 1.3170E-07 4.2760E-07 1.7160E-06 -9.3930E-07
-4.1060E-08 -2.2930E-07 1.2670E-07 -4.3960E-08 -2.6230E-07 1.4090E-07 -
4.6370E-08 -2.6450E-07 1.4540E-07 -4.7860E-08 -2.7630E-07 1.5100E-07 -
3.4160E-08 -1.7390E-07 9.5930E-08 -4.7240E-08 -2.6830E-07 1.4760E-07
8.9570E-09 -5.9300E-08 3.1910E-08
5 -2.5310E-07 -2.7050E-06 1.4710E-06 1.7160E-06 1.9310E-05 -1.0320E-05
-2.4310E-07 -2.7050E-06 1.4330E-06 -2.6630E-07 -2.8040E-06 1.5600E-06 -
2.2300E-07 -2.7890E-06 1.4900E-06 -2.2330E-07 -2.8060E-06 1.5120E-06 -
2.8980E-07 -2.5720E-06 1.3630E-06 -2.1740E-07 -2.8090E-06 1.4960E-06 -

2.0620E-07 -1.8260E-06 1.0100E-06
   6   1.3600E-07 1.4720E-06 -8.1070E-07 -9.3930E-07 -1.0320E-05 5.7910E-06
1.3230E-07 1.4530E-06 -7.9480E-07 1.4110E-07 1.5200E-06 -8.4090E-07
1.3000E-07 1.4800E-06 -8.0970E-07 1.3120E-07 1.4930E-06 -8.1850E-07
1.3990E-07 1.4240E-06 -7.8180E-07 1.2870E-07 1.4810E-06 -8.0950E-07
7.5220E-08 6.8150E-07 -3.5650E-07
   7 -3.7760E-08 -2.4570E-07 1.3240E-07 -4.1060E-08 -2.4310E-07 1.3230E-07
4.1490E-07 1.5780E-06 -8.7700E-07 -4.3550E-08 -3.2330E-07 1.5400E-07 -
5.1320E-08 -1.9770E-07 1.1720E-07 -5.6050E-08 -2.3230E-07 1.2940E-07 -
6.4920E-09 -1.4930E-07 9.8840E-08 -5.3700E-08 -1.8650E-07 1.1290E-07
5.4670E-08 3.3980E-07 -1.8530E-07
   8 -2.0700E-07 -2.7950E-06 1.4900E-06 -2.2930E-07 -2.7050E-06 1.4530E-06
1.5780E-06 1.7700E-05 -9.5920E-06 -2.6440E-07 -3.5700E-06 1.7220E-06 -
2.8890E-07 -2.0190E-06 1.1620E-06 -3.2840E-07 -2.3110E-06 1.2630E-06
4.2100E-08 -2.3140E-06 1.4120E-06 -3.0200E-07 -1.8580E-06 1.0890E-06
3.4510E-07 2.9870E-06 -1.6190E-06
   9   1.1940E-07 1.4600E-06 -8.0570E-07 1.2670E-07 1.4330E-06 -7.9480E-07
-8.7700E-07 -9.5920E-06 5.5010E-06 1.3820E-07 1.7120E-06 -8.8110E-07
1.4540E-07 1.2120E-06 -7.0070E-07 1.5820E-07 1.3070E-06 -7.3340E-07
3.9800E-08 1.3080E-06 -7.8360E-07 1.4940E-07 1.1600E-06 -6.7690E-07 -
8.8490E-08 -7.5800E-07 4.1960E-07
  10 -4.3350E-08 -2.5690E-07 1.3620E-07 -4.3960E-08 -2.6630E-07 1.4110E-07
-4.3550E-08 -2.6440E-07 1.3820E-07 4.3670E-07 1.8980E-06 -9.9930E-07 -
4.6110E-08 -2.9980E-07 1.5840E-07 -4.6710E-08 -3.0520E-07 1.6190E-07 -
4.1240E-08 -1.9800E-07 1.0080E-07 -4.6710E-08 -3.0760E-07 1.6250E-07 -
2.3210E-09 -1.7020E-07 8.7900E-08
  11 -2.9640E-07 -2.6600E-06 1.4610E-06 -2.6230E-07 -2.8040E-06 1.5200E-06
-3.2330E-07 -3.5700E-06 1.7120E-06 1.8980E-06 2.3010E-05 -1.1620E-05 -
1.4820E-07 -3.6710E-06 1.8580E-06 -1.0630E-07 -3.3910E-06 1.7940E-06 -
6.3880E-07 -2.9020E-06 1.3250E-06 -1.2300E-07 -3.8860E-06 1.9500E-06 -
7.8970E-07 -7.0210E-06 3.8330E-06
  12   1.4800E-07 1.5230E-06 -8.2550E-07 1.4090E-07 1.5600E-06 -8.4090E-07
1.5400E-07 1.7220E-06 -8.8110E-07 -9.9930E-07 -1.1620E-05 6.2220E-06
1.1610E-07 1.7530E-06 -9.1640E-07 1.0720E-07 1.6950E-06 -9.0370E-07
2.2250E-07 1.5670E-06 -7.9280E-07 1.1060E-07 1.8000E-06 -9.3670E-07
2.1140E-07 1.9360E-06 -1.0220E-06
  13 -4.8740E-08 -2.0330E-07 1.2100E-07 -4.6370E-08 -2.2300E-07 1.3000E-07
-5.1320E-08 -2.8890E-07 1.4540E-07 -4.6110E-08 -1.4820E-07 1.1610E-07
4.6610E-07 1.6960E-06 -9.4940E-07 -3.5690E-08 -3.0570E-07 1.7090E-07 -
7.5730E-08 -1.7620E-07 8.0740E-08 -3.7210E-08 -3.5090E-07 1.8550E-07 -
5.9680E-08 -6.2200E-07 3.4590E-07
  14 -2.4160E-07 -2.8820E-06 1.5190E-06 -2.6450E-07 -2.7890E-06 1.4800E-06
-1.9770E-07 -2.0190E-06 1.2120E-06 -2.9980E-07 -3.6710E-06 1.7530E-06
1.6960E-06 1.8180E-05 -9.7960E-06 -3.6620E-07 -2.3810E-06 1.2820E-06
1.3710E-08 -2.4000E-06 1.4450E-06 -3.3940E-07 -1.9170E-06 1.1050E-06
3.2230E-07 3.0140E-06 -1.6520E-06
  15   1.3480E-07 1.5300E-06 -8.2600E-07 1.4540E-07 1.4900E-06 -8.0970E-07
1.1720E-07 1.1620E-06 -7.0070E-07 1.5840E-07 1.8580E-06 -9.1640E-07 -
9.4940E-07 -9.7960E-06 5.5560E-06 1.9140E-07 1.3070E-06 -7.2120E-07
2.1700E-08 1.3420E-06 -8.1060E-07 1.8040E-07 1.1070E-06 -6.4650E-07 -
1.3300E-07 -1.2690E-06 7.1290E-07
  16 -5.1700E-08 -1.9770E-07 1.1970E-07 -4.7860E-08 -2.2330E-07 1.3120E-07
-5.6050E-08 -3.2840E-07 1.5820E-07 -4.6710E-08 -1.0630E-07 1.0720E-07 -
3.5690E-08 -3.6620E-07 1.9140E-07 4.9020E-07 1.8120E-06 -9.9250E-07 -

9.4070E-08 -1.8920E-07 7.7940E-08 -3.3110E-08 -4.0100E-07 2.0710E-07 -
8.9850E-08 -8.8060E-07 4.8740E-07
  17 -2.6370E-07 -2.8560E-06 1.5140E-06 -2.7630E-07 -2.8060E-06 1.4930E-06
-2.3230E-07 -2.3110E-06 1.3070E-06 -3.0520E-07 -3.3910E-06 1.6950E-06 -
3.0570E-07 -2.3810E-06 1.3070E-06 1.8120E-06 1.8660E-05 -1.0010E-05 -
1.1610E-07 -2.5060E-06 1.4300E-06 -3.1210E-07 -2.2820E-06 1.2610E-06
1.1000E-07 1.1930E-06 -6.5820E-07
  18   1.4330E-07 1.5390E-06 -8.2970E-07 1.5100E-07 1.5120E-06 -8.1850E-07
1.2940E-07 1.2630E-06 -7.3340E-07 1.6190E-07 1.7940E-06 -9.0370E-07
1.7090E-07 1.2820E-06 -7.2120E-07 -9.9250E-07 -1.0010E-05 5.6400E-06
6.0540E-08 1.3900E-06 -8.1210E-07 1.7530E-07 1.2280E-06 -6.9650E-07 -
7.1060E-08 -7.4080E-07 4.2900E-07
  19 -2.0930E-08 -3.3110E-07 1.5570E-07 -3.4160E-08 -2.8980E-07 1.3990E-07
-6.4920E-09 4.2100E-08 3.9800E-08 -4.1240E-08 -6.3880E-07 2.2250E-07 -
7.5730E-08 1.3710E-08 2.1700E-08 -9.4070E-08 -1.1610E-07 6.0540E-08
4.8270E-07 1.2320E-06 -6.3070E-07 -8.5030E-08 8.8050E-08 -9.9710E-09
2.5190E-07 2.0070E-06 -1.1090E-06
  20 -1.7030E-07 -2.5850E-06 1.4300E-06 -1.7390E-07 -2.5720E-06 1.4240E-06
-1.4930E-07 -2.3140E-06 1.3080E-06 -1.9800E-07 -2.9020E-06 1.5670E-06 -
1.7620E-07 -2.4000E-06 1.3420E-06 -1.8920E-07 -2.5060E-06 1.3900E-06
1.2320E-06 1.7770E-05 -9.7850E-06 -1.7670E-07 -2.3630E-06 1.3240E-06
3.7440E-08 -1.4360E-07 1.2550E-07
  21   9.9610E-08 1.3440E-06 -7.7370E-07 9.5930E-08 1.3630E-06 -7.8180E-07
9.8840E-08 1.4120E-06 -7.8360E-07 1.0080E-07 1.3250E-06 -7.9280E-07
8.0740E-08 1.4450E-06 -8.1060E-07 7.7940E-08 1.4300E-06 -8.1210E-07 -
6.3070E-07 -9.7850E-06 5.6990E-06 7.7350E-08 1.4670E-06 -8.1910E-07
9.4940E-08 1.0970E-06 -6.1340E-07
  22 -5.0370E-08 -1.9490E-07 1.1860E-07 -4.7240E-08 -2.1740E-07 1.2870E-07
-5.3700E-08 -3.0200E-07 1.4940E-07 -4.6710E-08 -1.2300E-07 1.1060E-07 -
3.7210E-08 -3.3940E-07 1.8040E-07 -3.3110E-08 -3.1210E-07 1.7530E-07 -
8.5030E-08 -1.7670E-07 7.7350E-08 4.7830E-07 1.6650E-06 -9.3990E-07 -
7.4970E-08 -7.4650E-07 4.1530E-07
  23 -2.3860E-07 -2.9290E-06 1.5310E-06 -2.6830E-07 -2.8090E-06 1.4810E-06
-1.8650E-07 -1.8580E-06 1.1600E-06 -3.0760E-07 -3.8860E-06 1.8000E-06 -
3.5090E-07 -1.9170E-06 1.1070E-06 -4.0100E-07 -2.2820E-06 1.2280E-06
8.8050E-08 -2.3630E-06 1.4670E-06 1.6650E-06 1.8170E-05 -9.7740E-06
4.5160E-07 4.1910E-06 -2.3010E-06
  24   1.3410E-07 1.5480E-06 -8.3080E-07 1.4760E-07 1.4960E-06 -8.0950E-07
1.1290E-07 1.0890E-06 -6.7690E-07 1.6250E-07 1.9500E-06 -9.3670E-07
1.8550E-07 1.1050E-06 -6.4650E-07 2.0710E-07 1.2610E-06 -6.9650E-07 -
9.9710E-09 1.3240E-06 -8.1910E-07 -9.3990E-07 -9.7740E-06 5.5410E-06 -
1.8850E-07 -1.7820E-06 9.9540E-07
  25   3.6450E-08 -2.7040E-07 9.9210E-08 8.9570E-09 -2.0620E-07 7.5220E-08
5.4670E-08 3.4510E-07 -8.8490E-08 -2.3210E-09 -7.8970E-07 2.1140E-07 -
5.9680E-08 3.2230E-07 -1.3300E-07 -8.9850E-08 1.1000E-07 -7.1060E-08
2.5190E-07 3.7440E-08 9.4940E-08 -7.4970E-08 4.5160E-07 -1.8850E-07
4.6200E-06 2.1130E-05 -1.1690E-05
  26   1.3330E-07 -2.2680E-06 8.3350E-07 -5.9300E-08 -1.8260E-06 6.8150E-07
3.3980E-07 2.9870E-06 -7.5800E-07 -1.7020E-07 -7.0210E-06 1.9360E-06 -
6.2200E-07 3.0140E-06 -1.2690E-06 -8.8060E-07 1.1930E-06 -7.4080E-07
2.0070E-06 -1.4360E-07 1.0970E-06 -7.4650E-07 4.1910E-06 -1.7820E-06
2.1130E-05 2.3310E-04 -1.2640E-04
  27 -7.4840E-08 1.2610E-06 -4.3960E-07 3.1910E-08 1.0100E-06 -3.5650E-07
-1.8530E-07 -1.6190E-06 4.1960E-07 8.7900E-08 3.8330E-06 -1.0220E-06

3.4590E-07 -1.6520E-06 7.1290E-07 4.8740E-07 -6.5820E-07 4.2900E-07 -
1.1090E-06 1.2550E-07 -6.1340E-07 4.1530E-07 -2.3010E-06 9.9540E-07 -
1.1690E-05 -1.2640E-04 7.1190E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
  0.0000046200 0.0000211300 -0.0000116900
  0.0000211300 0.0002331000 -0.0001264000
 -0.0000116900 -0.0001264000 0.0000711900

Covariance Matrix for the enu OPUS Position (meters^2).
  0.0000047454 0.0000004117 -0.0000249073
  0.0000004117 0.0000021776 -0.0000063508
 -0.0000249073 -0.0000063508 0.0003019870

Horizontal network accuracy = 0.00465 meters.
Vertical network accuracy = 0.03407 meters.

		Vectors		
To	From	X	Y	Z
eng6	qcfv	-10545.619	-10426.947	-18026.489
nola	qcfv	-27744.243	-7381.917	-12714.759
covg	qcfv	-25314.374	22819.614	39164.828
gris	qcfv	-11990.527	-43998.974	-77185.365
gvms	qcfv	-103047.890	14446.756	23714.537
awes	qcfv	-110882.269	2626.109	3204.397
msga	qcfv	114052.284	19786.662	31388.881
sjb1	qcfv	-122535.411	19353.506	31534.589

Covariance matrix of the 8 vectors
  1 4.9669E-06 2.2938E-05 -1.2630E-05 4.5327E-06 2.0950E-05 -1.1554E-05
4.4911E-06 2.0445E-05 -1.1407E-05 4.5425E-06 2.1490E-05 -1.1679E-05
4.5945E-06 2.0433E-05 -1.1347E-05 4.6217E-06 2.0623E-05 -1.1401E-05
4.3107E-06 2.0789E-05 -1.1610E-05 4.6082E-06 2.0306E-05 -1.1293E-05
  2 2.2938E-05 2.5718E-04 -1.3891E-04 2.1218E-05 2.3449E-04 -1.2687E-04
2.0815E-05 2.2959E-04 -1.2544E-04 2.1314E-05 2.3973E-04 -1.2807E-04
2.1819E-05 2.2947E-04 -1.2486E-04 2.2083E-05 2.3132E-04 -1.2538E-04
1.9062E-05 2.3293E-04 -1.2741E-04 2.1952E-05 2.2825E-04 -1.2433E-04
  3 -1.2630E-05 -1.3891E-04 7.7896E-05 -1.1689E-05 -1.2677E-04 7.1175E-05
-1.1472E-05 -1.2412E-04 7.0404E-05 -1.1741E-05 -1.2961E-04 7.1826E-05 -
1.2014E-05 -1.2406E-04 7.0091E-05 -1.2157E-05 -1.2506E-04 7.0371E-05 -
1.0525E-05 -1.2593E-04 7.1469E-05 -1.2086E-05 -1.2340E-04 6.9803E-05
  4 4.5327E-06 2.1218E-05 -1.1689E-05 5.0297E-06 2.3112E-05 -1.2736E-05
4.5153E-06 2.0615E-05 -1.1507E-05 4.5694E-06 2.1717E-05 -1.1792E-05
4.6244E-06 2.0602E-05 -1.1444E-05 4.6530E-06 2.0803E-05 -1.1500E-05
4.3250E-06 2.0978E-05 -1.1721E-05 4.6388E-06 2.0469E-05 -1.1386E-05
  5 2.0950E-05 2.3449E-04 -1.2677E-04 2.3112E-05 2.5606E-04 -1.3841E-04
2.0753E-05 2.2923E-04 -1.2522E-04 2.1240E-05 2.3914E-04 -1.2779E-04
2.1735E-05 2.2912E-04 -1.2465E-04 2.1993E-05 2.3093E-04 -1.2516E-04
1.9039E-05 2.3250E-04 -1.2714E-04 2.1865E-05 2.2793E-04 -1.2413E-04
  6 -1.1554E-05 -1.2687E-04 7.1175E-05 -1.2736E-05 -1.3841E-04 7.7694E-05
-1.1448E-05 -1.2401E-04 7.0332E-05 -1.1712E-05 -1.2939E-04 7.1728E-05 -
1.1981E-05 -1.2395E-04 7.0024E-05 -1.2121E-05 -1.2493E-04 7.0299E-05 -
1.0516E-05 -1.2578E-04 7.1378E-05 -1.2052E-05 -1.2330E-04 6.9742E-05

7 4.4911E-06 2.0815E-05 -1.1472E-05 4.5153E-06 2.0753E-05 -1.1448E-05
4.9256E-06 2.2023E-05 -1.2293E-05 4.5241E-06 2.1257E-05 -1.1562E-05
4.5737E-06 2.0270E-05 -1.1255E-05 4.5991E-06 2.0448E-05 -1.1304E-05
4.3069E-06 2.0603E-05 -1.1501E-05 4.5866E-06 2.0152E-05 -1.1203E-05
8 2.0445E-05 2.2959E-04 -1.2412E-04 2.0615E-05 2.2923E-04 -1.2401E-04
2.2023E-05 2.4483E-04 -1.3362E-04 2.0691E-05 2.3356E-04 -1.2500E-04
2.1118E-05 2.2508E-04 -1.2235E-04 2.1337E-05 2.2661E-04 -1.2278E-04
1.8820E-05 2.2794E-04 -1.2447E-04 2.1229E-05 2.2406E-04 -1.2191E-04
9 -1.1407E-05 -1.2544E-04 7.0404E-05 -1.1507E-05 -1.2522E-04 7.0332E-05
-1.2293E-05 -1.3362E-04 7.5852E-05 -1.1551E-05 -1.2776E-04 7.0911E-05 -
1.1802E-05 -1.2278E-04 6.9357E-05 -1.1931E-05 -1.2368E-04 6.9608E-05 -
1.0453E-05 -1.2446E-04 7.0600E-05 -1.1867E-05 -1.2218E-04 6.9098E-05
10 4.5425E-06 2.1314E-05 -1.1741E-05 4.5694E-06 2.1240E-05 -1.1712E-05
4.5241E-06 2.0691E-05 -1.1551E-05 5.0613E-06 2.3988E-05 -1.2989E-05
4.6359E-06 2.0678E-05 -1.1486E-05 4.6655E-06 2.0885E-05 -1.1545E-05
4.3292E-06 2.1065E-05 -1.1772E-05 4.6506E-06 2.0541E-05 -1.1427E-05
11 2.1490E-05 2.3973E-04 -1.2961E-04 2.1717E-05 2.3914E-04 -1.2939E-04
2.1257E-05 2.3356E-04 -1.2776E-04 2.3988E-05 2.7015E-04 -1.4379E-04
2.2393E-05 2.3344E-04 -1.2711E-04 2.2694E-05 2.3554E-04 -1.2770E-04
1.9274E-05 2.3736E-04 -1.3001E-04 2.2543E-05 2.3204E-04 -1.2650E-04
12 -1.1679E-05 -1.2807E-04 7.1826E-05 -1.1792E-05 -1.2779E-04 7.1728E-05
-1.1562E-05 -1.2500E-04 7.0911E-05 -1.2989E-05 -1.4379E-04 7.9456E-05 -
1.2131E-05 -1.2493E-04 7.0583E-05 -1.2282E-05 -1.2598E-04 7.0879E-05 -
1.0570E-05 -1.2689E-04 7.2033E-05 -1.2206E-05 -1.2424E-04 7.0280E-05
13 4.5945E-06 2.1819E-05 -1.2014E-05 4.6244E-06 2.1735E-05 -1.1981E-05
4.5737E-06 2.1118E-05 -1.1802E-05 4.6359E-06 2.2393E-05 -1.2131E-05
5.2055E-06 2.3126E-05 -1.2852E-05 4.7338E-06 2.1336E-05 -1.1794E-05
4.3521E-06 2.1538E-05 -1.2050E-05 4.7174E-06 2.0949E-05 -1.1662E-05
14 2.0433E-05 2.2947E-04 -1.2406E-04 2.0602E-05 2.2912E-04 -1.2395E-04
2.0270E-05 2.2508E-04 -1.2278E-04 2.0678E-05 2.3344E-04 -1.2493E-04
2.3126E-05 2.4525E-04 -1.3328E-04 2.1322E-05 2.2651E-04 -1.2273E-04
1.8814E-05 2.2783E-04 -1.2440E-04 2.1215E-05 2.2398E-04 -1.2186E-04
15 -1.1347E-05 -1.2486E-04 7.0091E-05 -1.1444E-05 -1.2465E-04 7.0024E-05
-1.1255E-05 -1.2235E-04 6.9357E-05 -1.1486E-05 -1.2711E-04 7.0583E-05 -
1.2852E-05 -1.3328E-04 7.5320E-05 -1.1853E-05 -1.2317E-04 6.9327E-05 -
1.0426E-05 -1.2391E-04 7.0280E-05 -1.1792E-05 -1.2172E-04 6.8835E-05
16 4.6217E-06 2.2083E-05 -1.2157E-05 4.6530E-06 2.1993E-05 -1.2121E-05
4.5991E-06 2.1337E-05 -1.1931E-05 4.6655E-06 2.2694E-05 -1.2282E-05
4.7338E-06 2.1322E-05 -1.1853E-05 5.2899E-06 2.3713E-05 -1.3099E-05
4.3639E-06 2.1784E-05 -1.2194E-05 4.7517E-06 2.1158E-05 -1.1782E-05
17 2.0623E-05 2.3132E-04 -1.2506E-04 2.0803E-05 2.3093E-04 -1.2493E-04
2.0448E-05 2.2661E-04 -1.2368E-04 2.0885E-05 2.3554E-04 -1.2598E-04
2.1336E-05 2.2651E-04 -1.2317E-04 2.3713E-05 2.4937E-04 -1.3501E-04
1.8897E-05 2.2954E-04 -1.2541E-04 2.1454E-05 2.2543E-04 -1.2270E-04
18 -1.1401E-05 -1.2538E-04 7.0371E-05 -1.1500E-05 -1.2516E-04 7.0299E-05
-1.1304E-05 -1.2278E-04 6.9608E-05 -1.1545E-05 -1.2770E-04 7.0879E-05 -
1.1794E-05 -1.2273E-04 6.9327E-05 -1.3099E-05 -1.3501E-04 7.5972E-05 -
1.0449E-05 -1.2439E-04 7.0562E-05 -1.1859E-05 -1.2213E-04 6.9069E-05
19 4.3107E-06 1.9062E-05 -1.0525E-05 4.3250E-06 1.9039E-05 -1.0516E-05
4.3069E-06 1.8820E-05 -1.0453E-05 4.3292E-06 1.9274E-05 -1.0570E-05
4.3521E-06 1.8814E-05 -1.0426E-05 4.3639E-06 1.8897E-05 -1.0449E-05
4.5989E-06 2.0318E-05 -1.1307E-05 4.3580E-06 1.8759E-05 -1.0402E-05
20 2.0789E-05 2.3293E-04 -1.2593E-04 2.0978E-05 2.3250E-04 -1.2578E-04
2.0603E-05 2.2794E-04 -1.2446E-04 2.1065E-05 2.3736E-04 -1.2689E-04

2.1538E-05 2.2783E-04 -1.2391E-04 2.1784E-05 2.2954E-04 -1.2439E-04
2.0318E-05 2.5116E-04 -1.3741E-04 2.1662E-05 2.2669E-04 -1.2342E-04
  21 -1.1610E-05 -1.2741E-04 7.1469E-05 -1.1721E-05 -1.2714E-04 7.1378E-05
-1.1501E-05 -1.2447E-04 7.0600E-05 -1.1772E-05 -1.3001E-04 7.2033E-05 -
1.2050E-05 -1.2440E-04 7.0280E-05 -1.2194E-05 -1.2541E-04 7.0562E-05 -
1.1307E-05 -1.3741E-04 7.8116E-05 -1.2123E-05 -1.2373E-04 6.9989E-05
  22   4.6082E-06 2.1952E-05 -1.2086E-05 4.6388E-06 2.1865E-05 -1.2052E-05
4.5866E-06 2.1229E-05 -1.1867E-05 4.6506E-06 2.2543E-05 -1.2206E-05
4.7174E-06 2.1215E-05 -1.1792E-05 4.7517E-06 2.1454E-05 -1.1859E-05
4.3580E-06 2.1662E-05 -1.2123E-05 5.2482E-06 2.3090E-05 -1.2857E-05
  23   2.0306E-05 2.2825E-04 -1.2340E-04 2.0469E-05 2.2793E-04 -1.2330E-04
2.0152E-05 2.2406E-04 -1.2218E-04 2.0541E-05 2.3204E-04 -1.2424E-04
2.0949E-05 2.2398E-04 -1.2172E-04 2.1158E-05 2.2543E-04 -1.2213E-04
1.8759E-05 2.2669E-04 -1.2373E-04 2.3090E-05 2.4289E-04 -1.3209E-04
  24 -1.1293E-05 -1.2433E-04 6.9803E-05 -1.1386E-05 -1.2413E-04 6.9742E-05
-1.1203E-05 -1.2191E-04 6.9098E-05 -1.1427E-05 -1.2650E-04 7.0280E-05 -
1.1662E-05 -1.2186E-04 6.8835E-05 -1.1782E-05 -1.2270E-04 6.9069E-05 -
1.0402E-05 -1.2342E-04 6.9989E-05 -1.2857E-05 -1.3209E-04 7.4740E-05

Correlation matrix of the 8 vectors
    1   1.0000E+00 6.4180E-01 -6.4208E-01 9.0686E-01 5.8744E-01 -5.8818E-01
9.0800E-01 5.8628E-01 -5.8770E-01 9.0599E-01 5.8666E-01 -5.8787E-01
9.0358E-01 5.8544E-01 -5.8667E-01 9.0164E-01 5.8598E-01 -5.8690E-01
9.0195E-01 5.8860E-01 -5.8944E-01 9.0256E-01 5.8464E-01 -5.8610E-01
    2   6.4180E-01 1.0000E+00 -9.8146E-01 5.8997E-01 9.1377E-01 -8.9754E-01
5.8483E-01 9.1496E-01 -8.9815E-01 5.9076E-01 9.0950E-01 -8.9595E-01
5.9634E-01 9.1371E-01 -8.9714E-01 5.9872E-01 9.1342E-01 -8.9700E-01
5.5428E-01 9.1650E-01 -8.9894E-01 5.9752E-01 9.1325E-01 -8.9678E-01
    3 -6.4208E-01 -9.8146E-01 1.0000E+00 -5.9056E-01 -8.9762E-01 9.1491E-01
-5.8565E-01 -8.9882E-01 9.1592E-01 -5.9130E-01 -8.9343E-01 9.1298E-01 -
5.9663E-01 -8.9759E-01 9.1505E-01 -5.9888E-01 -8.9730E-01 9.1476E-01 -
5.5605E-01 -9.0032E-01 9.1620E-01 -5.9774E-01 -8.9714E-01 9.1483E-01
    4   9.0686E-01 5.8997E-01 -5.9056E-01 1.0000E+00 6.4400E-01 -6.4429E-01
9.0717E-01 5.8747E-01 -5.8911E-01 9.0564E-01 5.8914E-01 -5.8989E-01
9.0376E-01 5.8660E-01 -5.8794E-01 9.0207E-01 5.8739E-01 -5.8829E-01
8.9926E-01 5.9023E-01 -5.9132E-01 9.0287E-01 5.8564E-01 -5.8724E-01
    5   5.8744E-01 9.1377E-01 -8.9762E-01 6.4400E-01 1.0000E+00 -9.8131E-01
5.8437E-01 9.1554E-01 -8.9849E-01 5.9000E-01 9.0925E-01 -8.9587E-01
5.9534E-01 9.1430E-01 -8.9757E-01 5.9758E-01 9.1385E-01 -8.9734E-01
5.5482E-01 9.1680E-01 -8.9899E-01 5.9645E-01 9.1394E-01 -8.9729E-01
    6 -5.8818E-01 -8.9754E-01 9.1491E-01 -6.4429E-01 -9.8131E-01 1.0000E+00
-5.8519E-01 -8.9915E-01 9.1617E-01 -5.9062E-01 -8.9314E-01 9.1291E-01 -
5.9576E-01 -8.9793E-01 9.1537E-01 -5.9791E-01 -8.9753E-01 9.1502E-01 -
5.5634E-01 -9.0044E-01 9.1622E-01 -5.9683E-01 -8.9756E-01 9.1521E-01
    7   9.0800E-01 5.8483E-01 -5.8565E-01 9.0717E-01 5.8437E-01 -5.8519E-01
1.0000E+00 6.3419E-01 -6.3600E-01 9.0609E-01 5.8272E-01 -5.8445E-01
9.0325E-01 5.8321E-01 -5.8431E-01 9.0100E-01 5.8344E-01 -5.8437E-01
9.0493E-01 5.8579E-01 -5.8631E-01 9.0210E-01 5.8263E-01 -5.8390E-01
    8   5.8628E-01 9.1496E-01 -8.9882E-01 5.8747E-01 9.1554E-01 -8.9915E-01
6.3419E-01 1.0000E+00 -9.8049E-01 5.8778E-01 9.0818E-01 -8.9619E-01
5.9155E-01 9.1855E-01 -9.0099E-01 5.9290E-01 9.1711E-01 -9.0025E-01
5.6087E-01 9.1923E-01 -9.0002E-01 5.9225E-01 9.1884E-01 -9.0123E-01
    9 -5.8770E-01 -8.9815E-01 9.1592E-01 -5.8911E-01 -8.9849E-01 9.1617E-01
-6.3600E-01 -9.8049E-01 1.0000E+00 -5.8954E-01 -8.9252E-01 9.1342E-01 -

5.9394E-01 -9.0018E-01 9.1759E-01 -5.9561E-01 -8.9925E-01 9.1696E-01 -
5.5965E-01 -9.0172E-01 9.1718E-01 -5.9479E-01 -9.0016E-01 9.1771E-01
  10 9.0599E-01 5.9076E-01 -5.9130E-01 9.0564E-01 5.9000E-01 -5.9062E-01
9.0609E-01 5.8778E-01 -5.8954E-01 1.0000E+00 6.4872E-01 -6.4769E-01
9.0317E-01 5.8691E-01 -5.8830E-01 9.0165E-01 5.8786E-01 -5.8875E-01
8.9732E-01 5.9081E-01 -5.9204E-01 9.0233E-01 5.8585E-01 -5.8751E-01
  11 5.8666E-01 9.0950E-01 -8.9343E-01 5.8914E-01 9.0925E-01 -8.9314E-01
5.8272E-01 9.0818E-01 -8.9252E-01 6.4872E-01 1.0000E+00 -9.8143E-01
5.9716E-01 9.0690E-01 -8.9106E-01 6.0032E-01 9.0746E-01 -8.9136E-01
5.4681E-01 9.1125E-01 -8.9492E-01 5.9869E-01 9.0586E-01 -8.9025E-01
  12 -5.8787E-01 -8.9595E-01 9.1298E-01 -5.8989E-01 -8.9587E-01 9.1291E-01
-5.8445E-01 -8.9619E-01 9.1342E-01 -6.4769E-01 -9.8143E-01 1.0000E+00 -
5.9650E-01 -8.9495E-01 9.1239E-01 -5.9906E-01 -8.9500E-01 9.1228E-01 -
5.5294E-01 -8.9827E-01 9.1432E-01 -5.9773E-01 -8.9429E-01 9.1199E-01
  13 9.0358E-01 5.9634E-01 -5.9663E-01 9.0376E-01 5.9534E-01 -5.9576E-01
9.0325E-01 5.9155E-01 -5.9394E-01 9.0317E-01 5.9716E-01 -5.9650E-01
1.0000E+00 6.4723E-01 -6.4908E-01 9.0211E-01 5.9219E-01 -5.9307E-01
8.8948E-01 5.9568E-01 -5.9757E-01 9.0255E-01 5.8917E-01 -5.9124E-01
  14 5.8544E-01 9.1371E-01 -8.9759E-01 5.8660E-01 9.1430E-01 -8.9793E-01
5.8321E-01 9.1855E-01 -9.0018E-01 5.8691E-01 9.0690E-01 -8.9495E-01
6.4723E-01 1.0000E+00 -9.8059E-01 5.9197E-01 9.1592E-01 -8.9908E-01
5.6022E-01 9.1798E-01 -8.9876E-01 5.9132E-01 9.1769E-01 -9.0008E-01
  15 -5.8667E-01 -8.9714E-01 9.1505E-01 -5.8794E-01 -8.9757E-01 9.1537E-01
-5.8431E-01 -9.0099E-01 9.1759E-01 -5.8830E-01 -8.9106E-01 9.1239E-01 -
6.4908E-01 -9.8059E-01 1.0000E+00 -5.9381E-01 -8.9869E-01 9.1647E-01 -
5.6021E-01 -9.0094E-01 9.1623E-01 -5.9309E-01 -8.9994E-01 9.1744E-01
  16 9.0164E-01 5.9872E-01 -5.9888E-01 9.0207E-01 5.9758E-01 -5.9791E-01
9.0100E-01 5.9290E-01 -5.9561E-01 9.0165E-01 6.0032E-01 -5.9906E-01
9.0211E-01 5.9197E-01 -5.9381E-01 1.0000E+00 6.5287E-01 -6.5340E-01
8.8475E-01 5.9764E-01 -5.9988E-01 9.0182E-01 5.9027E-01 -5.9253E-01
  17 5.8598E-01 9.1342E-01 -8.9730E-01 5.8739E-01 9.1385E-01 -8.9753E-01
5.8344E-01 9.1711E-01 -8.9925E-01 5.8786E-01 9.0746E-01 -8.9500E-01
5.9219E-01 9.1592E-01 -8.9869E-01 6.5287E-01 1.0000E+00 -9.8088E-01
5.5800E-01 9.1721E-01 -8.9853E-01 5.9304E-01 9.1599E-01 -8.9875E-01
  18 -5.8690E-01 -8.9700E-01 9.1476E-01 -5.8829E-01 -8.9734E-01 9.1502E-01
-5.8437E-01 -9.0025E-01 9.1696E-01 -5.8875E-01 -8.9136E-01 9.1228E-01 -
5.9307E-01 -8.9908E-01 9.1647E-01 -6.5340E-01 -9.8088E-01 1.0000E+00 -
5.5903E-01 -9.0054E-01 9.1596E-01 -5.9390E-01 -8.9907E-01 9.1660E-01
  19 9.0195E-01 5.5428E-01 -5.5605E-01 8.9926E-01 5.5482E-01 -5.5634E-01
9.0493E-01 5.6087E-01 -5.5965E-01 8.9732E-01 5.4681E-01 -5.5294E-01
8.8948E-01 5.6022E-01 -5.6021E-01 8.8475E-01 5.5800E-01 -5.5903E-01
1.0000E+00 5.9782E-01 -5.9654E-01 8.8707E-01 5.6129E-01 -5.6109E-01
  20 5.8860E-01 9.1650E-01 -9.0032E-01 5.9023E-01 9.1680E-01 -9.0044E-01
5.8579E-01 9.1923E-01 -9.0172E-01 5.9081E-01 9.1125E-01 -8.9827E-01
5.9568E-01 9.1798E-01 -9.0094E-01 5.9764E-01 9.1721E-01 -9.0054E-01
5.9782E-01 1.0000E+00 -9.8100E-01 5.9666E-01 9.1782E-01 -9.0081E-01
  21 -5.8944E-01 -8.9894E-01 9.1620E-01 -5.9132E-01 -8.9899E-01 9.1622E-01
-5.8631E-01 -9.0002E-01 9.1718E-01 -5.9204E-01 -8.9492E-01 9.1432E-01 -
5.9757E-01 -8.9876E-01 9.1623E-01 -5.9988E-01 -8.9853E-01 9.1596E-01 -
5.9654E-01 -9.8100E-01 1.0000E+00 -5.9873E-01 -8.9825E-01 9.1597E-01
  22 9.0256E-01 5.9752E-01 -5.9774E-01 9.0287E-01 5.9645E-01 -5.9683E-01
9.0210E-01 5.9225E-01 -5.9479E-01 9.0233E-01 5.9869E-01 -5.9773E-01
9.0255E-01 5.9132E-01 -5.9309E-01 9.0182E-01 5.9304E-01 -5.9390E-01
8.8707E-01 5.9666E-01 -5.9873E-01 1.0000E+00 6.4671E-01 -6.4915E-01

23 5.8464E-01 9.1325E-01 -8.9714E-01 5.8564E-01 9.1394E-01 -8.9756E-01
5.8263E-01 9.1884E-01 -9.0016E-01 5.8585E-01 9.0586E-01 -8.9429E-01
5.8917E-01 9.1769E-01 -8.9994E-01 5.9027E-01 9.1599E-01 -8.9907E-01
5.6129E-01 9.1782E-01 -8.9825E-01 6.4671E-01 1.0000E+00 -9.8038E-01
24 -5.8610E-01 -8.9678E-01 9.1483E-01 -5.8724E-01 -8.9729E-01 9.1521E-01
-5.8390E-01 -9.0123E-01 9.1771E-01 -5.8751E-01 -8.9025E-01 9.1199E-01 -
5.9124E-01 -9.0008E-01 9.1744E-01 -5.9253E-01 -8.9875E-01 9.1660E-01 -
5.6109E-01 -9.0081E-01 9.1597E-01 -6.4915E-01 -9.8038E-01 1.0000E+00

G-FILE for the vectors

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C00090006-1108822685 22 26261088 157 32043966 87
C00090007 1140522837 21 197866620 158 313888808 88
C00090008-1225354109 22 193535063 155 315345887 86
D 1 2 6417997 1 3 -6420829 1 4 9068640 1 5 5874414 1 6 -5881799 D
1 7 9079964 1 8 5862827 1 9 -5877005 1 10 9059858 1 11 5866642 D 1
12 -5878726 1 13 9035767 1 14 5854352 1 15 -5866733 1 16 9016444 D 1
17 5859810 1 18 -5869023 1 19 9019451 1 20 5885959 1 21 -5894383 D 1
22 9025620 1 23 5846410 1 24 -5861011 2 3 -9814636 2 4 5899659 D 2
5 9137653 2 6 -8975356 2 7 5848322 2 8 9149585 2 9 -8981487 D 2 10
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9018189 16 23 5902661 16 24 -5925306 17 18 -9808820 17 19 5580048 D 17 20
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9166000 19 20 5978218 19 21 -5965366 19 22 8870689 19 23 5612935 D 19 24 -
5610898 20 21 -9809981 20 22 5966588 20 23 9178162 20 24 -9008113 D 21 22 -
5987284 21 23 -8982537 21 24 9159728 22 23 6467138 22 24 -6491507 D 23 24 -
9803769

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	16140.220	-5524494.958	3176785.674
nola	16140.215	-5524494.904	3176785.669
covg	16140.206	-5524494.997	3176785.696
gris	16140.223	-5524494.925	3176785.644
gvms	16140.213	-5524495.023	3176785.706
awes	16140.219	-5524494.891	3176785.642
msga	16140.208	-5524494.956	3176785.676
sjb1	16140.213	-5524494.994	3176785.688

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.006	0.001	-0.001	0.006	-0.001	-0.001
nola	0.001	0.055	-0.006	0.001	0.022	-0.050
covg	-0.008	-0.039	0.021	-0.008	-0.001	0.044
gris	0.008	0.033	-0.030	0.008	-0.010	-0.044
gvms	-0.002	-0.065	0.032	-0.002	-0.005	0.072
awes	0.004	0.068	-0.032	0.005	0.006	-0.075
msga	-0.006	0.003	0.002	-0.006		

0.003 -0.001
sjb1 -0.001 -0.035 0.013 -0.001 -
0.006 0.037

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 572947.558
Easting (X) [feet] 3755531.148
Convergence [degrees] 0.75038615
Point Scale 0.99992641
Combined Factor 0.99993043

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.598 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.398
scatter (mean square distance from rover) is 8341.069
average edop for rover is 1.050
average ndop for rover is 0.840
average hdop for rover is 1.345
average vdop for rover is 2.730
average gdop for rover is 3.610

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:06 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA30.O00 OP1335488655741

FILE: QCFVA30.O00 OP1335488655741

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069t.12o TIME: 01:05:51 UTC

SOFTWARE: rsgps 1.37 RS1.prl 1.73 START: 2012/03/09 19:35:02
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 19:56:34
NAV FILE: brdc0690.12n OBS USED: 1548 / 1935 : 80%
ANT NAME: LEIAT502 NONE QUALITY IND. 25.67/ 17.02
ARP HEIGHT: 1.616 NORMALIZED RMS: 0.353

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18804)

X:	-8586.766(m)	0.003(m)	-8587.498(m)	0.003(m)
Y:	-5540678.295(m)	0.025(m)	-5540676.801(m)	0.025(m)
Z:	3148699.527(m)	0.012(m)	3148699.318(m)	0.012(m)

LAT:	29 46 28.59188	0.005(m)	29 46 28.61007	0.005(m)
E LON:	269 54 40.33766	0.003(m)	269 54 40.31032	0.003(m)
W LON:	90 5 19.66234	0.003(m)	90 5 19.68968	0.003(m)
EL HGT:	-24.730(m)	0.027(m)	-26.130(m)	0.027(m)
ORTHO HGT:	0.739(m)	0.030(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3297363.583	141936.985
Easting (X) [meters]	781473.119	1120340.920
Convergence [degrees]	1.44662559	0.62228491
Point Scale	1.00057765	0.99993349
Combined Factor	1.00058153	0.99993738

US NATIONAL GRID DESIGNATOR: 15RYN8147397363(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	17967.3

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 28785.6
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 57851.0
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 64683.1
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 77744.3
DH3836 MSSC STENNIS SPACE CTR CORS ARP N302230.794 W0893649.903 80805.1
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 93570.6
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 98769.9
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 119932.3

NEAREST NGS PUBLISHED CONTROL POINT
AU3291 CROWN AZ MK N294644.827 W0900559.918 1191.4

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.036	-5531876.842	3164070.920
lwes	-33746.216	-5533652.958	3160795.448
gris	4149.694	-5568493.962	3099600.310
houm	-70100.642	-5550262.344	3131144.920
covg	-9174.163	-5501675.340	3215950.503
mssc	37114.975	-5507204.508	3206321.891
awes	-94742.051	-5521868.794	3179990.040
gvms	-86907.671	-5510048.220	3200500.221
sjb1	-106395.195	-5505141.443	3208320.258
qcfv	-8587.498	-5540676.801	3148699.318

Covariance matrix of the stations:
1 4.9800E-07 1.6170E-06 -9.7510E-07 -4.5950E-08 -2.0600E-07 1.2140E-07
-3.6760E-08 -2.1890E-07 1.1630E-07 -5.4270E-08 -2.1430E-07 1.1840E-07 -
4.0180E-08 -1.9030E-07 1.2540E-07 -2.9080E-08 -1.8810E-07 1.2410E-07 -
5.9950E-08 -2.0350E-07 1.2190E-07 -5.8180E-08 -1.9850E-07 1.2370E-07 -
6.2540E-08 -1.9710E-07 1.2380E-07 6.5690E-08 4.5060E-07 -2.5660E-07
2 1.6170E-06 2.4420E-05 -1.3050E-05 -2.0250E-07 -3.0410E-06 1.6340E-06
-2.0380E-07 -3.0650E-06 1.6510E-06 -2.0060E-07 -3.0490E-06 1.6400E-06 -
2.0410E-07 -3.0250E-06 1.6200E-06 -2.0600E-07 -3.0290E-06 1.6240E-06 -
1.9990E-07 -3.0360E-06 1.6290E-06 -2.0050E-07 -3.0310E-06 1.6250E-06 -
1.9970E-07 -3.0310E-06 1.6240E-06 -1.4050E-07 -1.2910E-06 7.4600E-07
3 -9.7510E-07 -1.3050E-05 7.3820E-06 1.2130E-07 1.6280E-06 -9.0740E-07
1.1880E-07 1.6190E-06 -9.0280E-07 1.1990E-07 1.6130E-06 -8.9900E-07
1.2370E-07 1.6480E-06 -9.1910E-07 1.2310E-07 1.6560E-06 -9.2390E-07
1.2200E-07 1.6230E-06 -9.0390E-07 1.2300E-07 1.6300E-06 -9.0780E-07
1.2330E-07 1.6290E-06 -9.0710E-07 6.7610E-08 6.4460E-07 -3.5330E-07
4 -4.5950E-08 -2.0250E-07 1.2130E-07 5.0960E-07 1.6960E-06 -1.0170E-06
-4.3730E-08 -2.0060E-07 1.1590E-07 -5.2860E-08 -2.2420E-07 1.3060E-07 -
4.6070E-08 -1.9930E-07 1.2330E-07 -4.0540E-08 -1.8260E-07 1.1360E-07 -
5.6190E-08 -2.2930E-07 1.3670E-07 -5.5370E-08 -2.2590E-07 1.3630E-07 -
5.7780E-08 -2.3130E-07 1.3970E-07 2.0770E-08 8.0600E-08 -4.5940E-08
5 -2.0600E-07 -3.0410E-06 1.6280E-06 1.6960E-06 2.4290E-05 -1.2950E-05
-2.0330E-07 -3.1100E-06 1.6510E-06 -2.1770E-07 -3.0340E-06 1.6140E-06 -

2.0600E-07 -3.0140E-06 1.6250E-06 -1.9620E-07 -3.0490E-06 1.6460E-06 -
2.2200E-07 -2.9880E-06 1.5970E-06 -2.2060E-07 -2.9800E-06 1.5970E-06 -
2.2400E-07 -2.9650E-06 1.5890E-06 -6.6460E-08 -6.9050E-07 3.9120E-07
   6   1.2140E-07 1.6340E-06 -9.0740E-07 -1.0170E-06 -1.2950E-05 7.3110E-06
1.1640E-07 1.6510E-06 -9.0280E-07 1.3080E-07 1.6010E-06 -8.7890E-07
1.2300E-07 1.6380E-06 -9.2230E-07 1.1360E-07 1.6690E-06 -9.4030E-07
1.3670E-07 1.5850E-06 -8.7960E-07 1.3620E-07 1.5900E-06 -8.8710E-07
1.3960E-07 1.5790E-06 -8.8120E-07 1.1940E-08 1.4650E-07 -6.7170E-08
   7 -3.6760E-08 -2.0380E-07 1.1880E-07 -4.3730E-08 -2.0330E-07 1.1640E-07
4.8990E-07 1.5370E-06 -9.3180E-07 -5.4660E-08 -2.0820E-07 1.0820E-07 -
3.5970E-08 -1.8510E-07 1.2460E-07 -2.1320E-08 -1.9240E-07 1.2860E-07 -
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   8 -2.1890E-07 -3.0650E-06 1.6190E-06 -2.0060E-07 -3.1100E-06 1.6510E-06
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1.4650E-07 -3.3000E-06 1.7220E-06 -3.8850E-07 -4.0450E-06 2.2620E-06
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-9.3180E-07 -1.3260E-05 7.3540E-06 1.1350E-07 1.6370E-06 -8.9580E-07
1.1900E-07 1.6730E-06 -9.1360E-07 1.1960E-07 1.6780E-06 -9.1670E-07
1.1520E-07 1.6510E-06 -9.0150E-07 1.1640E-07 1.6580E-06 -9.0510E-07
1.1630E-07 1.6590E-06 -9.0520E-07 6.8500E-08 8.2610E-07 -4.3650E-07
  10 -5.4270E-08 -2.0060E-07 1.1990E-07 -5.2860E-08 -2.1770E-07 1.3080E-07
-5.4660E-08 -1.7020E-07 1.1350E-07 5.3740E-07 1.7970E-06 -1.0540E-06 -
5.5290E-08 -2.1280E-07 1.1810E-07 -5.8660E-08 -1.7280E-07 9.5200E-08 -
4.9980E-08 -2.6950E-07 1.5860E-07 -5.0660E-08 -2.6860E-07 1.5480E-07 -
4.9970E-08 -2.8480E-07 1.6350E-07 -4.2800E-08 -5.1440E-07 2.8940E-07
  11 -2.1430E-07 -3.0490E-06 1.6130E-06 -2.2420E-07 -3.0340E-06 1.6010E-06
-2.0820E-07 -3.1510E-06 1.6370E-06 1.7970E-06 2.4200E-05 -1.2770E-05 -
2.1330E-07 -3.0050E-06 1.6150E-06 -1.9290E-07 -3.0690E-06 1.6530E-06 -
2.4770E-07 -2.9430E-06 1.5530E-06 -2.4460E-07 -2.9330E-06 1.5580E-06 -
2.5170E-07 -2.9040E-06 1.5430E-06 -7.4560E-09 2.6960E-08 -3.2900E-08
  12   1.1840E-07 1.6400E-06 -8.9900E-07 1.3060E-07 1.6140E-06 -8.7890E-07
1.0820E-07 1.7120E-06 -8.9580E-07 -1.0540E-06 -1.2770E-05 7.1620E-06
1.1840E-07 1.6160E-06 -9.2150E-07 9.1950E-08 1.6920E-06 -9.6540E-07
1.6140E-07 1.5100E-06 -8.2590E-07 1.5810E-07 1.5110E-06 -8.4020E-07
1.6740E-07 1.4780E-06 -8.2410E-07 -9.7270E-08 -9.9250E-07 5.8790E-07
  13 -4.0180E-08 -2.0410E-07 1.2370E-07 -4.6070E-08 -2.0600E-07 1.2300E-07
-3.5970E-08 -2.2390E-07 1.1900E-07 -5.5290E-08 -2.1330E-07 1.1840E-07
5.0120E-07 1.6210E-06 -9.8070E-07 -2.7290E-08 -1.9010E-07 1.2880E-07 -
6.1470E-08 -1.9900E-07 1.2130E-07 -5.9500E-08 -1.9360E-07 1.2350E-07 -
6.4280E-08 -1.9080E-07 1.2290E-07 6.8560E-08 5.3260E-07 -2.9950E-07
  14 -1.9030E-07 -3.0250E-06 1.6480E-06 -1.9930E-07 -3.0140E-06 1.6380E-06
-1.8510E-07 -3.1240E-06 1.6730E-06 -2.1280E-07 -3.0050E-06 1.6160E-06
1.6210E-06 2.4070E-05 -1.3040E-05 -1.7070E-07 -3.0390E-06 1.6810E-06 -
2.2070E-07 -2.9330E-06 1.5950E-06 -2.1780E-07 -2.9220E-06 1.5990E-06 -
2.2420E-07 -2.8960E-06 1.5860E-06 2.7370E-09 -9.9120E-08 8.6290E-08
  15   1.2540E-07 1.6200E-06 -9.1910E-07 1.2330E-07 1.6250E-06 -9.2230E-07
1.2460E-07 1.5950E-06 -9.1360E-07 1.1810E-07 1.6150E-06 -9.2150E-07 -
9.8070E-07 -1.3040E-05 7.5040E-06 1.3280E-07 1.6410E-06 -9.2450E-07
1.1810E-07 1.6390E-06 -9.2860E-07 1.1990E-07 1.6480E-06 -9.3040E-07
1.1840E-07 1.6530E-06 -9.3280E-07 1.0310E-07 1.0740E-06 -6.0970E-07
  16 -2.9080E-08 -2.0600E-07 1.2310E-07 -4.0540E-08 -1.9620E-07 1.1360E-07

-2.1320E-08 -2.6400E-07 1.1960E-07 -5.8660E-08 -1.9290E-07 9.1950E-08 -
2.7290E-08 -1.7070E-07 1.3280E-07 4.9860E-07 1.4280E-06 -8.5470E-07 -
6.9900E-08 -1.4420E-07 8.9210E-08 -6.5910E-08 -1.3560E-07 9.6090E-08 -
7.4870E-08 -1.1810E-07 8.8420E-08 1.5410E-07 1.3340E-06 -7.5360E-07
  17 -1.8810E-07 -3.0290E-06 1.6560E-06 -1.8260E-07 -3.0490E-06 1.6690E-06
-1.9240E-07 -3.0270E-06 1.6780E-06 -1.7280E-07 -3.0690E-06 1.6920E-06 -
1.9010E-07 -3.0390E-06 1.6410E-06 1.4280E-06 2.4590E-05 -1.3380E-05 -
1.6730E-07 -3.0870E-06 1.6860E-06 -1.6970E-07 -3.0840E-06 1.6770E-06 -
1.6510E-07 -3.0980E-06 1.6830E-06 -1.9070E-07 -2.2100E-06 1.2830E-06
  18   1.2410E-07 1.6240E-06 -9.2390E-07 1.1360E-07 1.6460E-06 -9.4030E-07
1.2860E-07 1.5410E-06 -9.1670E-07 9.5200E-08 1.6530E-06 -9.6540E-07
1.2880E-07 1.6810E-06 -9.2450E-07 -8.5470E-07 -1.3380E-05 7.7270E-06
8.7560E-08 1.7280E-06 -9.8100E-07 9.2350E-08 1.7410E-06 -9.7560E-07
8.4670E-08 1.7690E-06 -9.8870E-07 2.1290E-07 2.2750E-06 -1.2910E-06
  19 -5.9950E-08 -1.9990E-07 1.2200E-07 -5.6190E-08 -2.2200E-07 1.3670E-07
-6.1860E-08 -1.5350E-07 1.1520E-07 -4.9980E-08 -2.4770E-07 1.6140E-07 -
6.1470E-08 -2.2070E-07 1.1810E-07 -6.9900E-08 -1.6730E-07 8.7560E-08
5.6590E-07 1.8200E-06 -1.0890E-06 -4.8930E-08 -2.9330E-07 1.6830E-07 -
4.6470E-08 -3.1580E-07 1.7990E-07 -8.0060E-08 -8.5510E-07 4.8420E-07
  20 -2.0350E-07 -3.0360E-06 1.6230E-06 -2.2930E-07 -2.9880E-06 1.5850E-06
-1.8740E-07 -3.2480E-06 1.6510E-06 -2.6950E-07 -2.9430E-06 1.5100E-06 -
1.9900E-07 -2.9330E-06 1.6390E-06 -1.4420E-07 -3.0870E-06 1.7280E-06
1.8200E-06 2.3770E-05 -1.2680E-05 -2.8400E-07 -2.7480E-06 1.4910E-06 -
3.0300E-07 -2.6770E-06 1.4560E-06 2.1610E-07 2.3310E-06 -1.3170E-06
  21   1.2190E-07 1.6290E-06 -9.0390E-07 1.3670E-07 1.5970E-06 -8.7960E-07
1.1020E-07 1.7190E-06 -9.0150E-07 1.5860E-07 1.5530E-06 -8.2590E-07
1.2130E-07 1.5950E-06 -9.2860E-07 8.9210E-08 1.6860E-06 -9.8100E-07 -
1.0890E-06 -1.2680E-05 7.1770E-06 1.6980E-07 1.4710E-06 -8.3230E-07
1.8110E-07 1.4320E-06 -8.1290E-07 -1.2840E-07 -1.3740E-06 7.9250E-07
  22 -5.8180E-08 -2.0050E-07 1.2300E-07 -5.5370E-08 -2.2060E-07 1.3620E-07
-5.9510E-08 -1.6060E-07 1.1640E-07 -5.0660E-08 -2.4460E-07 1.5810E-07 -
5.9500E-08 -2.1780E-07 1.1990E-07 -6.5910E-08 -1.6970E-07 9.2350E-08 -
4.8930E-08 -2.8400E-07 1.6980E-07 5.5760E-07 1.8010E-06 -1.0910E-06 -
4.8360E-08 -3.0380E-07 1.7520E-07 -6.5780E-08 -7.2060E-07 4.0900E-07
  23 -1.9850E-07 -3.0310E-06 1.6300E-06 -2.2590E-07 -2.9800E-06 1.5900E-06
-1.8150E-07 -3.2540E-06 1.6580E-06 -2.6860E-07 -2.9330E-06 1.5110E-06 -
1.9360E-07 -2.9220E-06 1.6480E-06 -1.3560E-07 -3.0840E-06 1.7410E-06 -
2.9330E-07 -2.7480E-06 1.4710E-06 1.8010E-06 2.3720E-05 -1.2700E-05 -
3.0400E-07 -2.6520E-06 1.4540E-06 2.4120E-07 2.5530E-06 -1.4320E-06
  24   1.2370E-07 1.6250E-06 -9.0780E-07 1.3630E-07 1.5970E-06 -8.8710E-07
1.1340E-07 1.7000E-06 -9.0510E-07 1.5480E-07 1.5580E-06 -8.4020E-07
1.2350E-07 1.5990E-06 -9.3040E-07 9.6090E-08 1.6770E-06 -9.7560E-07
1.6830E-07 1.4910E-06 -8.3230E-07 -1.0910E-06 -1.2700E-05 7.2200E-06
1.7450E-07 1.4570E-06 -8.3020E-07 -9.7330E-08 -1.0630E-06 6.1030E-07
  25 -6.2540E-08 -1.9970E-07 1.2330E-07 -5.7780E-08 -2.2400E-07 1.3960E-07
-6.5110E-08 -1.4650E-07 1.1630E-07 -4.9970E-08 -2.5170E-07 1.6740E-07 -
6.4280E-08 -2.2420E-07 1.1840E-07 -7.4870E-08 -1.6510E-07 8.4670E-08 -
4.6470E-08 -3.0300E-07 1.8110E-07 -4.8360E-08 -3.0400E-07 1.7450E-07
5.8060E-07 1.8180E-06 -1.1050E-06 -9.6130E-08 -1.0010E-06 5.6770E-07
  26 -1.9710E-07 -3.0310E-06 1.6290E-06 -2.3130E-07 -2.9650E-06 1.5790E-06
-1.7570E-07 -3.3000E-06 1.6590E-06 -2.8480E-07 -2.9040E-06 1.4780E-06 -
1.9080E-07 -2.8960E-06 1.6530E-06 -1.1810E-07 -3.0980E-06 1.7690E-06 -
3.1580E-07 -2.6770E-06 1.4320E-06 -3.0380E-07 -2.6520E-06 1.4570E-06
1.8180E-06 2.3640E-05 -1.2660E-05 3.3370E-07 3.5350E-06 -1.9870E-06

27 1.2380E-07 1.6240E-06 -9.0710E-07 1.3970E-07 1.5890E-06 -8.8120E-07
1.1140E-07 1.7220E-06 -9.0520E-07 1.6350E-07 1.5430E-06 -8.2410E-07
1.2290E-07 1.5860E-06 -9.3280E-07 8.8420E-08 1.6830E-06 -9.8870E-07
1.7990E-07 1.4560E-06 -8.1290E-07 1.7520E-07 1.4540E-06 -8.3020E-07 -
1.1050E-06 -1.2660E-05 7.1930E-06 -1.4110E-07 -1.5360E-06 8.7770E-07
28 6.5690E-08 -1.4050E-07 6.7610E-08 2.0770E-08 -6.6460E-08 1.1940E-08
8.6720E-08 -3.8850E-07 6.8500E-08 -4.2800E-08 -7.4560E-09 -9.7270E-08
6.8560E-08 2.7370E-09 1.0310E-07 1.5410E-07 -1.9070E-07 2.1290E-07 -
8.0060E-08 2.1610E-07 -1.2840E-07 -6.5780E-08 2.4120E-07 -9.7330E-08 -
9.6130E-08 3.3370E-07 -1.4110E-07 4.9670E-06 1.6760E-05 -1.0060E-05
29 4.5060E-07 -1.2910E-06 6.4460E-07 8.0600E-08 -6.9050E-07 1.4650E-07
6.9240E-07 -4.0450E-06 8.2610E-07 -5.1440E-07 2.6960E-08 -9.9250E-07
5.3260E-07 -9.9120E-08 1.0740E-06 1.3340E-06 -2.2100E-06 2.2750E-06 -
8.5510E-07 2.3310E-06 -1.3740E-06 -7.2060E-07 2.5530E-06 -1.0630E-06 -
1.0010E-06 3.5350E-06 -1.5360E-06 1.6760E-05 2.4480E-04 -1.3040E-04
30 -2.5660E-07 7.4600E-07 -3.5330E-07 -4.5940E-08 3.9120E-07 -6.7170E-08
-3.9450E-07 2.2620E-06 -4.3650E-07 2.8940E-07 -3.2900E-08 5.8790E-07 -
2.9950E-07 8.6290E-08 -6.0970E-07 -7.5360E-07 1.2830E-06 -1.2910E-06
4.8420E-07 -1.3170E-06 7.9250E-07 4.0900E-07 -1.4320E-06 6.1030E-07
5.6770E-07 -1.9870E-06 8.7770E-07 -1.0060E-05 -1.3040E-04 7.3510E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000049670 0.0000167600 -0.0000100600
0.0000167600 0.0002448000 -0.0001304000
-0.0000100600 -0.0001304000 0.0000735100

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000049156 -0.0000004736 -0.0000191188
-0.0000004736 0.0000032941 -0.0000068584
-0.0000191188 -0.0000068584 0.0003150672

Horizontal network accuracy = 0.00499 meters.
Vertical network accuracy = 0.03480 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-3016.538	8799.959	15371.601
lwes	qcfv	-25158.718	7023.843	12096.130
gris	qcfv	12737.192	-27817.162	-49099.008
houm	qcfv	-61513.144	-9585.543	-17554.398
covg	qcfv	-586.665	39001.461	67251.185
mssc	qcfv	45702.473	33472.293	57622.573
awes	qcfv	-86154.552	18808.007	31290.722
gvms	qcfv	-78320.173	30628.581	51800.903
sjb1	qcfv	-97807.697	35535.358	59620.940

Covariance matrix of the 9 vectors
1 5.3336E-06 1.8067E-05 -1.0846E-05 4.8346E-06 1.6170E-05 -9.6939E-06
4.7778E-06 1.6479E-05 -9.7556E-06 4.8898E-06 1.6103E-05 -9.5877E-06
4.7926E-06 1.6116E-05 -9.7811E-06 4.7181E-06 1.6312E-05 -9.8922E-06
4.9214E-06 1.5890E-05 -9.5531E-06 4.9089E-06 1.5870E-05 -9.5824E-06
4.9349E-06 1.5779E-05 -9.5385E-06
2 1.8067E-05 2.7180E-04 -1.4484E-04 1.6617E-05 2.4374E-04 -1.2966E-04

1.6004E-05 2.4707E-04 -1.3032E-04 1.7214E-05 2.4302E-04 -1.2851E-04
1.6164E-05 2.4317E-04 -1.3060E-04 1.5360E-05 2.4527E-04 -1.3180E-04
1.7556E-05 2.4072E-04 -1.2814E-04 1.7421E-05 2.4051E-04 -1.2846E-04
1.7702E-05 2.3952E-04 -1.2799E-04
   3 -1.0846E-05 -1.4484E-04 8.1599E-05 -9.9604E-06 -1.2981E-04 7.3023E-05
-9.6143E-06 -1.3169E-04 7.3397E-05 -1.0297E-05 -1.2940E-04 7.2376E-05 -
9.7044E-06 -1.2948E-04 7.3554E-05 -9.2509E-06 -1.3067E-04 7.4230E-05 -
1.0490E-05 -1.2810E-04 7.2167E-05 -1.0414E-05 -1.2798E-04 7.2345E-05 -
1.0572E-05 -1.2743E-04 7.2079E-05
   4   4.8346E-06 1.6617E-05 -9.9604E-06 5.4351E-06 1.8442E-05 -1.1043E-05
4.8158E-06 1.6867E-05 -9.9667E-06 4.9362E-06 1.6463E-05 -9.7862E-06
4.8316E-06 1.6477E-05 -9.9939E-06 4.7516E-06 1.6687E-05 -1.0113E-05
4.9701E-06 1.6234E-05 -9.7490E-06 4.9566E-06 1.6212E-05 -9.7804E-06
4.9846E-06 1.6114E-05 -9.7333E-06
   5   1.6170E-05 2.4374E-04 -1.2981E-04 1.8442E-05 2.7047E-04 -1.4389E-04
1.5931E-05 2.4643E-04 -1.2997E-04 1.7123E-05 2.4243E-04 -1.2818E-04
1.6088E-05 2.4258E-04 -1.3024E-04 1.5296E-05 2.4465E-04 -1.3142E-04
1.7460E-05 2.4017E-04 -1.2782E-04 1.7326E-05 2.3996E-04 -1.2813E-04
1.7603E-05 2.3899E-04 -1.2767E-04
   6 -9.6939E-06 -1.2966E-04 7.3023E-05 -1.1043E-05 -1.4389E-04 8.0955E-05
-9.5610E-06 -1.3116E-04 7.3111E-05 -1.0231E-05 -1.2891E-04 7.2110E-05 -
9.6494E-06 -1.2899E-04 7.3265E-05 -9.2047E-06 -1.3016E-04 7.3928E-05 -
1.0419E-05 -1.2764E-04 7.1905E-05 -1.0345E-05 -1.2752E-04 7.2080E-05 -
1.0500E-05 -1.2698E-04 7.1818E-05
   7   4.7778E-06 1.6004E-05 -9.6143E-06 4.8158E-06 1.5931E-05 -9.5610E-06
5.2835E-06 1.7993E-05 -1.0666E-05 4.8684E-06 1.5867E-05 -9.4600E-06
4.7757E-06 1.5880E-05 -9.6440E-06 4.7049E-06 1.6066E-05 -9.7498E-06
4.8985E-06 1.5664E-05 -9.4269E-06 4.8865E-06 1.5645E-05 -9.4548E-06
4.9113E-06 1.5558E-05 -9.4130E-06
   8   1.6479E-05 2.4707E-04 -1.3169E-04 1.6867E-05 2.4643E-04 -1.3116E-04
1.7993E-05 2.7828E-04 -1.4675E-04 1.7493E-05 2.4567E-04 -1.2996E-04
1.6392E-05 2.4582E-04 -1.3214E-04 1.5550E-05 2.4803E-04 -1.3340E-04
1.7850E-05 2.4327E-04 -1.2957E-04 1.7708E-05 2.4304E-04 -1.2990E-04
1.8003E-05 2.4201E-04 -1.2940E-04
   9 -9.7556E-06 -1.3032E-04 7.3397E-05 -9.9667E-06 -1.2997E-04 7.3111E-05
-1.0666E-05 -1.4675E-04 8.1737E-05 -1.0304E-05 -1.2956E-04 7.2463E-05 -
9.7100E-06 -1.2964E-04 7.3643E-05 -9.2553E-06 -1.3083E-04 7.4321E-05 -
1.0498E-05 -1.2826E-04 7.2253E-05 -1.0421E-05 -1.2814E-04 7.2431E-05 -
1.0580E-05 -1.2758E-04 7.2164E-05
  10   4.8898E-06 1.7214E-05 -1.0297E-05 4.9362E-06 1.7123E-05 -1.0231E-05
4.8684E-06 1.7493E-05 -1.0304E-05 5.5900E-06 1.9079E-05 -1.1306E-05
4.8860E-06 1.7059E-05 -1.0334E-05 4.7970E-06 1.7292E-05 -1.0467E-05
5.0399E-06 1.6789E-05 -1.0062E-05 5.0249E-06 1.6765E-05 -1.0097E-05
5.0560E-06 1.6656E-05 -1.0045E-05
  11   1.6103E-05 2.4302E-04 -1.2940E-04 1.6463E-05 2.4243E-04 -1.2891E-04
1.5867E-05 2.4567E-04 -1.2956E-04 1.9079E-05 2.6895E-04 -1.4214E-04
1.6022E-05 2.4187E-04 -1.2983E-04 1.5241E-05 2.4391E-04 -1.3099E-04
1.7375E-05 2.3950E-04 -1.2744E-04 1.7243E-05 2.3929E-04 -1.2775E-04
1.7517E-05 2.3833E-04 -1.2729E-04
  12 -9.5877E-06 -1.2851E-04 7.2376E-05 -9.7862E-06 -1.2818E-04 7.2110E-05
-9.4600E-06 -1.2996E-04 7.2463E-05 -1.1306E-05 -1.4214E-04 7.9496E-05 -
9.5448E-06 -1.2788E-04 7.2610E-05 -9.1172E-06 -1.2900E-04 7.3248E-05 -
1.0286E-05 -1.2658E-04 7.1304E-05 -1.0214E-05 -1.2646E-04 7.1472E-05 -
1.0363E-05 -1.2594E-04 7.1220E-05

13 4.7926E-06 1.6164E-05 -9.7044E-06 4.8316E-06 1.6088E-05 -9.6494E-06
4.7757E-06 1.6392E-05 -9.7100E-06 4.8860E-06 1.6022E-05 -9.5448E-06
5.3311E-06 1.7846E-05 -1.0844E-05 4.7171E-06 1.6228E-05 -9.8446E-06
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4.7049E-06 1.5550E-05 -9.2553E-06 4.7970E-06 1.5241E-05 -9.1172E-06
4.7171E-06 1.5253E-05 -9.2767E-06 5.1574E-06 1.7045E-05 -1.0374E-05
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1.0356E-05 -1.2589E-04 7.1192E-05
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5.7399E-06 1.9245E-05 -1.1592E-05
  26   1.5779E-05 2.3952E-04 -1.2743E-04 1.6114E-05 2.3899E-04 -1.2698E-04
1.5558E-05 2.4201E-04 -1.2758E-04 1.6656E-05 2.3833E-04 -1.2594E-04
1.5703E-05 2.3847E-04 -1.2783E-04 1.4974E-05 2.4038E-04 -1.2892E-04
1.6966E-05 2.3626E-04 -1.2561E-04 1.6843E-05 2.3606E-04 -1.2589E-04
1.9245E-05 2.6137E-04 -1.3954E-04
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-9.4130E-06 -1.2940E-04 7.2164E-05 -1.0045E-05 -1.2729E-04 7.1220E-05 -
9.4965E-06 -1.2736E-04 7.2309E-05 -9.0769E-06 -1.2846E-04 7.2935E-05 -
1.0223E-05 -1.2609E-04 7.1027E-05 -1.0153E-05 -1.2598E-04 7.1192E-05 -
1.1592E-05 -1.3954E-04 7.8948E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 4.7451E-01 -5.1990E-01 8.9794E-01 4.2573E-01 -4.6652E-01
9.0004E-01 4.2774E-01 -4.6723E-01 8.9552E-01 4.2516E-01 -4.6562E-01
8.9877E-01 4.2543E-01 -4.6704E-01 8.9959E-01 4.2685E-01 -4.6785E-01
8.9312E-01 4.2353E-01 -4.6509E-01 8.9374E-01 4.2339E-01 -4.6532E-01
8.9190E-01 4.2260E-01 -4.6484E-01
   2   4.7451E-01 1.0000E+00 -9.7257E-01 4.3235E-01 8.9896E-01 -8.7408E-01
4.2233E-01 8.9837E-01 -8.7434E-01 4.4163E-01 8.9882E-01 -8.7428E-01
4.2463E-01 8.9917E-01 -8.7356E-01 4.1026E-01 8.9908E-01 -8.7319E-01
4.4629E-01 8.9881E-01 -8.7393E-01 4.4430E-01 8.9884E-01 -8.7383E-01
4.4817E-01 8.9866E-01 -8.7371E-01
   3 -5.1990E-01 -9.7257E-01 1.0000E+00 -4.7297E-01 -8.7377E-01 8.9845E-01
-4.6304E-01 -8.7390E-01 8.9873E-01 -4.8213E-01 -8.7349E-01 8.9863E-01 -
4.6529E-01 -8.7386E-01 8.9793E-01 -4.5095E-01 -8.7421E-01 8.9757E-01 -
4.8669E-01 -8.7297E-01 8.9826E-01 -4.8473E-01 -8.7295E-01 8.9817E-01 -
4.8850E-01 -8.7256E-01 8.9804E-01
   4   8.9794E-01 4.3235E-01 -4.7297E-01 1.0000E+00 4.8100E-01 -5.2646E-01
8.9868E-01 4.3371E-01 -4.7287E-01 8.9553E-01 4.3059E-01 -4.7080E-01
8.9760E-01 4.3088E-01 -4.7272E-01 8.9747E-01 4.3258E-01 -4.7383E-01
8.9349E-01 4.2864E-01 -4.7018E-01 8.9397E-01 4.2847E-01 -4.7049E-01
8.9243E-01 4.2755E-01 -4.6988E-01
   5   4.2573E-01 8.9896E-01 -8.7377E-01 4.8100E-01 1.0000E+00 -9.7239E-01
4.2142E-01 8.9822E-01 -8.7410E-01 4.4037E-01 8.9886E-01 -8.7418E-01
4.2367E-01 8.9920E-01 -8.7329E-01 4.0955E-01 8.9901E-01 -8.7283E-01
4.4494E-01 8.9895E-01 -8.7387E-01 4.4298E-01 8.9899E-01 -8.7375E-01
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   6 -4.6652E-01 -8.7408E-01 8.9845E-01 -5.2646E-01 -9.7239E-01 1.0000E+00
-4.6230E-01 -8.7383E-01 8.9877E-01 -4.8092E-01 -8.7366E-01 8.9888E-01 -
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4.8710E-01 -8.7294E-01 8.9834E-01
   7   9.0004E-01 4.2233E-01 -4.6304E-01 8.9868E-01 4.2142E-01 -4.6230E-01

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8.9316E-01 4.1949E-01 -4.6112E-01 8.9389E-01 4.1937E-01 -4.6130E-01
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-4.6130E-01 -8.7328E-01 8.9848E-01 -4.7895E-01 -8.7359E-01 8.9898E-01 -
4.6336E-01 -8.7392E-01 8.9759E-01 -4.5002E-01 -8.7390E-01 8.9685E-01 -
4.8312E-01 -8.7348E-01 8.9874E-01 -5.4052E-01 -9.7157E-01 1.0000E+00 -
4.8476E-01 -8.7330E-01 8.9857E-01
25 8.9190E-01 4.4817E-01 -4.8850E-01 8.9243E-01 4.4677E-01 -4.8710E-01
8.9184E-01 4.5046E-01 -4.8845E-01 8.9258E-01 4.4583E-01 -4.8514E-01
8.9128E-01 4.4617E-01 -4.8847E-01 8.8849E-01 4.4866E-01 -4.9037E-01
8.9160E-01 4.4300E-01 -4.8424E-01 8.9166E-01 4.4275E-01 -4.8476E-01
1.0000E+00 4.9687E-01 -5.4453E-01
26 4.2260E-01 8.9866E-01 -8.7256E-01 4.2755E-01 8.9886E-01 -8.7294E-01
4.1867E-01 8.9736E-01 -8.7286E-01 4.3575E-01 8.9893E-01 -8.7372E-01
4.2067E-01 8.9923E-01 -8.7196E-01 4.0785E-01 8.9855E-01 -8.7100E-01
4.3981E-01 8.9956E-01 -8.7356E-01 4.3806E-01 8.9965E-01 -8.7330E-01
4.9687E-01 1.0000E+00 -9.7139E-01
27 -4.6484E-01 -8.7371E-01 8.9804E-01 -4.6988E-01 -8.7367E-01 8.9834E-01
-4.6089E-01 -8.7305E-01 8.9834E-01 -4.7815E-01 -8.7355E-01 8.9900E-01 -
4.6290E-01 -8.7387E-01 8.9743E-01 -4.4983E-01 -8.7375E-01 8.9659E-01 -
4.8222E-01 -8.7355E-01 8.9879E-01 -4.8045E-01 -8.7359E-01 8.9857E-01 -
5.4453E-01 -9.7139E-01 1.0000E+00

G-FILE for the vectors

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C00100005 -5866647 23 390014611 164 672511848 90
C00100006 457024728 22 334722925 165 576225725 91
C00100007 -861545524 23 188080066 162 312907221 88
C00100008 -783201732 23 306285809 162 518009029 89
C00100009 -978076970 23 355353581 161 596209400 88
D 1 2 4745109 1 3 -5199021 1 4 8979381 1 5 4257306 1 6 -4665159 D
1 7 9000371 1 8 4277389 1 9 -4672331 1 10 8955249 1 11 4251588 D 1
12 -4656199 1 13 8987726 1 14 4254267 1 15 -4670383 1 16 8995875 D 1
17 4268463 1 18 -4678542 1 19 8931163 1 20 4235270 1 21 -4650927 D 1
22 8937441 1 23 4233877 1 24 -4653210 1 25 8919010 1 26 4226000 D 1
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-8742773 2 13 4246288 2 14 8991739 2 15 -8735599 2 16 4102641 D 2 17
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4808399 21 23 -8737378 21 24 8987391 21 25 -4842387 21 26 -8735589 D 21 27
8987929 22 23 4932826 22 24 -5405249 22 25 8916599 22 26 4380597 D 22 27 -
4804533 23 24 -9715655 23 25 4427485 23 26 8996531 23 27 -8735863 D 24 25 -
4847599 24 26 -8733020 24 27 8985686 25 26 4968738 25 27 -5445318 D 26 27 -
9713864

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-8587.494	-5540676.820	3148699.325
lwes	-8587.496	-5540676.773	3148699.311
gris	-8587.503	-5540676.800	3148699.329
houm	-8587.494	-5540676.778	3148699.306
covg	-8587.498	-5540676.800	3148699.314
mssc	-8587.498	-5540676.806	3148699.318
awes	-8587.496	-5540676.796	3148699.316
gvms	-8587.496	-5540676.803	3148699.314
sjb1	-8587.503	-5540676.858	3148699.346

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.004	-0.019	0.007	0.004	-0.003	0.020
lwes	0.002	0.028	-0.008	0.002	0.007	-0.028
gris	-0.005	0.001	0.011	-0.005	0.010	0.005
houm	0.004	0.023	-0.012	0.004	0.001	-0.026

covg	0.000	0.001	-0.004	0.000	-0.003
mssc	-0.000	-0.005	-0.000	-0.000	0.005
awes	0.002	0.004	-0.003	0.002	-0.005
gvms	0.003	-0.002	-0.005	0.003	-0.001
sjb1	-0.005	-0.057	0.027	-0.005	0.063

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 465671.590
Easting (X) [feet] 3675651.836
Convergence [degrees] 0.62228491
Point Scale 0.99993349
Combined Factor 0.99993738

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.649 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.450
scatter (mean square distance from rover) is 6016.238
average edop for rover is 1.270
average ndop for rover is 1.050
average hdop for rover is 1.648
average vdop for rover is 2.660
average gdop for rover is 3.790

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:09 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA31.O00 OP1335488742926

FILE: QCFVA31.O00 OP1335488742926

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069s.12o TIME: 01:08:23 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/09 18:56:57
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 19:17:45
NAV FILE: brdc0690.12n OBS USED: 1528 / 1600 : 96%
ANT NAME: LEIAT502 NONE QUALITY IND. 14.08/ 3.13
ARP HEIGHT: 1.631 NORMALIZED RMS: 0.350

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18797)

X:	-9860.132(m)	0.005(m)	-9860.864(m)	0.005(m)
Y:	-5541481.722(m)	0.050(m)	-5541480.228(m)	0.050(m)
Z:	3147290.796(m)	0.019(m)	3147290.586(m)	0.019(m)

LAT:	29 45 35.88894	0.022(m)	29 45 35.90708	0.022(m)
E LON:	269 53 52.98696	0.005(m)	269 53 52.95961	0.005(m)
W LON:	90 6 7.01304	0.005(m)	90 6 7.04039	0.005(m)
EL HGT:	-24.882(m)	0.048(m)	-26.282(m)	0.048(m)
ORTHO HGT:	0.545(m)	0.050(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3295708.326	140300.655
Easting (X) [meters]	780241.651	1119086.577
Convergence [degrees]	1.43943819	0.61570826
Point Scale	1.00056911	0.99993453
Combined Factor	1.00057302	0.99993844

US NATIONAL GRID DESIGNATOR: 15RYN8024195708(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	19412.4

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 28533.4
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 56572.1
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 62981.3
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 77938.5
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 98769.7
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 119849.9
DL9074 FSHS FRANKLIN HIGH SCH CORS ARP N294819.103 W0913008.052 135491.5

NEAREST NGS PUBLISHED CONTROL POINT
AU3319 ROSETHORN N294537.897 W0900613.017 172.7

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.034	-5531876.848	3164070.923
lwes	-33746.209	-5533652.944	3160795.451
gris	4149.691	-5568493.953	3099600.310
houm	-70100.641	-5550262.366	3131144.926
lmcn	-64275.989	-5568696.876	3098580.614
gvms	-86907.676	-5510048.187	3200500.203
sjb1	-106395.199	-5505141.439	3208320.260
fshs	-145211.077	-5537098.015	3151657.543
qcfv	-9860.864	-5541480.228	3147290.586

Covariance matrix of the stations:
1 2.8640E-07 -2.7110E-07 2.0930E-07 -1.0550E-08 7.9930E-08 -3.0910E-08
-3.6260E-10 2.8280E-08 -1.1560E-08 -2.3830E-08 1.4320E-08 -2.3360E-08 -
2.3630E-08 -2.3080E-08 -1.4180E-08 -2.5530E-08 9.3320E-08 -4.6200E-08 -
3.1090E-08 8.9630E-08 -4.9780E-08 -4.6520E-08 -1.1120E-08 -3.3460E-08
3.2700E-08 7.3740E-07 -2.6330E-07
2 -2.7110E-07 4.6370E-05 -1.3700E-05 7.8500E-08 -6.4030E-06 1.9380E-06
1.1560E-07 -6.7400E-06 2.0980E-06 3.6330E-08 -6.7370E-06 2.0040E-06
3.8080E-08 -6.9590E-06 2.0830E-06 2.8490E-08 -6.2880E-06 1.8300E-06
1.0560E-08 -6.2970E-06 1.8080E-06 -3.7590E-08 -6.8220E-06 1.9400E-06
3.9580E-08 2.7340E-06 -9.3040E-07
3 2.0930E-07 -1.3700E-05 5.5730E-06 -3.0970E-08 1.9380E-06 -7.7520E-07
-3.2020E-08 2.0150E-06 -8.0470E-07 -2.9610E-08 1.9800E-06 -7.8600E-07 -
2.9500E-08 2.0220E-06 -8.0050E-07 -2.9760E-08 1.8950E-06 -7.5570E-07 -
2.9350E-08 1.8880E-06 -7.5170E-07 -2.7690E-08 1.9640E-06 -7.7390E-07
5.7590E-10 -1.0760E-08 1.0640E-08
4 -1.0550E-08 7.8500E-08 -3.0970E-08 2.7410E-07 -2.7600E-07 1.8600E-07
-8.8690E-09 3.8710E-08 -1.9980E-08 -2.2280E-08 2.3380E-08 -2.2320E-08 -
2.2130E-08 2.5460E-09 -1.7010E-08 -2.3370E-08 6.7060E-08 -3.5310E-08 -
2.6580E-08 6.3490E-08 -3.6390E-08 -3.5420E-08 2.4360E-09 -2.4080E-08
2.3920E-08 4.2920E-07 -1.5360E-07
5 7.9930E-08 -6.4030E-06 1.9380E-06 -2.7600E-07 4.6660E-05 -1.3810E-05
9.0480E-08 -6.7670E-06 2.0860E-06 3.5750E-08 -6.7660E-06 2.0150E-06
3.7410E-08 -6.9470E-06 2.0840E-06 2.9430E-08 -6.4030E-06 1.8640E-06
1.7230E-08 -6.4100E-06 1.8480E-06 -1.4870E-08 -6.8380E-06 1.9710E-06

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-3.1650E-08 2.0360E-06 -8.0940E-07 -2.5920E-08 2.0000E-06 -7.8740E-07 -
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2.3960E-08 -2.7280E-08 -1.3250E-08 -2.6100E-08 1.0750E-07 -5.0190E-08 -
3.2490E-08 1.0370E-07 -5.4640E-08 -5.0250E-08 -1.1080E-08 -3.6860E-08
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   8   2.8280E-08 -6.7400E-06 2.0150E-06 3.8710E-08 -6.7670E-06 2.0360E-06
-3.9470E-07 4.7760E-05 -1.4450E-05 5.8060E-08 -6.8320E-06 2.0950E-06
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1.0440E-08 -1.5570E-06 6.2220E-07
   9 -1.1560E-08 2.0980E-06 -8.0470E-07 -1.9980E-08 2.0860E-06 -8.0940E-07
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-2.4170E-08 5.8060E-08 -3.4940E-08 2.6800E-07 -2.4440E-07 1.4710E-07 -
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  11   1.4320E-08 -6.7370E-06 1.9800E-06 2.3380E-08 -6.7660E-06 2.0000E-06
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  13 -2.3630E-08 3.8080E-08 -2.9500E-08 -2.2130E-08 3.7410E-08 -2.5830E-08
-2.3960E-08 5.9390E-08 -3.4730E-08 -1.9400E-08 4.1650E-08 -2.0160E-08
2.6740E-07 -2.4630E-07 1.4480E-07 -1.9390E-08 2.2200E-08 -1.5540E-08 -
1.8390E-08 1.8850E-08 -1.2170E-08 -1.5460E-08 2.8740E-08 -6.9860E-09
1.2710E-08 -1.3580E-07 4.9600E-08
  14 -2.3080E-08 -6.9590E-06 2.0220E-06 2.5460E-09 -6.9470E-06 2.0480E-06
-2.7280E-08 -6.8740E-06 2.0510E-06 4.9260E-08 -6.8910E-06 2.1030E-06 -
2.4630E-07 4.8690E-05 -1.4570E-05 5.1090E-08 -6.9930E-06 2.0810E-06
6.9610E-08 -7.0000E-06 2.0970E-06 1.2340E-07 -6.9060E-06 2.1670E-06 -
5.9320E-08 -3.1890E-06 1.1490E-06
  15 -1.4180E-08 2.0830E-06 -8.0050E-07 -1.7010E-08 2.0840E-06 -8.0320E-07
-1.3250E-08 2.1330E-06 -8.2110E-07 -2.1930E-08 2.0990E-06 -8.1260E-07
1.4480E-07 -1.4570E-05 5.7580E-06 -2.2820E-08 2.0510E-06 -7.9370E-07 -
2.5010E-08 2.0430E-06 -7.9230E-07 -3.0570E-08 2.0760E-06 -8.0930E-07
1.3980E-08 7.0210E-07 -2.2690E-07
  16 -2.5530E-08 2.8490E-08 -2.9760E-08 -2.3370E-08 2.9430E-08 -2.5880E-08
-2.6100E-08 5.6920E-08 -3.6890E-08 -1.9470E-08 3.8880E-08 -2.0410E-08 -
1.9390E-08 5.1090E-08 -2.2820E-08 2.7030E-07 -2.4050E-07 1.5130E-07 -

1.7840E-08 8.7510E-09 -9.8460E-09 -1.3560E-08 2.6900E-08 -5.5540E-09
1.1070E-08 -2.1010E-07 7.3910E-08
  17   9.3320E-08 -6.2880E-06 1.8950E-06 6.7060E-08 -6.4030E-06 1.9030E-06
1.0750E-07 -6.7680E-06 2.0710E-06 2.0410E-08 -6.7560E-06 1.9690E-06
2.2200E-08 -6.9930E-06 2.0510E-06 -2.4050E-07 4.6450E-05 -1.3550E-05 -
7.7090E-09 -6.2790E-06 1.7630E-06 -6.0980E-08 -6.8370E-06 1.8980E-06
4.1170E-08 2.2110E-06 -8.0720E-07
  18 -4.6200E-08 1.8300E-06 -7.5570E-07 -3.5310E-08 1.8640E-06 -7.5380E-07
-5.0190E-08 2.0260E-06 -8.1610E-07 -1.5530E-08 1.9860E-06 -7.6670E-07 -
1.5540E-08 2.0810E-06 -7.9370E-07 1.5130E-07 -1.3550E-05 5.4310E-06 -
5.7750E-09 1.7800E-06 -6.9250E-07 1.7010E-08 1.9830E-06 -7.2740E-07 -
1.4340E-08 -7.7820E-07 2.9080E-07
  19 -3.1090E-08 1.0560E-08 -2.9350E-08 -2.6580E-08 1.7230E-08 -2.4700E-08
-3.2490E-08 6.4220E-08 -4.3180E-08 -1.8440E-08 4.5170E-08 -1.9730E-08 -
1.8390E-08 6.9610E-08 -2.5010E-08 -1.7840E-08 -7.7090E-09 -5.7750E-09
2.7540E-07 -2.3570E-07 1.4670E-07 -5.4930E-09 3.6510E-08 1.2640E-09
6.3000E-09 -4.4590E-07 1.5800E-07
  20   8.9630E-08 -6.2970E-06 1.8880E-06 6.3490E-08 -6.4100E-06 1.8960E-06
1.0370E-07 -6.7760E-06 2.0630E-06 1.7060E-08 -6.7620E-06 1.9620E-06
1.8850E-08 -7.0000E-06 2.0430E-06 8.7510E-09 -6.2790E-06 1.7800E-06 -
2.3570E-07 4.6490E-05 -1.3520E-05 -6.3960E-08 -6.8410E-06 1.8900E-06
3.7010E-08 2.1850E-06 -8.1420E-07
  21 -4.9780E-08 1.8080E-06 -7.5170E-07 -3.6390E-08 1.8480E-06 -7.4900E-07
-5.4640E-08 2.0300E-06 -8.1920E-07 -1.2130E-08 1.9890E-06 -7.6230E-07 -
1.2170E-08 2.0970E-06 -7.9230E-07 -9.8460E-09 1.7630E-06 -6.9250E-07
1.4670E-07 -1.3520E-05 5.4080E-06 2.7870E-08 1.9890E-06 -7.1640E-07 -
1.7000E-08 -1.0230E-06 3.8210E-07
  22 -4.6520E-08 -3.7590E-08 -2.7690E-08 -3.5420E-08 -1.4870E-08 -2.0860E-08
-5.0250E-08 8.6650E-08 -6.0270E-08 -1.5440E-08 6.4820E-08 -1.7300E-08 -
1.5460E-08 1.2340E-07 -3.0570E-08 -1.3560E-08 -6.0980E-08 1.7010E-08 -
5.4930E-09 -6.3960E-08 2.7870E-08 3.0730E-07 -9.7820E-08 1.1200E-07 -
6.9690E-09 -1.1010E-06 3.9290E-07
  23 -1.1120E-08 -6.8220E-06 1.9640E-06 2.4360E-09 -6.8380E-06 1.9850E-06
-1.1080E-08 -6.8730E-06 2.0270E-06 2.7440E-08 -6.8760E-06 2.0420E-06
2.8740E-08 -6.9060E-06 2.0760E-06 2.6900E-08 -6.8370E-06 1.9830E-06
3.6510E-08 -6.8410E-06 1.9890E-06 -9.7820E-08 4.8120E-05 -1.4070E-05 -
5.3180E-08 -1.9780E-06 6.4860E-07
  24 -3.3460E-08 1.9400E-06 -7.7390E-07 -2.4080E-08 1.9710E-06 -7.7240E-07
-3.6860E-08 2.1200E-06 -8.2960E-07 -7.0180E-09 2.0800E-06 -7.8440E-07 -
6.9860E-09 2.1670E-06 -8.0930E-07 -5.5540E-09 1.8980E-06 -7.2740E-07
1.2640E-09 1.8900E-06 -7.1640E-07 1.1200E-07 -1.4070E-05 5.5390E-06 -
1.1020E-09 -5.3220E-07 2.2600E-07
  25   3.2700E-08 3.9580E-08 5.7590E-10 2.3920E-08 3.2290E-08 -2.1420E-09
3.2650E-08 -1.0440E-08 1.4100E-08 1.2540E-08 -2.6920E-08 5.7970E-09
1.2710E-08 -5.9320E-08 1.3980E-08 1.1070E-08 4.1170E-08 -1.4340E-08
6.3000E-09 3.7010E-08 -1.7000E-08 -6.9690E-09 -5.3180E-08 -1.1020E-09
2.5890E-06 -4.5550E-06 1.5650E-06
  26   7.3740E-07 2.7340E-06 -1.0760E-08 4.2920E-07 1.1770E-06 1.4990E-07
8.6690E-07 -1.5570E-06 1.2150E-06 -1.4220E-07 -1.4570E-06 2.7770E-07 -
1.3580E-07 -3.1890E-06 7.0210E-07 -2.1010E-07 2.2110E-06 -7.7820E-07 -
4.4590E-07 2.1850E-06 -1.0230E-06 -1.1010E-06 -1.9780E-06 -5.3220E-07 -
4.5550E-06 4.7560E-04 -1.5230E-04
  27 -2.6330E-07 -9.3040E-07 1.0640E-08 -1.5360E-07 -3.9100E-07 -4.8710E-08
-3.0840E-07 6.2220E-07 -4.2940E-07 5.1220E-08 5.2350E-07 -7.9470E-08

4.9600E-08 1.1490E-06 -2.2690E-07 7.3910E-08 -8.0720E-07 2.9080E-07
1.5800E-07 -8.1420E-07 3.8210E-07 3.9290E-07 6.4860E-07 2.2600E-07
1.5650E-06 -1.5230E-04 5.6860E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
  0.0000025890 -0.0000045550   0.0000015650
 -0.0000045550   0.0004756000 -0.0001523000
  0.0000015650 -0.0001523000   0.0000568600

Covariance Matrix for the enu OPUS Position (meters^2).
  0.0000026067 -0.0000010687   0.0000055994
 -0.0000010687   0.0000281825 -0.0001018039
  0.0000055994 -0.0001018039   0.0005042598

Horizontal network accuracy = 0.01053 meters.
Vertical network accuracy = 0.04403 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-1743.170	9603.380	16780.337
lwes	qcfv	-23885.345	7827.285	13504.866
gris	qcfv	14010.555	-27013.725	-47690.276
houm	qcfv	-60239.777	-8782.138	-16145.660
lmcn	qcfv	-54415.125	-27216.648	-48709.971
gvms	qcfv	-77046.812	31432.041	53209.618
sjb1	qcfv	-96534.334	36338.789	61029.674
fshs	qcfv	-135350.212	4382.213	4366.958

Covariance matrix of the 8 vectors
  1 2.8100E-06 -5.6031E-06 2.0370E-06 2.5218E-06 -5.2448E-06 1.7995E-06
2.5233E-06 -5.2537E-06 1.8026E-06 2.5199E-06 -5.2512E-06 1.7991E-06
2.5200E-06 -5.2562E-06 1.8001E-06 2.5197E-06 -5.2402E-06 1.7964E-06
2.5189E-06 -5.2398E-06 1.7955E-06 2.5167E-06 -5.2503E-06 1.7959E-06
  2 -5.6031E-06 5.1650E-04 -1.6506E-04 -4.9453E-06 4.6529E-04 -1.4958E-04
-5.3459E-06 4.6768E-04 -1.5049E-04 -4.4160E-06 4.6759E-04 -1.4964E-04 -
4.4207E-06 4.6910E-04 -1.4999E-04 -4.3560E-06 4.6437E-04 -1.4876E-04 -
4.1381E-06 4.6438E-04 -1.4854E-04 -3.5312E-06 4.6802E-04 -1.4890E-04
  3 2.0370E-06 -1.6506E-04 6.2412E-05 1.6871E-06 -1.4996E-04 5.6123E-05
1.8408E-06 -1.5090E-04 5.6474E-05 1.4836E-06 -1.5083E-04 5.6143E-05
1.4853E-06 -1.5142E-04 5.6276E-05 1.4608E-06 -1.4959E-04 5.5803E-05
1.3771E-06 -1.4959E-04 5.5716E-05 1.1438E-06 -1.5097E-04 5.5849E-05
  4 2.5218E-06 -4.9453E-06 1.6871E-06 2.8153E-06 -5.2925E-06 1.9067E-06
2.5236E-06 -4.9350E-06 1.6845E-06 2.5303E-06 -4.9339E-06 1.6905E-06
2.5302E-06 -4.9223E-06 1.6876E-06 2.5306E-06 -4.9583E-06 1.6976E-06
2.5322E-06 -4.9577E-06 1.6992E-06 2.5366E-06 -4.9286E-06 1.6956E-06
  5 -5.2448E-06 4.6529E-04 -1.4996E-04 -5.2925E-06 5.1991E-04 -1.6587E-04
-5.3637E-06 4.6921E-04 -1.5104E-04 -4.4093E-06 4.6911E-04 -1.5017E-04 -
4.4141E-06 4.7066E-04 -1.5053E-04 -4.3478E-06 4.6581E-04 -1.4927E-04 -
4.1242E-06 4.6583E-04 -1.4904E-04 -3.5012E-06 4.6956E-04 -1.4941E-04
  6 1.7995E-06 -1.4958E-04 5.6123E-05 1.9067E-06 -1.6587E-04 6.2532E-05
1.8439E-06 -1.5104E-04 5.6529E-05 1.4900E-06 -1.5097E-04 5.6201E-05
1.4917E-06 -1.5155E-04 5.6332E-05 1.4674E-06 -1.4974E-04 5.5864E-05
1.3844E-06 -1.4974E-04 5.5778E-05 1.1534E-06 -1.5111E-04 5.5910E-05

7 2.5233E-06 -5.3459E-06 1.8408E-06 2.5236E-06 -5.3637E-06 1.8439E-06
2.8148E-06 -5.8062E-06 2.1015E-06 2.5196E-06 -5.3790E-06 1.8438E-06
2.5197E-06 -5.3899E-06 1.8462E-06 2.5192E-06 -5.3556E-06 1.8376E-06
2.5176E-06 -5.3552E-06 1.8358E-06 2.5131E-06 -5.3798E-06 1.8376E-06
8 -5.2537E-06 4.6768E-04 -1.5090E-04 -4.9350E-06 4.6921E-04 -1.5104E-04
-5.8062E-06 5.2647E-04 -1.6859E-04 -4.3443E-06 4.7178E-04 -1.5110E-04 -
4.3494E-06 4.7347E-04 -1.5149E-04 -4.2775E-06 4.6818E-04 -1.5012E-04 -
4.0344E-06 4.6820E-04 -1.4987E-04 -3.3569E-06 4.7226E-04 -1.5027E-04
9 1.8026E-06 -1.5049E-04 5.6474E-05 1.6845E-06 -1.5104E-04 5.6529E-05
2.1015E-06 -1.6859E-04 6.3562E-05 1.4647E-06 -1.5198E-04 5.6551E-05
1.4666E-06 -1.5261E-04 5.6695E-05 1.4401E-06 -1.5064E-04 5.6182E-05
1.3497E-06 -1.5064E-04 5.6088E-05 1.0977E-06 -1.5214E-04 5.6234E-05
10 2.5199E-06 -4.4160E-06 1.4836E-06 2.5303E-06 -4.4093E-06 1.4900E-06
2.5196E-06 -4.3443E-06 1.4647E-06 2.8319E-06 -4.6303E-06 1.6551E-06
2.5444E-06 -4.3042E-06 1.4779E-06 2.5459E-06 -4.4336E-06 1.5126E-06
2.5517E-06 -4.4327E-06 1.5187E-06 2.5680E-06 -4.3322E-06 1.5079E-06
11 -5.2512E-06 4.6759E-04 -1.5083E-04 -4.9339E-06 4.6911E-04 -1.5097E-04
-5.3790E-06 4.7178E-04 -1.5198E-04 -4.6303E-06 5.2625E-04 -1.6729E-04 -
4.3506E-06 4.7336E-04 -1.5143E-04 -4.2791E-06 4.6809E-04 -1.5006E-04 -
4.0370E-06 4.6811E-04 -1.4981E-04 -3.3623E-06 4.7216E-04 -1.5021E-04
12 1.7991E-06 -1.4964E-04 5.6143E-05 1.6905E-06 -1.5017E-04 5.6201E-05
1.8438E-06 -1.5110E-04 5.6551E-05 1.6551E-06 -1.6729E-04 6.2661E-05
1.4894E-06 -1.5162E-04 5.6354E-05 1.4649E-06 -1.4980E-04 5.5882E-05
1.3815E-06 -1.4980E-04 5.5795E-05 1.1490E-06 -1.5118E-04 5.5929E-05
13 2.5200E-06 -4.4207E-06 1.4853E-06 2.5302E-06 -4.4141E-06 1.4917E-06
2.5197E-06 -4.3494E-06 1.4666E-06 2.5444E-06 -4.3506E-06 1.4894E-06
2.8310E-06 -4.6062E-06 1.6462E-06 2.5458E-06 -4.4382E-06 1.5142E-06
2.5516E-06 -4.4374E-06 1.5202E-06 2.5678E-06 -4.3373E-06 1.5095E-06
14 -5.2562E-06 4.6910E-04 -1.5142E-04 -4.9223E-06 4.7066E-04 -1.5155E-04
-5.3899E-06 4.7347E-04 -1.5261E-04 -4.3042E-06 4.7336E-04 -1.5162E-04 -
4.6062E-06 5.3067E-04 -1.6872E-04 -4.2345E-06 4.6959E-04 -1.5059E-04 -
3.9802E-06 4.6960E-04 -1.5033E-04 -3.2713E-06 4.7386E-04 -1.5075E-04
15 1.8001E-06 -1.4999E-04 5.6276E-05 1.6876E-06 -1.5053E-04 5.6332E-05
1.8462E-06 -1.5149E-04 5.6695E-05 1.4779E-06 -1.5143E-04 5.6354E-05
1.6462E-06 -1.6872E-04 6.3072E-05 1.4543E-06 -1.5014E-04 5.6002E-05
1.3680E-06 -1.5014E-04 5.5913E-05 1.1276E-06 -1.5157E-04 5.6052E-05
16 2.5197E-06 -4.3560E-06 1.4608E-06 2.5306E-06 -4.3478E-06 1.4674E-06
2.5192E-06 -4.2775E-06 1.4401E-06 2.5459E-06 -4.2791E-06 1.4649E-06
2.5458E-06 -4.2345E-06 1.4543E-06 2.8372E-06 -4.6266E-06 1.6567E-06
2.5538E-06 -4.3732E-06 1.4982E-06 2.5713E-06 -4.2648E-06 1.4866E-06
17 -5.2402E-06 4.6437E-04 -1.4959E-04 -4.9583E-06 4.6581E-04 -1.4974E-04
-5.3556E-06 4.6818E-04 -1.5064E-04 -4.4336E-06 4.6809E-04 -1.4980E-04 -
4.4382E-06 4.6959E-04 -1.5014E-04 -4.6266E-06 5.1763E-04 -1.6426E-04 -
4.1580E-06 4.6493E-04 -1.4871E-04 -3.5561E-06 4.6853E-04 -1.4906E-04
18 1.7964E-06 -1.4876E-04 5.5803E-05 1.6976E-06 -1.4927E-04 5.5864E-05
1.8376E-06 -1.5012E-04 5.6182E-05 1.5126E-06 -1.5006E-04 5.5882E-05
1.5142E-06 -1.5059E-04 5.6002E-05 1.6567E-06 -1.6426E-04 6.1709E-05
1.4156E-06 -1.4893E-04 5.5495E-05 1.2035E-06 -1.5019E-04 5.5616E-05
19 2.5189E-06 -4.1381E-06 1.3771E-06 2.5322E-06 -4.1242E-06 1.3844E-06
2.5176E-06 -4.0344E-06 1.3497E-06 2.5517E-06 -4.0370E-06 1.3815E-06
2.5516E-06 -3.9802E-06 1.3680E-06 2.5538E-06 -4.1580E-06 1.4156E-06
2.8518E-06 -4.3818E-06 1.5707E-06 2.5842E-06 -4.0194E-06 1.4094E-06
20 -5.2398E-06 4.6438E-04 -1.4959E-04 -4.9577E-06 4.6583E-04 -1.4974E-04
-5.3552E-06 4.6820E-04 -1.5064E-04 -4.4327E-06 4.6811E-04 -1.4980E-04 -

4.4374E-06 4.6960E-04 -1.5014E-04 -4.3732E-06 4.6493E-04 -1.4893E-04 -
4.3818E-06 5.1772E-04 -1.6398E-04 -3.5550E-06 4.6855E-04 -1.4906E-04
  21   1.7955E-06 -1.4854E-04 5.5716E-05 1.6992E-06 -1.4904E-04 5.5778E-05
1.8358E-06 -1.4987E-04 5.6088E-05 1.5187E-06 -1.4981E-04 5.5795E-05
1.5202E-06 -1.5033E-04 5.5913E-05 1.4982E-06 -1.4871E-04 5.5495E-05
1.5707E-06 -1.6398E-04 6.1504E-05 1.2170E-06 -1.4994E-04 5.5536E-05
  22   2.5167E-06 -3.5312E-06 1.1438E-06 2.5366E-06 -3.5012E-06 1.1534E-06
2.5131E-06 -3.3569E-06 1.0977E-06 2.5680E-06 -3.3623E-06 1.1490E-06
2.5678E-06 -3.2713E-06 1.1276E-06 2.5713E-06 -3.5561E-06 1.2035E-06
2.5842E-06 -3.5550E-06 1.2170E-06 2.9102E-06 -3.4986E-06 1.2852E-06
  23 -5.2503E-06 4.6802E-04 -1.5097E-04 -4.9286E-06 4.6956E-04 -1.5111E-04
-5.3798E-06 4.7226E-04 -1.5214E-04 -4.3322E-06 4.7216E-04 -1.5118E-04 -
4.3373E-06 4.7386E-04 -1.5157E-04 -4.2648E-06 4.6853E-04 -1.5019E-04 -
4.0194E-06 4.6855E-04 -1.4994E-04 -3.4986E-06 5.2768E-04 -1.6649E-04
  24   1.7959E-06 -1.4890E-04 5.5849E-05 1.6956E-06 -1.4941E-04 5.5910E-05
1.8376E-06 -1.5027E-04 5.6234E-05 1.5079E-06 -1.5021E-04 5.5929E-05
1.5095E-06 -1.5075E-04 5.6052E-05 1.4866E-06 -1.4906E-04 5.5616E-05
1.4094E-06 -1.4906E-04 5.5536E-05 1.2852E-06 -1.6649E-04 6.1947E-05

Correlation matrix of the 8 vectors
   1   1.0000E+00 -1.4707E-01 1.5382E-01 8.9661E-01 -1.3722E-01 1.3575E-01
8.9720E-01 -1.3659E-01 1.3488E-01 8.9329E-01 -1.3655E-01 1.3559E-01
8.9345E-01 -1.3611E-01 1.3522E-01 8.9239E-01 -1.3740E-01 1.3642E-01
8.8982E-01 -1.3738E-01 1.3658E-01 8.8008E-01 -1.3635E-01 1.3612E-01
   2 -1.4707E-01 1.0000E+00 -9.1933E-01 -1.2969E-01 8.9789E-01 -8.3232E-01
-1.4020E-01 8.9687E-01 -8.3055E-01 -1.1547E-01 8.9687E-01 -8.3181E-01 -
1.1561E-01 8.9601E-01 -8.3101E-01 -1.1379E-01 8.9808E-01 -8.3326E-01 -
1.0782E-01 8.9804E-01 -8.3340E-01 -9.1079E-02 8.9649E-01 -8.3242E-01
   3   1.5382E-01 -9.1933E-01 1.0000E+00 1.2727E-01 -8.3249E-01 8.9837E-01
1.3888E-01 -8.3245E-01 8.9664E-01 1.1159E-01 -8.3227E-01 8.9777E-01
1.1174E-01 -8.3201E-01 8.9696E-01 1.0977E-01 -8.3225E-01 8.9918E-01
1.0322E-01 -8.3217E-01 8.9927E-01 8.4872E-02 -8.3193E-01 8.9821E-01
   4   8.9661E-01 -1.2969E-01 1.2727E-01 1.0000E+00 -1.3834E-01 1.4371E-01
8.9646E-01 -1.2819E-01 1.2593E-01 8.9612E-01 -1.2818E-01 1.2728E-01
8.9626E-01 -1.2735E-01 1.2665E-01 8.9542E-01 -1.2989E-01 1.2880E-01
8.9367E-01 -1.2986E-01 1.2913E-01 8.8620E-01 -1.2787E-01 1.2840E-01
   5 -1.3722E-01 8.9789E-01 -8.3249E-01 -1.3834E-01 1.0000E+00 -9.1992E-01
-1.4021E-01 8.9685E-01 -8.3086E-01 -1.1491E-01 8.9685E-01 -8.3201E-01 -
1.1506E-01 8.9606E-01 -8.3126E-01 -1.1320E-01 8.9792E-01 -8.3335E-01 -
1.0711E-01 8.9787E-01 -8.3346E-01 -9.0009E-02 8.9649E-01 -8.3252E-01
   6   1.3575E-01 -8.3232E-01 8.9837E-01 1.4371E-01 -9.1992E-01 1.0000E+00
1.3898E-01 -8.3241E-01 8.9664E-01 1.1197E-01 -8.3224E-01 8.9782E-01
1.1212E-01 -8.3194E-01 8.9699E-01 1.1016E-01 -8.3229E-01 8.9930E-01
1.0367E-01 -8.3222E-01 8.9941E-01 8.5498E-02 -8.3189E-01 8.9832E-01
   7   8.9720E-01 -1.4020E-01 1.3888E-01 8.9646E-01 -1.4021E-01 1.3898E-01
1.0000E+00 -1.5083E-01 1.5711E-01 8.9243E-01 -1.3976E-01 1.3883E-01
8.9259E-01 -1.3946E-01 1.3856E-01 8.9144E-01 -1.4030E-01 1.3942E-01
8.8858E-01 -1.4028E-01 1.3952E-01 8.7804E-01 -1.3959E-01 1.3916E-01
   8 -1.3659E-01 8.9687E-01 -8.3245E-01 -1.2819E-01 8.9685E-01 -8.3241E-01
-1.5083E-01 1.0000E+00 -9.2159E-01 -1.1251E-01 8.9630E-01 -8.3194E-01 -
1.1266E-01 8.9577E-01 -8.3135E-01 -1.1068E-01 8.9684E-01 -8.3285E-01 -
1.0412E-01 8.9679E-01 -8.3286E-01 -8.5760E-02 8.9601E-01 -8.3210E-01
   9   1.3488E-01 -8.3055E-01 8.9664E-01 1.2593E-01 -8.3086E-01 8.9664E-01
1.5711E-01 -9.2159E-01 1.0000E+00 1.0917E-01 -8.3099E-01 8.9607E-01

1.0933E-01 -8.3096E-01 8.9543E-01 1.0724E-01 -8.3047E-01 8.9707E-01
1.0025E-01 -8.3040E-01 8.9706E-01 8.0711E-02 -8.3071E-01 8.9617E-01
  10 8.9329E-01 -1.1547E-01 1.1159E-01 8.9612E-01 -1.1491E-01 1.1197E-01
8.9243E-01 -1.1251E-01 1.0917E-01 1.0000E+00 -1.1994E-01 1.2425E-01
8.9860E-01 -1.1103E-01 1.1058E-01 8.9818E-01 -1.1580E-01 1.1442E-01
8.9791E-01 -1.1577E-01 1.1507E-01 8.9452E-01 -1.1207E-01 1.1384E-01
  11 -1.3655E-01 8.9687E-01 -8.3227E-01 -1.2818E-01 8.9685E-01 -8.3224E-01
-1.3976E-01 8.9630E-01 -8.3099E-01 -1.1994E-01 1.0000E+00 -9.2125E-01 -
1.1272E-01 8.9573E-01 -8.3116E-01 -1.1074E-01 8.9686E-01 -8.3270E-01 -
1.0421E-01 8.9681E-01 -8.3272E-01 -8.5915E-02 8.9600E-01 -8.3195E-01
  12 1.3559E-01 -8.3181E-01 8.9777E-01 1.2728E-01 -8.3201E-01 8.9782E-01
1.3883E-01 -8.3194E-01 8.9607E-01 1.2425E-01 -9.2125E-01 1.0000E+00
1.1183E-01 -8.3149E-01 8.9641E-01 1.0987E-01 -8.3178E-01 8.9866E-01
1.0334E-01 -8.3171E-01 8.9877E-01 8.5086E-02 -8.3143E-01 8.9770E-01
  13 8.9345E-01 -1.1561E-01 1.1174E-01 8.9626E-01 -1.1506E-01 1.1212E-01
8.9259E-01 -1.1266E-01 1.0933E-01 8.9860E-01 -1.1272E-01 1.1183E-01
1.0000E+00 -1.1884E-01 1.2320E-01 8.9830E-01 -1.1594E-01 1.1456E-01
8.9802E-01 -1.1591E-01 1.1521E-01 8.9460E-01 -1.1222E-01 1.1399E-01
  14 -1.3611E-01 8.9601E-01 -8.3201E-01 -1.2735E-01 8.9606E-01 -8.3194E-01
-1.3946E-01 8.9577E-01 -8.3096E-01 -1.1103E-01 8.9573E-01 -8.3149E-01 -
1.1884E-01 1.0000E+00 -9.2223E-01 -1.0913E-01 8.9597E-01 -8.3216E-01 -
1.0231E-01 8.9593E-01 -8.3211E-01 -8.3242E-02 8.9548E-01 -8.3145E-01
  15 1.3522E-01 -8.3101E-01 8.9696E-01 1.2665E-01 -8.3126E-01 8.9699E-01
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1.2320E-01 -9.2223E-01 1.0000E+00 1.0872E-01 -8.3096E-01 8.9766E-01
1.0200E-01 -8.3089E-01 8.9772E-01 8.3225E-02 -8.3086E-01 8.9673E-01
  16 8.9239E-01 -1.1379E-01 1.0977E-01 8.9542E-01 -1.1320E-01 1.1016E-01
8.9144E-01 -1.1068E-01 1.0724E-01 8.9818E-01 -1.1074E-01 1.0987E-01
8.9830E-01 -1.0913E-01 1.0872E-01 1.0000E+00 -1.2073E-01 1.2521E-01
8.9781E-01 -1.1411E-01 1.1342E-01 8.9486E-01 -1.1022E-01 1.1214E-01
  17 -1.3740E-01 8.9808E-01 -8.3225E-01 -1.2989E-01 8.9792E-01 -8.3229E-01
-1.4030E-01 8.9684E-01 -8.3047E-01 -1.1580E-01 8.9686E-01 -8.3178E-01 -
1.1594E-01 8.9597E-01 -8.3096E-01 -1.2073E-01 1.0000E+00 -9.1909E-01 -
1.0822E-01 8.9810E-01 -8.3343E-01 -9.1624E-02 8.9649E-01 -8.3243E-01
  18 1.3642E-01 -8.3326E-01 8.9918E-01 1.2880E-01 -8.3335E-01 8.9930E-01
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1.1456E-01 -8.3216E-01 8.9766E-01 1.2521E-01 -9.1909E-01 1.0000E+00
1.0671E-01 -8.3321E-01 9.0079E-01 8.9802E-02 -8.3229E-01 8.9952E-01
  19 8.8982E-01 -1.0782E-01 1.0322E-01 8.9367E-01 -1.0711E-01 1.0367E-01
8.8858E-01 -1.0412E-01 1.0025E-01 8.9791E-01 -1.0421E-01 1.0334E-01
8.9802E-01 -1.0231E-01 1.0200E-01 8.9781E-01 -1.0822E-01 1.0671E-01
1.0000E+00 -1.1404E-01 1.1860E-01 8.9701E-01 -1.0361E-01 1.0604E-01
  20 -1.3738E-01 8.9804E-01 -8.3217E-01 -1.2986E-01 8.9787E-01 -8.3222E-01
-1.4028E-01 8.9679E-01 -8.3040E-01 -1.1577E-01 8.9681E-01 -8.3171E-01 -
1.1591E-01 8.9593E-01 -8.3089E-01 -1.1411E-01 8.9810E-01 -8.3321E-01 -
1.1404E-01 1.0000E+00 -9.1897E-01 -9.1585E-02 8.9645E-01 -8.3237E-01
  21 1.3658E-01 -8.3340E-01 8.9927E-01 1.2913E-01 -8.3346E-01 8.9941E-01
1.3952E-01 -8.3286E-01 8.9706E-01 1.1507E-01 -8.3272E-01 8.9877E-01
1.1521E-01 -8.3211E-01 8.9772E-01 1.1342E-01 -8.3343E-01 9.0079E-01
1.1860E-01 -9.1897E-01 1.0000E+00 9.0963E-02 -8.3229E-01 8.9972E-01
  22 8.8008E-01 -9.1079E-02 8.4872E-02 8.8620E-01 -9.0009E-02 8.5498E-02
8.7804E-01 -8.5760E-02 8.0711E-02 8.9452E-01 -8.5915E-02 8.5086E-02
8.9460E-01 -8.3242E-02 8.3225E-02 8.9486E-01 -9.1624E-02 8.9802E-02
8.9701E-01 -9.1585E-02 9.0963E-02 1.0000E+00 -8.9279E-02 9.5719E-02

23 -1.3635E-01 8.9649E-01 -8.3193E-01 -1.2787E-01 8.9649E-01 -8.3189E-01
-1.3959E-01 8.9601E-01 -8.3071E-01 -1.1207E-01 8.9600E-01 -8.3143E-01 -
1.1222E-01 8.9548E-01 -8.3086E-01 -1.1022E-01 8.9649E-01 -8.3229E-01 -
1.0361E-01 8.9645E-01 -8.3229E-01 -8.9279E-02 1.0000E+00 -9.2084E-01
24 1.3612E-01 -8.3242E-01 8.9821E-01 1.2840E-01 -8.3252E-01 8.9832E-01
1.3916E-01 -8.3210E-01 8.9617E-01 1.1384E-01 -8.3195E-01 8.9770E-01
1.1399E-01 -8.3145E-01 8.9673E-01 1.1214E-01 -8.3243E-01 8.9952E-01
1.0604E-01 -8.3237E-01 8.9972E-01 9.5719E-02 -9.2084E-01 1.0000E+00

G-FILE for the vectors

Axx2012 3 92012 3 9
B20120309180020120309190 8 rsgps 1.37IGS
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C00090002 -238853445 16 78272847 228 135048659 79
C00090003 140105553 16 -270137252 229 -476902757 79
C00090004 -602397771 16 -87821381 229 -161456596 79
C00090005 -544151250 16 -272166478 230 -487099712 79
C00090006 -770468120 16 314320412 227 532096176 78
C00090007 -965343344 16 363387893 227 610296741 78
C00090008-1353502122 17 43822128 229 43669579 78
D 1 2 -1470745 1 3 1538189 1 4 8966096 1 5 -1372176 1 6 1357543 D
1 7 8972010 1 8 -1365909 1 9 1348831 1 10 8932948 1 11 -1365539 D 1
12 1355857 1 13 8934537 1 14 -1361143 1 15 1352183 1 16 8923880 D 1
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22 8800806 1 23 -1363485 1 24 1361222 2 3 -9193263 2 4 -1296867 D 2
5 8978867 2 6 -8323179 2 7 -1402036 2 8 8968650 2 9 -8305460 D 2 10
-1154668 2 11 8968664 2 12 -8318074 2 13 -1156076 2 14 8960129 D 2 15 -
8310074 2 16 -1137912 2 17 8980829 2 18 -8332562 2 19 -1078220 D 2 20
8980360 2 21 -8333977 2 22 -910790 2 23 8964923 2 24 -8324170 D 3 4
1272731 3 5 -8324930 3 6 8983678 3 7 1388835 3 8 -8324486 D 3 9
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D 3 19 1032202 3 20 -8321726 3 21 8992748 3 22 848722 3 23 -8319264
D 3 24 8982056 4 5 -1383370 4 6 1437077 4 7 8964597 4 8 -1281869 D
4 9 1259269 4 10 8961184 4 11 -1281838 4 12 1272779 4 13 8962600 D 4
14 -1273504 4 15 1266470 4 16 8954249 4 17 -1298869 4 18 1287977 D 4
19 8936741 4 20 -1298599 4 21 1291328 4 22 8862034 4 23 -1278731 D 4
24 1283984 5 6 -9199197 5 7 -1402100 5 8 8968486 5 9 -8308559 D 5
10 -1149134 5 11 8968468 5 12 -8320074 5 13 -1150560 5 14 8960619 D 5
15 -8312557 5 16 -1132038 5 17 8979177 5 18 -8333455 5 19 -1071059 D 5
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7 15 1385575 7 16 8914428 7 17 -1403049 7 18 1394247 7 19 8885799 D 7
20 -1402830 7 21 1395215 7 22 8780442 7 23 -1395914 7 24 1391640 D 8
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D 9 19 1002503 9 20 -8304020 9 21 8970603 9 22   807110 9 23 -8307147
D 9 24 8961675 10 11 -1199413 10 12 1242455 10 13 8986032 10 14 -1110305 D
10 15 1105803 10 16 8981778 10 17 -1157985 10 18 1144208 10 19 8979103 D
10 20 -1157671 10 21 1150710 10 22 8945166 10 23 -1120681 10 24 1138443 D
11 12 -9212488 11 13 -1127161 11 14 8957314 11 15 -8311642 11 16 -1107421 D
11 17 8968561 11 18 -8327018 11 19 -1042083 11 20 8968147 11 21 -8327151 D
11 22 -859150 11 23 8959977 11 24 -8319452 12 13 1118296 12 14 -8314903 D
12 15 8964104 12 16 1098658 12 17 -8317806 12 18 8986645 12 19 1033437
D 12 20 -8317067 12 21 8987655 12 22   850860 12 23 -8314278 12 24 8976954
D 13 14 -1188395 13 15 1231974 13 16 8982952 13 17 -1159382 13 18 1145616 D
13 19 8980172 13 20 -1159067 13 21 1152099 13 22 8945989 13 23 -1122187 D
13 24 1139880 14 15 -9222323 14 16 -1091309 14 17 8959708 14 18 -8321630 D
14 19 -1023129 14 20 8959274 14 21 -8321092 14 22 -832419 14 23 8954799 D
14 24 -8314481 15 16 1087155 15 17 -8309620 15 18 8976630 15 19 1020028
D 15 20 -8308937 15 21 8977188 15 22   832250 15 23 -8308553 15 24 8967270
D 16 17 -1207280 16 18 1252086 16 19 8978085 16 20 -1141053 16 21 1134200 D
16 22 8948560 16 23 -1102237 16 24 1121380 17 18 -9190929 17 19 -1082215 D
17 20 8981038 17 21 -8334335 17 22 -916235 17 23 8964887 17 24 -8324337
D 18 19 1067074 18 20 -8332053 18 21 9007911 18 22   898024 18 23 -8322890
D 18 24 8995232 19 20 -1140371 19 21 1185994 19 22 8970121 19 23 -1036141 D
19 24 1060361 20 21 -9189668 20 22 -915849 20 23 8964512 20 24 -8323653
D 21 22   909629 21 23 -8322868 21 24 8997245 22 23 -892794 22 24   957187
D 23 24 -9208416

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-9860.862	-5541480.217	3147290.592
lwes	-9860.872	-5541480.250	3147290.620
gris	-9860.859	-5541480.136	3147290.583
houm	-9860.861	-5541480.220	3147290.591
lmcn	-9860.867	-5541480.212	3147290.586
gvms	-9860.857	-5541480.300	3147290.620
sjb1	-9860.857	-5541480.178	3147290.591
fshs	-9860.863	-5541480.217	3147290.590

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.003	0.012	0.007	0.003	0.012	-0.007
lwes	-0.007	-0.022	0.034	-0.007	0.019	0.036
gris	0.005	0.092	-0.003	0.005	0.043	-0.081
houm	0.003	0.008	0.006	0.003	0.009	-0.005
lmcn	-0.002	0.017	-0.000	-0.002	0.008	-0.014
gvms	0.007	-0.072	0.035	0.007	- 0.005	0.080
sjb1	0.008	0.051	0.006	0.008		

0.030 -0.041
fshs 0.001 0.012 0.004 0.001
0.010 -0.008

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 460303.066
Easting (X) [feet] 3671536.545
Convergence [degrees] 0.61570826
Point Scale 0.99993453
Combined Factor 0.99993844

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.454 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.564
scatter (mean square distance from rover) is 7113.107
average edop for rover is 1.120
average ndop for rover is 1.610
average hdop for rover is 1.961
average vdop for rover is 3.910
average gdop for rover is 5.270

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:30 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA33.O00 OP1335489684488

FILE: QCFVA33.O00 OP1335489684488

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv080a.12o TIME: 01:29:54 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.73 START: 2012/03/20 00:13:56
EPHEMERIS: igs16802.eph [precise] STOP: 2012/03/20 00:47:52
NAV FILE: brdc0800.12n OBS USED: 4725 / 4725 : 100%
ANT NAME: LEIAT502 NONE QUALITY IND. 16.61/ 58.01
ARP HEIGHT: 1.593 NORMALIZED RMS: 0.320

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.21591)

X:	-11985.480(m)	0.004(m)	-11986.212(m)	0.004(m)
Y:	-5543545.721(m)	0.011(m)	-5543544.227(m)	0.011(m)
Z:	3143671.548(m)	0.005(m)	3143671.338(m)	0.005(m)

LAT:	29 43 20.50875	0.004(m)	29 43 20.52686	0.004(m)
E LON:	269 52 34.04375	0.004(m)	269 52 34.01639	0.004(m)
W LON:	90 7 25.95625	0.004(m)	90 7 25.98361	0.004(m)
EL HGT:	-24.575(m)	0.011(m)	-25.976(m)	0.011(m)
ORTHO HGT:	0.743(m)	0.016(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3291485.692	136110.058
Easting (X) [meters]	778224.155	1117009.941
Convergence [degrees]	1.42689293	0.60474365
Point Scale	1.00055521	0.99993748
Combined Factor	1.00055907	0.99994134

US NATIONAL GRID DESIGNATOR: 15RYN7822491485(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	24719.9

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 23503.6
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 36661.2
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 83577.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 81631.6
AJ7833 HAMM HAMMOND CORS ARP N303047.051 W0902803.428 93703.3
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 73485.0
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 150425.9
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 120695.1

NEAREST NGS PUBLISHED CONTROL POINT
AU2816 ELSIE N294318.907 W0900724.454 63.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.594	-5534921.918	3158759.199
nola	-11604.033	-5531876.851	3164070.917
dstr	-36892.838	-5530079.543	3166960.853
covg	-9174.166	-5501675.371	3215950.514
bvhs	57650.139	-5564331.459	3106490.837
hamm	-44885.212	-5499419.433	3219506.424
lmcn	-64275.987	-5568696.876	3098580.614
mspk	82001.467	-5483970.060	3244889.903
sjb1	-106395.194	-5505141.430	3208320.249
qcfv	-11986.212	-5543544.227	3143671.338

Covariance matrix of the stations:
1 1.2450E-07 -2.5850E-07 1.7690E-07 -1.4570E-09 2.9030E-08 -2.1120E-08
-2.6600E-09 2.7710E-08 -2.0380E-08 -6.8030E-10 3.9800E-08 -2.3150E-08
1.0930E-09 2.3950E-08 -2.2420E-08 -2.3020E-09 3.7670E-08 -2.1930E-08 -
5.2700E-09 1.3820E-08 -1.8800E-08 3.3990E-09 5.5200E-08 -2.9430E-08 -
5.4980E-09 3.1370E-08 -1.9750E-08 1.1940E-08 1.9760E-08 -1.4740E-08
2 -2.5850E-07 4.3340E-06 -2.5850E-06 3.2070E-08 -5.2070E-07 3.2260E-07
3.6350E-08 -5.2070E-07 3.2300E-07 2.8110E-08 -5.3540E-07 3.1590E-07
2.4100E-08 -5.1330E-07 3.3230E-07 3.4060E-08 -5.3470E-07 3.1610E-07
4.6600E-08 -5.1070E-07 3.3930E-07 1.1320E-08 -5.5640E-07 3.1620E-07
4.5690E-08 -5.3100E-07 3.2020E-07 9.8350E-09 1.7520E-08 1.3920E-08
3 1.7690E-07 -2.5850E-06 1.6810E-06 -2.1990E-08 3.2200E-07 -1.9600E-07
-2.2600E-08 3.2000E-07 -1.9490E-07 -2.1500E-08 3.2630E-07 -1.9630E-07 -
2.0900E-08 3.2490E-07 -1.9970E-07 -2.2320E-08 3.2360E-07 -1.9490E-07 -
2.4030E-08 3.1300E-07 -1.9430E-07 -1.9380E-08 3.3730E-07 -2.0110E-07 -
2.4020E-08 3.1810E-07 -1.9260E-07 -2.3120E-09 -2.8790E-08 2.6540E-08
4 -1.4570E-09 3.2070E-08 -2.1990E-08 1.2210E-07 -2.4120E-07 1.6770E-07
-1.0260E-09 2.7650E-08 -1.9240E-08 -1.4720E-09 3.1340E-08 -2.2030E-08 -
2.0150E-09 3.7490E-08 -2.4900E-08 -1.0950E-09 2.7800E-08 -1.9730E-08 -
5.8100E-10 2.2900E-08 -1.5840E-08 -2.7830E-09 4.0540E-08 -2.8470E-08 -
5.3030E-10 2.1480E-08 -1.5530E-08 1.2110E-08 1.2880E-09 -8.5370E-10
5 2.9030E-08 -5.2070E-07 3.2200E-07 -2.4120E-07 4.2880E-06 -2.5630E-06
3.2430E-08 -5.1820E-07 3.2030E-07 2.7760E-08 -5.2050E-07 3.1320E-07

2.7230E-08 -5.3150E-07 3.3530E-07 3.0750E-08 -5.1760E-07 3.1180E-07
3.8170E-08 -5.2180E-07 3.3400E-07 1.8980E-08 -5.3270E-07 3.1400E-07
3.6820E-08 -5.1370E-07 3.1270E-07 7.1270E-09 -7.1390E-08 6.1030E-08
   6 -2.1120E-08 3.2260E-07 -1.9600E-07 1.6770E-07 -2.5630E-06 1.6710E-06
-2.0610E-08 3.1850E-07 -1.9370E-07 -2.1030E-08 3.1950E-07 -1.9510E-07 -
2.1930E-08 3.3230E-07 -2.0090E-07 -2.0590E-08 3.1590E-07 -1.9290E-07 -
2.0120E-08 3.1730E-07 -1.9190E-07 -2.2330E-08 3.2680E-07 -2.0010E-07 -
1.9920E-08 3.1020E-07 -1.8920E-07 -2.1540E-09 2.9500E-08 -8.0020E-09
   7 -2.6600E-09 3.6350E-08 -2.2600E-08 -1.0260E-09 3.2430E-08 -2.0610E-08
1.2200E-07 -2.1920E-07 1.5560E-07 -2.7000E-09 1.8240E-08 -2.0260E-08 -
6.8430E-09 5.8590E-08 -2.8710E-08 7.8950E-10 1.2520E-08 -1.6280E-08
6.7290E-09 3.7070E-08 -1.1170E-08 -1.2400E-08 1.7790E-08 -2.6950E-08
7.2080E-09 6.1770E-09 -8.9380E-09 1.5590E-08 -3.0990E-08 2.4390E-08
   8   2.7710E-08 -5.2070E-07 3.2000E-07 2.7650E-08 -5.1820E-07 3.1850E-07
-2.1920E-07 4.2350E-06 -2.5310E-06 2.6450E-08 -5.0440E-07 3.0900E-07
2.9300E-08 -5.4740E-07 3.3650E-07 2.6550E-08 -4.9930E-07 3.0590E-07
2.8980E-08 -5.3050E-07 3.2690E-07 2.5470E-08 -5.0830E-07 3.1040E-07
2.7200E-08 -4.9490E-07 3.0370E-07 1.5170E-09 -3.8080E-08 3.5440E-08
   9 -2.0380E-08 3.2300E-07 -1.9490E-07 -1.9240E-08 3.2030E-07 -1.9370E-07
1.5560E-07 -2.5310E-06 1.6520E-06 -2.0300E-08 3.0880E-07 -1.9250E-07 -
2.3510E-08 3.4370E-07 -2.0210E-07 -1.7860E-08 3.0360E-07 -1.8910E-07 -
1.3920E-08 3.2370E-07 -1.8730E-07 -2.7000E-08 3.1030E-07 -1.9790E-07 -
1.3430E-08 2.9760E-07 -1.8330E-07 1.5550E-09 6.9900E-09 9.3130E-09
  10 -6.8030E-10 2.8110E-08 -2.1500E-08 -1.4720E-09 2.7760E-08 -2.1030E-08
-2.7000E-09 2.6450E-08 -2.0300E-08 1.2460E-07 -2.3820E-07 1.7470E-07
1.1020E-09 2.2770E-08 -2.2450E-08 -2.3070E-09 3.6360E-08 -2.1710E-08 -
5.4000E-09 1.2760E-08 -1.8980E-08 3.5470E-09 5.3930E-08 -2.9130E-08 -
5.5790E-09 3.0110E-08 -1.9620E-08 9.8530E-09 2.0680E-08 -1.6930E-08
  11   3.9800E-08 -5.3540E-07 3.2630E-07 3.1340E-08 -5.2050E-07 3.1950E-07
1.8240E-08 -5.0440E-07 3.0880E-07 -2.3820E-07 4.0990E-06 -2.4810E-06
6.2310E-08 -6.6000E-07 3.6210E-07 2.0800E-08 -4.0050E-07 2.8800E-07 -
7.4050E-09 -6.0570E-07 3.0550E-07 8.5270E-08 -3.6410E-07 3.0170E-07 -
1.1950E-08 -3.9730E-07 2.6880E-07 -1.2970E-08 1.5320E-07 -1.0420E-07
  12 -2.3150E-08 3.1590E-07 -1.9630E-07 -2.2030E-08 3.1320E-07 -1.9510E-07
-2.0260E-08 3.0900E-07 -1.9250E-07 1.7470E-07 -2.4810E-06 1.6610E-06 -
2.6380E-08 3.3770E-07 -2.0420E-07 -2.0530E-08 2.9540E-07 -1.8970E-07 -
1.6940E-08 3.1890E-07 -1.9030E-07 -2.9370E-08 3.0080E-07 -1.9750E-07 -
1.6230E-08 2.9020E-07 -1.8450E-07 -1.3570E-09 1.4080E-09 6.9200E-09
  13   1.0930E-09 2.4100E-08 -2.0900E-08 -2.0150E-09 2.7230E-08 -2.1930E-08
-6.8430E-09 2.9300E-08 -2.3510E-08 1.1020E-09 6.2310E-08 -2.6380E-08
1.3960E-07 -3.4940E-07 2.0950E-07 -5.4550E-09 6.3670E-08 -2.7830E-08 -
1.6960E-08 -7.4110E-09 -2.6270E-08 1.8470E-08 9.3060E-08 -3.2330E-08 -
1.7920E-08 5.7380E-08 -3.0600E-08 4.1990E-09 7.5230E-08 -5.7640E-08
  14   2.3950E-08 -5.1330E-07 3.2490E-07 3.7490E-08 -5.3150E-07 3.3230E-07
5.8590E-08 -5.4740E-07 3.4370E-07 2.2770E-08 -6.6000E-07 3.3770E-07 -
3.4940E-07 4.8940E-06 -2.7810E-06 5.1620E-08 -6.7580E-07 3.5050E-07
1.0360E-07 -4.3010E-07 3.7910E-07 -5.5610E-08 -7.5200E-07 3.3640E-07
1.0620E-07 -6.7230E-07 3.7750E-07 4.0620E-08 -3.6310E-07 2.7590E-07
  15 -2.2420E-08 3.3230E-07 -1.9970E-07 -2.4900E-08 3.3530E-07 -2.0090E-07
-2.8710E-08 3.3650E-07 -2.0210E-07 -2.2450E-08 3.6210E-07 -2.0420E-07
2.0950E-07 -2.7810E-06 1.7430E-06 -2.7640E-08 3.6280E-07 -2.0520E-07 -
3.6640E-08 3.0790E-07 -2.0420E-07 -8.6530E-09 3.8640E-07 -2.0860E-07 -
3.7480E-08 3.5740E-07 -2.0730E-07 -1.1700E-08 1.0250E-07 -5.6740E-08
  16 -2.3020E-09 3.4060E-08 -2.2320E-08 -1.0950E-09 3.0750E-08 -2.0590E-08

7.8950E-10 2.6550E-08 -1.7860E-08 -2.3070E-09 2.0800E-08 -2.0530E-08 -
5.4550E-09 5.1620E-08 -2.7640E-08 1.2150E-07 -2.2850E-07 1.5940E-07
4.5720E-09 3.2150E-08 -1.2620E-08 -9.5410E-09 2.3110E-08 -2.7090E-08
4.9740E-09 9.4050E-09 -1.0660E-08 1.4610E-08 -2.3170E-08 1.7460E-08
  17   3.7670E-08 -5.3470E-07 3.2360E-07 2.7800E-08 -5.1760E-07 3.1590E-07
1.2520E-08 -4.9930E-07 3.0360E-07 3.6360E-08 -4.0050E-07 2.9540E-07
6.3670E-08 -6.7580E-07 3.6280E-07 -2.2850E-07 4.0680E-06 -2.4550E-06 -
1.7640E-08 -6.1380E-07 2.9740E-07 9.1190E-08 -3.3860E-07 2.9750E-07 -
2.2630E-08 -3.7700E-07 2.5860E-07 -1.9520E-08 1.8820E-07 -1.3120E-07
  18 -2.1930E-08 3.1610E-07 -1.9490E-07 -1.9730E-08 3.1180E-07 -1.9290E-07
-1.6280E-08 3.0590E-07 -1.8910E-07 -2.1710E-08 2.8800E-07 -1.8970E-07 -
2.7830E-08 3.5050E-07 -2.0520E-07 1.5940E-07 -2.4550E-06 1.6400E-06 -
9.4880E-09 3.2590E-07 -1.8470E-07 -3.4340E-08 2.8190E-07 -1.9480E-07 -
8.4470E-09 2.7560E-07 -1.7740E-07 3.2470E-09 -2.4470E-08 2.6940E-08
  19 -5.2700E-09 4.6600E-08 -2.4030E-08 -5.8100E-10 3.8170E-08 -2.0120E-08
6.7290E-09 2.8980E-08 -1.3920E-08 -5.4000E-09 -7.4050E-09 -1.6940E-08 -
1.6960E-08 1.0360E-07 -3.6640E-08 4.5720E-09 -1.7640E-08 -9.4880E-09
1.3750E-07 -1.4040E-07 1.4100E-07 -3.2610E-08 -2.7930E-08 -2.4230E-08
2.3200E-08 -2.4070E-08 4.4470E-09 2.2690E-08 -9.5990E-08 7.6260E-08
  20   1.3820E-08 -5.1070E-07 3.1300E-07 2.2900E-08 -5.2180E-07 3.1730E-07
3.7070E-08 -5.3050E-07 3.2370E-07 1.2760E-08 -6.0570E-07 3.1890E-07 -
7.4110E-09 -4.3010E-07 3.0790E-07 3.2150E-08 -6.1380E-07 3.2590E-07 -
1.4040E-07 4.6040E-06 -2.5690E-06 -3.9980E-08 -6.7250E-07 3.2090E-07
6.9020E-08 -6.0780E-07 3.4200E-07 1.6470E-08 -2.5180E-07 1.8690E-07
  21 -1.8800E-08 3.3930E-07 -1.9430E-07 -1.5840E-08 3.3400E-07 -1.9190E-07
-1.1170E-08 3.2690E-07 -1.8730E-07 -1.8980E-08 3.0550E-07 -1.9030E-07 -
2.6270E-08 3.7910E-07 -2.0420E-07 -1.2620E-08 2.9740E-07 -1.8470E-07
1.4100E-07 -2.5690E-06 1.6350E-06 -3.6420E-08 2.9640E-07 -1.9720E-07 -
7.5760E-10 2.9060E-07 -1.7430E-07 9.0860E-09 -2.3440E-08 4.2980E-08
  22   3.3990E-09 1.1320E-08 -1.9380E-08 -2.7830E-09 1.8980E-08 -2.2330E-08
-1.2400E-08 2.5470E-08 -2.7000E-08 3.5470E-09 8.5270E-08 -2.9370E-08
1.8470E-08 -5.5610E-08 -8.6530E-09 -9.5410E-09 9.1190E-08 -3.4340E-08 -
3.2610E-08 -3.9980E-08 -3.6420E-08 1.7720E-07 -2.2150E-07 2.2110E-07 -
3.4320E-08 8.5150E-08 -4.3870E-08 -3.2610E-09 1.3790E-07 -1.0960E-07
  23   5.5200E-08 -5.5640E-07 3.3730E-07 4.0540E-08 -5.3270E-07 3.2680E-07
1.7790E-08 -5.0830E-07 3.1030E-07 5.3930E-08 -3.6410E-07 3.0080E-07
9.3060E-08 -7.5200E-07 3.8640E-07 2.3110E-08 -3.3860E-07 2.8190E-07 -
2.7930E-08 -6.7250E-07 2.9640E-07 -2.2150E-07 4.1730E-06 -2.4910E-06 -
3.4380E-08 -3.3740E-07 2.5070E-07 -1.7240E-08 2.8450E-07 -2.0110E-07
  24 -2.9430E-08 3.1620E-07 -2.0110E-07 -2.8470E-08 3.1400E-07 -2.0010E-07
-2.6950E-08 3.1040E-07 -1.9790E-07 -2.9130E-08 3.0170E-07 -1.9750E-07 -
3.2330E-08 3.3640E-07 -2.0860E-07 -2.7090E-08 2.9750E-07 -1.9480E-07 -
2.4230E-08 3.2090E-07 -1.9720E-07 2.2110E-07 -2.4910E-06 1.6990E-06 -
2.3440E-08 2.9360E-07 -1.9080E-07 -8.1650E-09 6.0210E-09 -9.1040E-10
  25 -5.4980E-09 4.5690E-08 -2.4020E-08 -5.3030E-10 3.6820E-08 -1.9920E-08
7.2080E-09 2.7200E-08 -1.3430E-08 -5.5790E-09 -1.1950E-08 -1.6230E-08 -
1.7920E-08 1.0620E-07 -3.7480E-08 4.9740E-09 -2.2630E-08 -8.4470E-09
2.3200E-08 6.9020E-08 -7.5760E-10 -3.4320E-08 -3.4380E-08 -2.3440E-08
1.3960E-07 -2.1630E-07 1.4400E-07 2.3410E-08 -1.0500E-07 8.1890E-08
  26   3.1370E-08 -5.3100E-07 3.1810E-07 2.1480E-08 -5.1370E-07 3.1020E-07
6.1770E-09 -4.9490E-07 2.9760E-07 3.0110E-08 -3.9730E-07 2.9020E-07
5.7380E-08 -6.7230E-07 3.5740E-07 9.4050E-09 -3.7700E-07 2.7560E-07 -
2.4070E-08 -6.0780E-07 2.9060E-07 8.5150E-08 -3.3740E-07 2.9360E-07 -
2.1630E-07 4.0420E-06 -2.4340E-06 -2.5840E-08 1.9220E-07 -1.3700E-07

27 -1.9750E-08 3.2020E-07 -1.9260E-07 -1.5530E-08 3.1270E-07 -1.8920E-07
-8.9380E-09 3.0370E-07 -1.8330E-07 -1.9620E-08 2.6880E-07 -1.8450E-07 -
3.0600E-08 3.7750E-07 -2.0730E-07 -1.0660E-08 2.5860E-07 -1.7740E-07
4.4470E-09 3.4200E-07 -1.7430E-07 -4.3870E-08 2.5070E-07 -1.9080E-07
1.4400E-07 -2.4340E-06 1.6110E-06 1.1810E-08 -6.9830E-08 6.4290E-08
28 1.1940E-08 9.8350E-09 -2.3120E-09 1.2110E-08 7.1270E-09 -2.1540E-09
1.5590E-08 1.5170E-09 1.5550E-09 9.8530E-09 -1.2970E-08 -1.3570E-09
4.1990E-09 4.0620E-08 -1.1700E-08 1.4610E-08 -1.9520E-08 3.2470E-09
2.2690E-08 1.6470E-08 9.0860E-09 -3.2610E-09 -1.7240E-08 -8.1650E-09
2.3410E-08 -2.5840E-08 1.1810E-08 1.1360E-06 -2.7450E-06 1.8630E-06
29 1.9760E-08 1.7520E-08 -2.8790E-08 1.2880E-09 -7.1390E-08 2.9500E-08
-3.0990E-08 -3.8080E-08 6.9900E-09 2.0680E-08 1.5320E-07 1.4080E-09
7.5230E-08 -3.6310E-07 1.0250E-07 -2.3170E-08 1.8820E-07 -2.4470E-08 -
9.5990E-08 -2.5180E-07 -2.3440E-08 1.3790E-07 2.8450E-07 6.0210E-09 -
1.0500E-07 1.9220E-07 -6.9830E-08 -2.7450E-06 4.7560E-05 -2.8440E-05
30 -1.4740E-08 1.3920E-08 2.6540E-08 -8.5370E-10 6.1030E-08 -8.0020E-09
2.4390E-08 3.5440E-08 9.3130E-09 -1.6930E-08 -1.0420E-07 6.9200E-09 -
5.7640E-08 2.7590E-07 -5.6740E-08 1.7460E-08 -1.3120E-07 2.6940E-08
7.6260E-08 1.8690E-07 4.2980E-08 -1.0960E-07 -2.0110E-07 -9.1040E-10
8.1890E-08 -1.3700E-07 6.4290E-08 1.8630E-06 -2.8440E-05 1.8250E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000011360 -0.0000027450 0.0000018630
-0.0000027450 0.0000475600 -0.0000284400
0.0000018630 -0.0000284400 0.0000182500

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000011481 0.0000002705 0.0000034244
0.0000002705 0.0000009758 0.0000020255
0.0000034244 0.0000020255 0.0000648221

Horizontal network accuracy = 0.00254 meters.
Vertical network accuracy = 0.01579 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	17580.805	8622.309	15087.861
nola	qcfv	382.178	11667.376	20399.579
dstr	qcfv	-24906.626	13464.684	23289.515
covg	qcfv	2812.046	41868.856	72279.176
bvhs	qcfv	69636.351	-20787.232	-37180.501
hamm	qcfv	-32899.000	44124.794	75835.086
lmcn	qcfv	-52289.776	-25152.649	-45090.724
mspk	qcfv	93987.678	59574.168	101218.565
sjb1	qcfv	-94408.982	38402.798	64648.911

Covariance matrix of the 9 vectors
1 1.2366E-06 -3.0331E-06 2.0570E-06 1.1105E-06 -2.7429E-06 1.8588E-06
1.1058E-06 -2.7386E-06 1.8558E-06 1.1135E-06 -2.7120E-06 1.8559E-06
1.1210E-06 -2.7814E-06 1.8670E-06 1.1071E-06 -2.7076E-06 1.8526E-06
1.0961E-06 -2.7674E-06 1.8499E-06 1.1307E-06 -2.6923E-06 1.8565E-06
1.0952E-06 -2.7076E-06 1.8462E-06
2 -3.0331E-06 5.1859E-05 -3.1010E-05 -2.7241E-06 4.7093E-05 -2.8161E-05

-2.6875E-06 4.7060E-05 -2.8138E-05 -2.7474E-06 4.6854E-05 -2.8139E-05 -
2.8060E-06 4.7392E-05 -2.8224E-05 -2.6976E-06 4.6820E-05 -2.8113E-05 -
2.6122E-06 4.7284E-05 -2.8091E-05 -2.8814E-06 4.6702E-05 -2.8144E-05 -
2.6041E-06 4.6819E-05 -2.8064E-05
   3 2.0570E-06 -3.1010E-05 1.9878E-05 1.8442E-06 -2.8150E-05 1.8035E-05
1.8183E-06 -2.8127E-05 1.8019E-05 1.8607E-06 -2.7981E-05 1.8020E-05
1.9021E-06 -2.8362E-05 1.8081E-05 1.8255E-06 -2.7956E-05 1.8002E-05
1.7650E-06 -2.8285E-05 1.7986E-05 1.9555E-06 -2.7873E-05 1.8023E-05
1.7594E-06 -2.7956E-05 1.7967E-05
   4 1.1105E-06 -2.7241E-06 1.8442E-06 1.2339E-06 -2.9946E-06 2.0337E-06
1.1073E-06 -2.7202E-06 1.8431E-06 1.1126E-06 -2.7020E-06 1.8432E-06
1.1177E-06 -2.7494E-06 1.8507E-06 1.1082E-06 -2.6990E-06 1.8409E-06
1.1006E-06 -2.7399E-06 1.8389E-06 1.1244E-06 -2.6885E-06 1.8435E-06
1.0999E-06 -2.6990E-06 1.8365E-06
   5 -2.7429E-06 4.7093E-05 -2.8150E-05 -2.9946E-06 5.1991E-05 -3.1094E-05
-2.6887E-06 4.7151E-05 -2.8188E-05 -2.7450E-06 4.6958E-05 -2.8189E-05 -
2.8001E-06 4.7463E-05 -2.8268E-05 -2.6982E-06 4.6926E-05 -2.8165E-05 -
2.6180E-06 4.7361E-05 -2.8144E-05 -2.8710E-06 4.6814E-05 -2.8193E-05 -
2.6103E-06 4.6925E-05 -2.8118E-05
   6 1.8588E-06 -2.8161E-05 1.8035E-05 2.0337E-06 -3.1094E-05 1.9937E-05
1.8202E-06 -2.8186E-05 1.8055E-05 1.8611E-06 -2.8046E-05 1.8056E-05
1.9009E-06 -2.8413E-05 1.8114E-05 1.8271E-06 -2.8022E-05 1.8038E-05
1.7688E-06 -2.8339E-05 1.8023E-05 1.9524E-06 -2.7942E-05 1.8059E-05
1.7633E-06 -2.8022E-05 1.8005E-05
   7 1.1058E-06 -2.6875E-06 1.8183E-06 1.1073E-06 -2.6887E-06 1.8202E-06
1.2268E-06 -2.9347E-06 1.9927E-06 1.1079E-06 -2.6828E-06 1.8197E-06
1.1094E-06 -2.6960E-06 1.8216E-06 1.1066E-06 -2.6820E-06 1.8191E-06
1.1044E-06 -2.6934E-06 1.8184E-06 1.1113E-06 -2.6790E-06 1.8198E-06
1.1042E-06 -2.6820E-06 1.8179E-06
   8 -2.7386E-06 4.7060E-05 -2.8127E-05 -2.7202E-06 4.7151E-05 -2.8186E-05
-2.9347E-06 5.1871E-05 -3.1013E-05 -2.7407E-06 4.6940E-05 -2.8168E-05 -
2.7924E-06 4.7414E-05 -2.8241E-05 -2.6968E-06 4.6911E-05 -2.8145E-05 -
2.6215E-06 4.7319E-05 -2.8125E-05 -2.8589E-06 4.6805E-05 -2.8171E-05 -
2.6143E-06 4.6911E-05 -2.8102E-05
   9 1.8558E-06 -2.8138E-05 1.8019E-05 1.8431E-06 -2.8188E-05 1.8055E-05
1.9927E-06 -3.1013E-05 1.9883E-05 1.8581E-06 -2.8034E-05 1.8041E-05
1.8956E-06 -2.8379E-05 1.8095E-05 1.8261E-06 -2.8012E-05 1.8025E-05
1.7713E-06 -2.8310E-05 1.8010E-05 1.9440E-06 -2.7936E-05 1.8044E-05
1.7661E-06 -2.8012E-05 1.7993E-05
  10 1.1135E-06 -2.7474E-06 1.8607E-06 1.1126E-06 -2.7450E-06 1.8611E-06
1.1079E-06 -2.7407E-06 1.8581E-06 1.2409E-06 -2.9909E-06 2.0560E-06
1.1230E-06 -2.7835E-06 1.8692E-06 1.1092E-06 -2.7098E-06 1.8550E-06
1.0981E-06 -2.7694E-06 1.8519E-06 1.1330E-06 -2.6945E-06 1.8590E-06
1.0972E-06 -2.7097E-06 1.8485E-06
  11 -2.7120E-06 4.6854E-05 -2.7981E-05 -2.7020E-06 4.6958E-05 -2.8046E-05
-2.6828E-06 4.6940E-05 -2.8034E-05 -2.9909E-06 5.1353E-05 -3.0818E-05 -
2.7449E-06 4.7110E-05 -2.8076E-05 -2.6881E-06 4.6818E-05 -2.8023E-05 -
2.6434E-06 4.7053E-05 -2.8007E-05 -2.7847E-06 4.6758E-05 -2.8040E-05 -
2.6390E-06 4.6817E-05 -2.7997E-05
  12 1.8559E-06 -2.8139E-05 1.8020E-05 1.8432E-06 -2.8189E-05 1.8056E-05
1.8197E-06 -2.8168E-05 1.8041E-05 2.0560E-06 -3.0818E-05 1.9897E-05
1.8956E-06 -2.8380E-05 1.8096E-05 1.8264E-06 -2.8015E-05 1.8026E-05
1.7712E-06 -2.8309E-05 1.8010E-05 1.9446E-06 -2.7940E-05 1.8046E-05
1.7662E-06 -2.8014E-05 1.7994E-05

13 1.1210E-06 -2.8060E-06 1.9021E-06 1.1177E-06 -2.8001E-06 1.9009E-06
1.1094E-06 -2.7924E-06 1.8956E-06 1.1230E-06 -2.7449E-06 1.8956E-06
1.2672E-06 -3.2102E-06 2.1418E-06 1.1117E-06 -2.7370E-06 1.8896E-06
1.0922E-06 -2.8441E-06 1.8853E-06 1.1535E-06 -2.7099E-06 1.8965E-06
1.0905E-06 -2.7370E-06 1.8782E-06
14 -2.7814E-06 4.7392E-05 -2.8362E-05 -2.7494E-06 4.7463E-05 -2.8413E-05
-2.6960E-06 4.7414E-05 -2.8379E-05 -2.7835E-06 4.7110E-05 -2.8380E-05 -
3.2102E-06 5.3180E-05 -3.1599E-05 -2.7108E-06 4.7059E-05 -2.8341E-05 -
2.5860E-06 4.7745E-05 -2.8313E-05 -2.9791E-06 4.6887E-05 -2.8386E-05 -
2.5744E-06 4.7059E-05 -2.8269E-05
15 1.8670E-06 -2.8224E-05 1.8081E-05 1.8507E-06 -2.8268E-05 1.8114E-05
1.8216E-06 -2.8241E-05 1.8095E-05 1.8692E-06 -2.8076E-05 1.8096E-05
2.1418E-06 -3.1599E-05 2.0106E-05 1.8296E-06 -2.8048E-05 1.8075E-05
1.7618E-06 -2.8421E-05 1.8060E-05 1.9756E-06 -2.7955E-05 1.8099E-05
1.7553E-06 -2.8048E-05 1.8035E-05
16 1.1071E-06 -2.6976E-06 1.8255E-06 1.1082E-06 -2.6982E-06 1.8271E-06
1.1066E-06 -2.6968E-06 1.8261E-06 1.1092E-06 -2.6881E-06 1.8264E-06
1.1117E-06 -2.7108E-06 1.8296E-06 1.2283E-06 -2.9308E-06 2.0017E-06
1.1033E-06 -2.7061E-06 1.8238E-06 1.1151E-06 -2.6815E-06 1.8266E-06
1.1030E-06 -2.6866E-06 1.8231E-06
17 -2.7076E-06 4.6820E-05 -2.7956E-05 -2.6990E-06 4.6926E-05 -2.8022E-05
-2.6820E-06 4.6911E-05 -2.8012E-05 -2.7098E-06 4.6818E-05 -2.8015E-05 -
2.7370E-06 4.7059E-05 -2.8048E-05 -2.9308E-06 5.1252E-05 -3.0739E-05 -
2.6471E-06 4.7010E-05 -2.7988E-05 -2.7722E-06 4.6749E-05 -2.8017E-05 -
2.6431E-06 4.6803E-05 -2.7980E-05
18 1.8526E-06 -2.8113E-05 1.8002E-05 1.8409E-06 -2.8165E-05 1.8038E-05
1.8191E-06 -2.8145E-05 1.8025E-05 1.8550E-06 -2.8023E-05 1.8026E-05
1.8896E-06 -2.8341E-05 1.8075E-05 2.0017E-06 -3.0739E-05 1.9836E-05
1.7740E-06 -2.8277E-05 1.7995E-05 1.9350E-06 -2.7933E-05 1.8029E-05
1.7694E-06 -2.8003E-05 1.7981E-05
19 1.0961E-06 -2.6122E-06 1.7650E-06 1.1006E-06 -2.6180E-06 1.7688E-06
1.1044E-06 -2.6215E-06 1.7713E-06 1.0981E-06 -2.6434E-06 1.7712E-06
1.0922E-06 -2.5860E-06 1.7618E-06 1.1033E-06 -2.6471E-06 1.7740E-06
1.2281E-06 -2.8059E-06 1.9187E-06 1.0840E-06 -2.6597E-06 1.7707E-06
1.1131E-06 -2.6472E-06 1.7794E-06
20 -2.7674E-06 4.7284E-05 -2.8285E-05 -2.7399E-06 4.7361E-05 -2.8339E-05
-2.6934E-06 4.7319E-05 -2.8310E-05 -2.7694E-06 4.7053E-05 -2.8309E-05 -
2.8441E-06 4.7745E-05 -2.8421E-05 -2.7061E-06 4.7010E-05 -2.8277E-05 -
2.8059E-06 5.2668E-05 -3.1172E-05 -2.9394E-06 4.6855E-05 -2.8312E-05 -
2.5875E-06 4.7012E-05 -2.8215E-05
21 1.8499E-06 -2.8091E-05 1.7986E-05 1.8389E-06 -2.8144E-05 1.8023E-05
1.8184E-06 -2.8125E-05 1.8010E-05 1.8519E-06 -2.8007E-05 1.8010E-05
1.8853E-06 -2.8313E-05 1.8060E-05 1.8238E-06 -2.7988E-05 1.7995E-05
1.9187E-06 -3.1172E-05 1.9799E-05 1.9271E-06 -2.7919E-05 1.8011E-05
1.7713E-06 -2.7989E-05 1.7968E-05
22 1.1307E-06 -2.8814E-06 1.9555E-06 1.1244E-06 -2.8710E-06 1.9524E-06
1.1113E-06 -2.8589E-06 1.9440E-06 1.1330E-06 -2.7847E-06 1.9446E-06
1.1535E-06 -2.9791E-06 1.9756E-06 1.1151E-06 -2.7722E-06 1.9350E-06
1.0840E-06 -2.9394E-06 1.9271E-06 1.3197E-06 -3.0872E-06 2.2019E-06
1.0815E-06 -2.7719E-06 1.9169E-06
23 -2.6923E-06 4.6702E-05 -2.7873E-05 -2.6885E-06 4.6814E-05 -2.7942E-05
-2.6790E-06 4.6805E-05 -2.7936E-05 -2.6945E-06 4.6758E-05 -2.7940E-05 -
2.7099E-06 4.6887E-05 -2.7955E-05 -2.6815E-06 4.6749E-05 -2.7933E-05 -
2.6597E-06 4.6855E-05 -2.7919E-05 -3.0872E-06 5.1164E-05 -3.0736E-05 -

2.6571E-06 4.6746E-05 -2.7918E-05
  24   1.8565E-06 -2.8144E-05 1.8023E-05 1.8435E-06 -2.8193E-05 1.8059E-05
1.8198E-06 -2.8171E-05 1.8044E-05 1.8590E-06 -2.8040E-05 1.8046E-05
1.8965E-06 -2.8386E-05 1.8099E-05 1.8266E-06 -2.8017E-05 1.8029E-05
1.7707E-06 -2.8312E-05 1.8011E-05 2.2019E-06 -3.0736E-05 1.9951E-05
1.7658E-06 -2.8015E-05 1.7996E-05
  25   1.0952E-06 -2.6041E-06 1.7594E-06 1.0999E-06 -2.6103E-06 1.7633E-06
1.1042E-06 -2.6143E-06 1.7661E-06 1.0972E-06 -2.6390E-06 1.7662E-06
1.0905E-06 -2.5744E-06 1.7553E-06 1.1030E-06 -2.6431E-06 1.7694E-06
1.1131E-06 -2.5875E-06 1.7713E-06 1.0815E-06 -2.6571E-06 1.7658E-06
1.2288E-06 -2.8305E-06 1.9133E-06
  26 -2.7076E-06 4.6819E-05 -2.7956E-05 -2.6990E-06 4.6925E-05 -2.8022E-05
-2.6820E-06 4.6911E-05 -2.8012E-05 -2.7097E-06 4.6817E-05 -2.8014E-05 -
2.7370E-06 4.7059E-05 -2.8048E-05 -2.6866E-06 4.6803E-05 -2.8003E-05 -
2.6472E-06 4.7012E-05 -2.7989E-05 -2.7719E-06 4.6746E-05 -2.8015E-05 -
2.8305E-06 5.1218E-05 -3.0667E-05
  27   1.8462E-06 -2.8064E-05 1.7967E-05 1.8365E-06 -2.8118E-05 1.8005E-05
1.8179E-06 -2.8102E-05 1.7993E-05 1.8485E-06 -2.7997E-05 1.7994E-05
1.8782E-06 -2.8269E-05 1.8035E-05 1.8231E-06 -2.7980E-05 1.7981E-05
1.7794E-06 -2.8215E-05 1.7968E-05 1.9169E-06 -2.7918E-05 1.7996E-05
1.9133E-06 -3.0667E-05 1.9732E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -3.7875E-01 4.1488E-01 8.9900E-01 -3.4208E-01 3.7435E-01
8.9778E-01 -3.4193E-01 3.7426E-01 8.9891E-01 -3.4032E-01 3.7416E-01
8.9546E-01 -3.4298E-01 3.7442E-01 8.9834E-01 -3.4010E-01 3.7405E-01
8.8943E-01 -3.4291E-01 3.7385E-01 8.8511E-01 -3.3847E-01 3.7376E-01
8.8842E-01 -3.4021E-01 3.7374E-01
   2 -3.7875E-01 1.0000E+00 -9.6584E-01 -3.4054E-01 9.0695E-01 -8.7580E-01
-3.3693E-01 9.0735E-01 -8.7626E-01 -3.4249E-01 9.0793E-01 -8.7601E-01 -
3.4614E-01 9.0244E-01 -8.7406E-01 -3.3800E-01 9.0816E-01 -8.7654E-01 -
3.2733E-01 9.0475E-01 -8.7667E-01 -3.4830E-01 9.0665E-01 -8.7496E-01 -
3.2622E-01 9.0845E-01 -8.7730E-01
   3   4.1488E-01 -9.6584E-01 1.0000E+00 3.7237E-01 -8.7566E-01 9.0597E-01
3.6821E-01 -8.7593E-01 9.0637E-01 3.7466E-01 -8.7577E-01 9.0611E-01
3.7898E-01 -8.7233E-01 9.0439E-01 3.6945E-01 -8.7588E-01 9.0656E-01
3.5723E-01 -8.7418E-01 9.0663E-01 3.8180E-01 -8.7400E-01 9.0504E-01
3.5599E-01 -8.7616E-01 9.0717E-01
   4   8.9900E-01 -3.4054E-01 3.7237E-01 1.0000E+00 -3.7389E-01 4.1004E-01
8.9997E-01 -3.4001E-01 3.7210E-01 8.9913E-01 -3.3944E-01 3.7199E-01
8.9383E-01 -3.3941E-01 3.7155E-01 9.0018E-01 -3.3940E-01 3.7210E-01
8.9409E-01 -3.3988E-01 3.7205E-01 8.8111E-01 -3.3837E-01 3.7157E-01
8.9330E-01 -3.3951E-01 3.7219E-01
   5 -3.4208E-01 9.0695E-01 -8.7566E-01 -3.7389E-01 1.0000E+00 -9.6578E-01
-3.3666E-01 9.0796E-01 -8.7670E-01 -3.4176E-01 9.0879E-01 -8.7644E-01 -
3.4498E-01 9.0264E-01 -8.7431E-01 -3.3765E-01 9.0906E-01 -8.7703E-01 -
3.2763E-01 9.0509E-01 -8.7719E-01 -3.4661E-01 9.0768E-01 -8.7538E-01 -
3.2658E-01 9.0936E-01 -8.7789E-01
   6   3.7435E-01 -8.7580E-01 9.0597E-01 4.1004E-01 -9.6578E-01 1.0000E+00
3.6803E-01 -8.7649E-01 9.0682E-01 3.7416E-01 -8.7651E-01 9.0656E-01
3.7818E-01 -8.7260E-01 9.0472E-01 3.6922E-01 -8.7664E-01 9.0706E-01
3.5746E-01 -8.7455E-01 9.0715E-01 3.8063E-01 -8.7486E-01 9.0548E-01
3.5626E-01 -8.7693E-01 9.0774E-01
   7   8.9778E-01 -3.3693E-01 3.6821E-01 8.9997E-01 -3.3666E-01 3.6803E-01

1.0000E+00 -3.6789E-01 4.0346E-01 8.9790E-01 -3.3800E-01 3.6831E-01
8.8974E-01 -3.3378E-01 3.6677E-01 9.0146E-01 -3.3823E-01 3.6875E-01
8.9978E-01 -3.3507E-01 3.6895E-01 8.7335E-01 -3.3814E-01 3.6784E-01
8.9934E-01 -3.3834E-01 3.6947E-01
   8 -3.4193E-01 9.0735E-01 -8.7593E-01 -3.4001E-01 9.0796E-01 -8.7649E-01
-3.6789E-01 1.0000E+00 -9.6570E-01 -3.4162E-01 9.0950E-01 -8.7679E-01 -
3.4443E-01 9.0275E-01 -8.7449E-01 -3.3786E-01 9.0982E-01 -8.7743E-01 -
3.2845E-01 9.0532E-01 -8.7763E-01 -3.4554E-01 9.0855E-01 -8.7571E-01 -
3.2746E-01 9.1013E-01 -8.7838E-01
   9   3.7426E-01 -8.7626E-01 9.0637E-01 3.7210E-01 -8.7670E-01 9.0682E-01
4.0346E-01 -9.6570E-01 1.0000E+00 3.7407E-01 -8.7732E-01 9.0704E-01
3.7764E-01 -8.7273E-01 9.0501E-01 3.6952E-01 -8.7750E-01 9.0760E-01
3.5844E-01 -8.7483E-01 9.0773E-01 3.7951E-01 -8.7585E-01 9.0594E-01
3.5731E-01 -8.7780E-01 9.0839E-01
  10   8.9891E-01 -3.4249E-01 3.7466E-01 8.9913E-01 -3.4176E-01 3.7416E-01
8.9790E-01 -3.4162E-01 3.7407E-01 1.0000E+00 -3.7468E-01 4.1377E-01
8.9559E-01 -3.4265E-01 3.7421E-01 8.9847E-01 -3.3979E-01 3.7389E-01
8.8948E-01 -3.4257E-01 3.7361E-01 8.8533E-01 -3.3817E-01 3.7361E-01
8.8852E-01 -3.3990E-01 3.7356E-01
  11 -3.4032E-01 9.0793E-01 -8.7577E-01 -3.3944E-01 9.0879E-01 -8.7651E-01
-3.3800E-01 9.0950E-01 -8.7732E-01 -3.7468E-01 1.0000E+00 -9.6412E-01 -
3.4028E-01 9.0148E-01 -8.7375E-01 -3.3846E-01 9.1260E-01 -8.7803E-01 -
3.3287E-01 9.0476E-01 -8.7834E-01 -3.3826E-01 9.1221E-01 -8.7603E-01 -
3.3221E-01 9.1288E-01 -8.7951E-01
  12   3.7416E-01 -8.7601E-01 9.0611E-01 3.7199E-01 -8.7644E-01 9.0656E-01
3.6831E-01 -8.7679E-01 9.0704E-01 4.1377E-01 -9.6412E-01 1.0000E+00
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3.5830E-01 -8.7451E-01 9.0738E-01 3.7948E-01 -8.7567E-01 9.0577E-01
3.5720E-01 -8.7755E-01 9.0813E-01
  13   8.9546E-01 -3.4614E-01 3.7898E-01 8.9383E-01 -3.4498E-01 3.7818E-01
8.8974E-01 -3.4443E-01 3.7764E-01 8.9559E-01 -3.4028E-01 3.7751E-01
1.0000E+00 -3.9106E-01 4.2432E-01 8.9111E-01 -3.3963E-01 3.7689E-01
8.7547E-01 -3.4814E-01 3.7638E-01 8.9200E-01 -3.3655E-01 3.7718E-01
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  16   8.9834E-01 -3.3800E-01 3.6945E-01 9.0018E-01 -3.3765E-01 3.6922E-01
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G-FILE for the vectors

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C00100004 28120455 11 418688558 71 722791763 44
C00100005 696363510 11 -207872319 72 -371805007 44
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C00100007 -522897757 11 -251526487 72 -450907239 44
C00100008 939876782 11 595741677 71 1012185650 44
C00100009 -944089820 11 384027976 71 646489110 44
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3566421 24 26 -8764096 24 27 9069870 25 26 -3567880 25 27 3885579 D 26 27 -
9646592

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	-11986.206	-5543544.232	3143671.334
nola	-11986.212	-5543544.224	3143671.340
dstr	-11986.215	-5543544.219	3143671.337
covg	-11986.209	-5543544.223	3143671.340
bvhs	-11986.210	-5543544.219	3143671.332
hamm	-11986.217	-5543544.228	3143671.335
lmcn	-11986.217	-5543544.230	3143671.342
mspk	-11986.209	-5543544.209	3143671.332
sjb1	-11986.213	-5543544.248	3143671.347

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.005	-0.005	-0.004	0.005	-0.006	0.002
nola	-0.001	0.004	0.002	-0.001	0.004	-0.002
dstr	-0.003	0.008	-0.001	-0.003	0.003	-0.007
covg	0.003	0.005	0.002	0.003	0.004	-0.003

bvhs	0.002	0.008	-0.006	0.002	-0.002
hamm	-0.005	-0.000	-0.003	-0.005	-0.003
lmcn	-0.005	-0.003	0.004	-0.005	0.002
mspk	0.003	0.018	-0.006	0.003	0.004
sjb1	-0.001	-0.021	0.009	-0.001	-0.003

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 446554.415
Easting (X) [feet] 3664723.449
Convergence [degrees] 0.60474365
Point Scale 0.99993748
Combined Factor 0.99994134

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.649 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.404
scatter (mean square distance from rover) is 7502.700
average edop for rover is 0.700
average ndop for rover is 0.600
average hdop for rover is 0.922
average vdop for rover is 1.750
average gdop for rover is 2.270

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:13 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA34.O00 OP1335488849157

FILE: QCFVA34.O00 OP1335488849157

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069r.12o TIME: 01:12:45 UTC

SOFTWARE: rsgps 1.37 RS28.prl 1.73 START: 2012/03/09 17:32:12
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 17:55:47
NAV FILE: brdc0690.12n OBS USED: 2961 / 2961 : 100%
ANT NAME: LEIAT502 NONE QUALITY IND. 13.24/ 16.36
ARP HEIGHT: 1.636 NORMALIZED RMS: 0.340

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18781)

X:	-9483.603(m)	0.004(m)	-9484.334(m)	0.004(m)
Y:	-5545566.808(m)	0.017(m)	-5545565.313(m)	0.017(m)
Z:	3140136.133(m)	0.012(m)	3140135.923(m)	0.012(m)

LAT:	29 41 8.32867	0.006(m)	29 41 8.34677	0.006(m)
E LON:	269 54 7.26209	0.004(m)	269 54 7.23481	0.004(m)
W LON:	90 5 52.73791	0.004(m)	90 5 52.76519	0.004(m)
EL HGT:	-25.143(m)	0.020(m)	-26.545(m)	0.020(m)
ORTHO HGT:	0.043(m)	0.023(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3287477.396	132067.314
Easting (X) [meters]	780832.384	1119558.855
Convergence [degrees]	1.43814045	0.61769097
Point Scale	1.00057322	0.99994078
Combined Factor	1.00057717	0.99994473

US NATIONAL GRID DESIGNATOR: 15RYN8083287477(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	26219.7

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 34020.0
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 41359.5
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 48525.7
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 61459.2
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 72553.7
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 77402.8
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 87602.9
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 97050.3

NEAREST NGS PUBLISHED CONTROL POINT
AU2818 SILVER N294142.642 W0900552.550 1061.1

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.137	-5534934.113	3158737.877
lwes	-33746.216	-5533652.952	3160795.443
dstr	-36892.841	-5530079.564	3166960.872
gris	4149.692	-5568493.946	3099600.303
houm	-70100.641	-5550262.357	3131144.931
lmcn	-64275.991	-5568696.859	3098580.600
bvhs	57650.144	-5564331.458	3106490.837
covg	-9174.164	-5501675.344	3215950.508
awes	-94742.054	-5521868.767	3179990.030
qcfv	-9484.334	-5545565.313	3140135.923

Covariance matrix of the stations:
1 1.4310E-07 2.0660E-07 -1.8750E-07 -3.7930E-09 -3.0720E-08 2.8990E-08
-4.2710E-09 -3.2420E-08 3.1010E-08 2.5720E-09 -1.1000E-08 7.7490E-09 -
1.5000E-08 -4.1070E-08 2.9010E-08 -1.5160E-08 -3.4680E-08 1.9810E-08
1.6580E-08 1.6580E-08 -6.2820E-09 6.0030E-09 -1.8260E-08 3.1900E-08 -
1.8970E-08 -5.4920E-08 4.5180E-08 2.1000E-08 1.0570E-07 -6.7220E-08
2 2.0660E-07 5.9510E-06 -3.7310E-06 -2.5460E-08 -7.3750E-07 4.7390E-07
-2.6090E-08 -7.4040E-07 4.7680E-07 -1.6990E-08 -7.0430E-07 4.4290E-07 -
4.1200E-08 -7.5340E-07 4.7600E-07 -4.1580E-08 -7.4240E-07 4.6310E-07
2.3940E-09 -6.6360E-07 4.2150E-07 -1.1560E-08 -7.2130E-07 4.7670E-07 -
4.6480E-08 -7.7750E-07 4.9980E-07 1.2660E-08 1.6290E-07 -8.4990E-08
3 -1.8750E-07 -3.7310E-06 2.6340E-06 2.3220E-08 4.7010E-07 -3.1850E-07
2.3440E-08 4.7180E-07 -3.1990E-07 2.0340E-08 4.5190E-07 -3.0450E-07
2.9170E-08 4.7610E-07 -3.1980E-07 2.9400E-08 4.6960E-07 -3.1400E-07
1.3240E-08 4.3490E-07 -2.9540E-07 1.7860E-08 4.6660E-07 -3.2040E-07
3.1020E-08 4.8990E-07 -3.3080E-07 -6.2600E-09 -4.8710E-08 4.2220E-08
4 -3.7930E-09 -2.5460E-08 2.3220E-08 1.3680E-07 2.4620E-07 -2.1490E-07
-2.9070E-09 -3.0530E-08 2.6300E-08 -3.7550E-09 -2.8820E-08 2.6550E-08 -
2.3510E-09 -3.7580E-08 3.1440E-08 -2.5030E-09 -3.8740E-08 3.2780E-08 -
4.9830E-09 -2.2230E-08 2.2240E-08 -3.5170E-09 -2.4420E-08 2.1380E-08 -
1.8830E-09 -3.8430E-08 3.1050E-08 1.1450E-08 -1.2300E-08 7.8270E-09
5 -3.0720E-08 -7.3750E-07 4.7010E-07 2.4620E-07 6.0930E-06 -3.8170E-06
-3.0360E-08 -7.5000E-07 4.7740E-07 -3.1300E-08 -7.3970E-07 4.7430E-07 -

3.0660E-08 -7.5940E-07 4.8510E-07 -3.1020E-08 -7.5790E-07 4.8570E-07 -
3.1850E-08 -7.2780E-07 4.6650E-07 -3.0100E-08 -7.4300E-07 4.7060E-07 -
3.0160E-08 -7.6670E-07 4.8720E-07 -5.4770E-09 -6.7830E-08 4.9990E-08
   6 2.8990E-08 4.7390E-07 -3.1850E-07 -2.1490E-07 -3.8170E-06 2.6860E-06
2.6190E-08 4.7780E-07 -3.2060E-07 2.8560E-08 4.7200E-07 -3.2200E-07
2.3850E-08 4.8000E-07 -3.2490E-07 2.4070E-08 4.7870E-07 -3.2660E-07
3.2320E-08 4.7080E-07 -3.2030E-07 2.8390E-08 4.7940E-07 -3.1760E-07
2.2550E-08 4.8460E-07 -3.2420E-07 5.2700E-09 7.3890E-08 -3.4330E-08
   7 -4.2710E-09 -2.6090E-08 2.3440E-08 -2.9070E-09 -3.0360E-08 2.6190E-08
1.3690E-07 2.4860E-07 -2.1670E-07 -4.0420E-09 -2.9630E-08 2.7430E-08 -
1.7070E-09 -3.7350E-08 3.1520E-08 -1.8590E-09 -3.8880E-08 3.3370E-08 -
6.0170E-09 -2.4060E-08 2.3590E-08 -3.9600E-09 -2.4650E-08 2.0820E-08 -
1.0210E-09 -3.7560E-08 3.0320E-08 1.1060E-08 -1.8030E-08 1.1410E-08
   8 -3.2420E-08 -7.4040E-07 4.7180E-07 -3.0530E-08 -7.5000E-07 4.7780E-07
2.4860E-07 6.1080E-06 -3.8300E-06 -3.2430E-08 -7.4320E-07 4.7800E-07 -
2.9020E-08 -7.5980E-07 4.8640E-07 -2.9380E-08 -7.5950E-07 4.8850E-07 -
3.5200E-08 -7.3430E-07 4.7160E-07 -3.1690E-08 -7.4470E-07 4.7000E-07 -
2.7870E-08 -7.6510E-07 4.8610E-07 -6.8960E-09 -8.5540E-08 6.1440E-08
   9 3.1010E-08 4.7680E-07 -3.1990E-07 2.6300E-08 4.7740E-07 -3.2060E-07
-2.1670E-07 -3.8300E-06 2.6960E-06 2.9840E-08 4.7560E-07 -3.2590E-07
2.1550E-08 4.7970E-07 -3.2580E-07 2.1770E-08 4.7980E-07 -3.2940E-07
3.6480E-08 4.7840E-07 -3.2610E-07 3.0270E-08 4.8070E-07 -3.1590E-07
1.9420E-08 4.8180E-07 -3.2190E-07 6.9410E-09 9.6280E-08 -4.8540E-08
  10 2.5720E-09 -1.6990E-08 2.0340E-08 -3.7550E-09 -3.1300E-08 2.8560E-08
-4.0420E-09 -3.2430E-08 2.9840E-08 1.4020E-07 2.2680E-07 -2.0770E-07 -
1.0780E-08 -4.0470E-08 3.0340E-08 -1.0930E-08 -3.6730E-08 2.4860E-08
8.7080E-09 2.1650E-09 4.3110E-09 2.3830E-09 -2.1170E-08 2.8710E-08 -
1.3180E-08 -4.9750E-08 4.0670E-08 1.6660E-08 6.3250E-08 -3.9400E-08
  11 -1.1000E-08 -7.0430E-07 4.5190E-07 -2.8820E-08 -7.3970E-07 4.7200E-07
-2.9630E-08 -7.4320E-07 4.7560E-07 2.2680E-07 5.9550E-06 -3.7150E-06 -
4.8410E-08 -7.5500E-07 4.7130E-07 -4.8760E-08 -7.4090E-07 4.5460E-07
6.4390E-09 -6.5400E-07 4.1010E-07 -1.1560E-08 -7.2330E-07 4.7860E-07 -
5.5190E-08 -7.8380E-07 5.0090E-07 1.1110E-08 1.3130E-07 -7.7880E-08
  12 7.7490E-09 4.4290E-07 -3.0450E-07 2.6550E-08 4.7430E-07 -3.2200E-07
2.7430E-08 4.7800E-07 -3.2590E-07 -2.0770E-07 -3.7150E-06 2.6210E-06
4.6960E-08 4.8320E-07 -3.1630E-07 4.7190E-08 4.6710E-07 -2.9740E-07 -
1.0880E-08 3.9180E-07 -2.6110E-07 8.5390E-09 4.6420E-07 -3.3430E-07
5.4280E-08 5.1320E-07 -3.4780E-07 -1.2410E-08 -1.5680E-07 1.1170E-07
  13 -1.5000E-08 -4.1200E-08 2.9170E-08 -2.3510E-09 -3.0660E-08 2.3850E-08
-1.7070E-09 -2.9020E-08 2.1550E-08 -1.0780E-08 -4.8410E-08 4.6960E-08
1.5630E-07 3.0990E-07 -2.4810E-07 1.0780E-08 -4.3520E-08 4.6890E-08 -
2.8310E-08 -6.4310E-08 5.3090E-08 -1.3960E-08 -3.1600E-08 1.0470E-08
1.6140E-08 -2.1260E-08 1.6200E-08 2.2360E-09 -1.3790E-07 8.6350E-08
  14 -4.1070E-08 -7.5340E-07 4.7610E-07 -3.7580E-08 -7.5940E-07 4.8000E-07
-3.7350E-08 -7.5980E-07 4.7970E-07 -4.0470E-08 -7.5500E-07 4.8320E-07
3.0990E-07 6.1850E-06 -3.8480E-06 -3.4640E-08 -7.6650E-07 4.9110E-07 -
4.5430E-08 -7.5130E-07 4.7970E-07 -4.0270E-08 -7.5760E-07 4.7280E-07 -
3.2560E-08 -7.7030E-07 4.8540E-07 -1.5240E-08 -1.1260E-07 7.5160E-08
  15 2.9010E-08 4.7600E-07 -3.1980E-07 3.1440E-08 4.8510E-07 -3.2490E-07
3.1520E-08 4.8640E-07 -3.2580E-07 3.0340E-08 4.7130E-07 -3.1630E-07 -
2.4810E-07 -3.8480E-06 2.6910E-06 3.4510E-08 4.8260E-07 -3.2250E-07
2.7120E-08 4.6190E-07 -3.1110E-07 2.8750E-08 4.8580E-07 -3.2640E-07
3.5070E-08 4.9860E-07 -3.3280E-07 6.0730E-09 2.7670E-08 -3.6430E-09
  16 -1.5160E-08 -4.1580E-08 2.9400E-08 -2.5030E-09 -3.1020E-08 2.4070E-08

-1.8590E-09 -2.9380E-08 2.1770E-08 -1.0930E-08 -4.8760E-08 4.7190E-08
1.0780E-08 -3.4640E-08 3.4510E-08 1.5750E-07 3.0360E-07 -2.3730E-07 -
2.8470E-08 -6.4720E-08 5.3340E-08 -1.4120E-08 -3.2000E-08 1.0720E-08
1.6000E-08 -2.1590E-08 1.6410E-08 2.0970E-09 -1.3800E-07 8.6460E-08
  17 -3.4680E-08 -7.4240E-07 4.6960E-07 -3.8740E-08 -7.5790E-07 4.7870E-07
-3.8880E-08 -7.5950E-07 4.7980E-07 -3.6730E-08 -7.4090E-07 4.6710E-07 -
4.3520E-08 -7.6650E-07 4.8260E-07 3.0360E-07 6.1340E-06 -3.8040E-06 -
3.1290E-08 -7.2350E-07 4.5730E-07 -3.4380E-08 -7.5250E-07 4.7730E-07 -
4.4810E-08 -7.7940E-07 4.9160E-07 -1.0160E-08 -3.2360E-08 2.2910E-08
  18   1.9810E-08 4.6310E-07 -3.1400E-07 3.2780E-08 4.8570E-07 -3.2660E-07
3.3370E-08 4.8850E-07 -3.2940E-07 2.4860E-08 4.5460E-07 -2.9740E-07
4.6890E-08 4.9110E-07 -3.2250E-07 -2.3730E-07 -3.8040E-06 2.6650E-06
7.1300E-09 4.2550E-07 -2.8320E-07 2.0250E-08 4.8080E-07 -3.3590E-07
5.1880E-08 5.1440E-07 -3.4530E-07 -1.3810E-09 -8.3570E-08 6.7050E-08
  19   1.6580E-08 2.3940E-09 1.3240E-08 -4.9830E-09 -3.1850E-08 3.2320E-08
-6.0170E-09 -3.5200E-08 3.6480E-08 8.7080E-09 6.4390E-09 -1.0880E-08 -
2.8310E-08 -4.5430E-08 2.7120E-08 -2.8470E-08 -3.1290E-08 7.1300E-09
1.7500E-07 2.2060E-07 -2.0930E-07 1.5410E-08 -1.2850E-08 4.3340E-08 -
3.6820E-08 -7.2610E-08 6.0270E-08 2.8120E-08 2.2440E-07 -1.4020E-07
  20   1.6580E-08 -6.6360E-07 4.3490E-07 -2.2230E-08 -7.2780E-07 4.7080E-07
-2.4060E-08 -7.3430E-07 4.7840E-07 2.1650E-09 -6.5400E-07 3.9180E-07 -
6.4310E-08 -7.5130E-07 4.6190E-07 -6.4720E-08 -7.2350E-07 4.2550E-07
2.2060E-07 5.8670E-06 -3.6770E-06 1.4710E-08 -6.9690E-07 4.9090E-07 -
7.9480E-08 -8.0460E-07 5.2270E-07 3.5040E-08 3.6420E-07 -2.2200E-07
  21 -6.2820E-09 4.2150E-07 -2.9540E-07 2.2240E-08 4.6650E-07 -3.2030E-07
2.3590E-08 4.7160E-07 -3.2610E-07 4.3110E-09 4.1010E-07 -2.6110E-07
5.3090E-08 4.7970E-07 -3.1110E-07 5.3340E-08 4.5730E-07 -2.8320E-07 -
2.0930E-07 -3.6770E-06 2.6040E-06 -4.8890E-09 4.4920E-07 -3.3860E-07
6.4280E-08 5.2090E-07 -3.5710E-07 -2.4730E-08 -2.6680E-07 1.7940E-07
  22   6.0030E-09 -1.1560E-08 1.7860E-08 -3.5170E-09 -3.0100E-08 2.8390E-08
-3.9600E-09 -3.1690E-08 3.0270E-08 2.3830E-09 -1.1560E-08 8.5390E-09 -
1.3960E-08 -4.0270E-08 2.8750E-08 -1.4120E-08 -3.4380E-08 2.0250E-08
1.5410E-08 1.4710E-08 -4.8890E-09 1.4040E-07 1.9820E-07 -1.7300E-07 -
1.7640E-08 -5.3270E-08 4.3840E-08 1.9490E-08 9.7320E-08 -6.0800E-08
  23 -1.8260E-08 -7.2130E-07 4.6660E-07 -2.4420E-08 -7.4300E-07 4.7940E-07
-2.4650E-08 -7.4470E-07 4.8070E-07 -2.1170E-08 -7.2330E-07 4.6420E-07 -
3.1600E-08 -7.5760E-07 4.8580E-07 -3.2000E-08 -7.5250E-07 4.8080E-07 -
1.2850E-08 -6.9690E-07 4.4920E-07 1.9820E-07 6.0220E-06 -3.8040E-06 -
3.3630E-08 -7.7190E-07 4.9740E-07 5.8560E-09 7.0970E-09 7.5960E-09
  24   3.1900E-08 4.7670E-07 -3.2040E-07 2.1380E-08 4.7060E-07 -3.1760E-07
2.0820E-08 4.7000E-07 -3.1590E-07 2.8710E-08 4.7860E-07 -3.3430E-07
1.0470E-08 4.7280E-07 -3.2640E-07 1.0720E-08 4.7730E-07 -3.3590E-07
4.3340E-08 4.9090E-07 -3.3860E-07 -1.7300E-07 -3.8040E-06 2.7140E-06
5.9820E-09 4.6770E-07 -3.1360E-07 6.9520E-09 1.5210E-07 -8.6000E-08
  25 -1.8970E-08 -4.6480E-08 3.1020E-08 -1.8830E-09 -3.0160E-08 2.2550E-08
-1.0210E-09 -2.7870E-08 1.9420E-08 -1.3180E-08 -5.5190E-08 5.4280E-08
1.6140E-08 -3.2560E-08 3.5070E-08 1.6000E-08 -4.4810E-08 5.1880E-08 -
3.6820E-08 -7.9480E-08 6.4280E-08 -1.7640E-08 -3.3630E-08 5.9820E-09
1.6850E-07 3.5000E-07 -2.8430E-07 -1.0170E-09 -1.8480E-07 1.1580E-07
  26 -5.4920E-08 -7.7750E-07 4.8990E-07 -3.8430E-08 -7.6670E-07 4.8460E-07
-3.7560E-08 -7.6510E-07 4.8180E-07 -4.9750E-08 -7.8380E-07 5.1320E-07 -
2.1260E-08 -7.7030E-07 4.9860E-07 -2.1590E-08 -7.7940E-07 5.1440E-07 -
7.2610E-08 -8.0460E-07 5.2090E-07 -5.3270E-08 -7.7190E-07 4.6770E-07
3.5000E-07 6.3310E-06 -3.9710E-06 -2.6840E-08 -2.5590E-07 1.6770E-07

27 4.5180E-08 4.9980E-07 -3.3080E-07 3.1050E-08 4.8720E-07 -3.2420E-07
3.0320E-08 4.8610E-07 -3.2190E-07 4.0670E-08 5.0090E-07 -3.4780E-07
1.6200E-08 4.8540E-07 -3.3280E-07 1.6410E-08 4.9160E-07 -3.4530E-07
6.0270E-08 5.2270E-07 -3.5710E-07 4.3840E-08 4.9740E-07 -3.1360E-07 -
2.8430E-07 -3.9710E-06 2.7840E-06 1.9500E-08 2.0590E-07 -1.1670E-07
28 2.1000E-08 1.2660E-08 -6.2600E-09 1.1450E-08 -5.4770E-09 5.2700E-09
1.1060E-08 -6.8960E-09 6.9410E-09 1.6660E-08 1.1110E-08 -1.2410E-08
2.2360E-09 -1.5240E-08 6.0730E-09 2.0970E-09 -1.0160E-08 -1.3810E-09
2.8120E-08 3.5040E-08 -2.4730E-08 1.9490E-08 5.8560E-09 6.9520E-09 -
1.0170E-09 -2.6840E-08 1.9500E-08 1.3010E-06 2.6760E-06 -2.3030E-06
29 1.0570E-07 1.6290E-07 -4.8710E-08 -1.2300E-08 -6.7830E-08 7.3890E-08
-1.8030E-08 -8.5540E-08 9.6280E-08 6.3250E-08 1.3130E-07 -1.5680E-07 -
1.3790E-07 -1.1260E-07 2.7670E-08 -1.3800E-07 -3.2360E-08 -8.3570E-08
2.2440E-07 3.6420E-07 -2.6680E-07 9.7320E-08 7.0970E-09 1.5210E-07 -
1.8480E-07 -2.5590E-07 2.0590E-07 2.6760E-06 7.0090E-05 -4.4110E-05
30 -6.7220E-08 -8.4990E-08 4.2220E-08 7.8270E-09 4.9990E-08 -3.4330E-08
1.1410E-08 6.1440E-08 -4.8540E-08 -3.9400E-08 -7.7880E-08 1.1170E-07
8.6350E-08 7.5160E-08 -3.6430E-09 8.6460E-08 2.2910E-08 6.7050E-08 -
1.4020E-07 -2.2200E-07 1.7940E-07 -6.0800E-08 7.5960E-09 -8.6000E-08
1.1580E-07 1.6770E-07 -1.1670E-07 -2.3030E-06 -4.4110E-05 3.0590E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000013010 0.0000026760 -0.0000023030
0.0000026760 0.0000700900 -0.0000441100
-0.0000023030 -0.0000441100 0.0000305900

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000012920 -0.0000006778 -0.0000033238
-0.0000006778 0.0000023531 0.0000057533
-0.0000033238 0.0000057533 0.0000983359

Horizontal network accuracy = 0.00341 meters.
Vertical network accuracy = 0.01944 meters.

Vectors

To	From	X	Y	Z
eng5	qcfv	15113.471	10631.200	18601.954
lwes	qcfv	-24261.882	11912.362	20659.520
dstr	qcfv	-27408.507	15485.749	26824.949
gris	qcfv	13634.026	-22928.632	-40535.620
houm	qcfv	-60616.307	-4697.044	-8990.992
lmcn	qcfv	-54791.658	-23131.545	-41555.323
bvhs	qcfv	67134.478	-18766.145	-33645.087
covg	qcfv	310.170	43889.969	75814.584
awes	qcfv	-85257.720	23696.546	39854.107

Covariance matrix of the 9 vectors
1 1.4021E-06 2.7642E-06 -2.4170E-06 1.2648E-06 2.5451E-06 -2.2121E-06
1.2647E-06 2.5448E-06 -2.2117E-06 1.2659E-06 2.5482E-06 -2.2156E-06
1.2628E-06 2.5445E-06 -2.2128E-06 1.2627E-06 2.5458E-06 -2.2146E-06
1.2685E-06 2.5518E-06 -2.2173E-06 1.2665E-06 2.5462E-06 -2.2108E-06
1.2620E-06 2.5422E-06 -2.2101E-06
2 2.7642E-06 7.5715E-05 -4.7707E-05 2.6502E-06 6.9257E-05 -4.3625E-05

2.6553E-06 6.9272E-05 -4.3644E-05 2.5831E-06 6.9092E-05 -4.3425E-05
2.7600E-06 6.9286E-05 -4.3577E-05 2.7598E-06 6.9217E-05 -4.3478E-05
2.4413E-06 6.8899E-05 -4.3337E-05 2.5545E-06 6.9199E-05 -4.3700E-05
2.8017E-06 6.9405E-05 -4.3731E-05
   3 -2.4170E-06 -4.7707E-05 3.3140E-05 -2.2813E-06 -4.3641E-05 3.0264E-05
-2.2847E-06 -4.3651E-05 3.0276E-05 -2.2370E-06 -4.3532E-05 3.0132E-05 -
2.3539E-06 -4.3660E-05 3.0232E-05 -2.3538E-06 -4.3615E-05 3.0167E-05 -
2.1433E-06 -4.3404E-05 3.0073E-05 -2.2181E-06 -4.3602E-05 3.0313E-05 -
2.3815E-06 -4.3739E-05 3.0334E-05
   4   1.2648E-06 2.6502E-06 -2.2813E-06 1.4149E-06 2.9400E-06 -2.5310E-06
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2.4015E-06 -4.3867E-05 3.0417E-05
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1.2899E-06 2.6833E-06 -2.3036E-06
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  24 -2.2108E-06 -4.3700E-05 3.0313E-05 -2.2964E-06 -4.3841E-05 3.0393E-05
-2.3005E-06 -4.3854E-05 3.0409E-05 -2.2418E-06 -4.3706E-05 3.0230E-05 -
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1.4715E-06 3.2376E-06 -2.7226E-06
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3.2376E-06 7.6933E-05 -4.8455E-05
  27 -2.2101E-06 -4.3731E-05 3.0334E-05 -2.2993E-06 -4.3879E-05 3.0417E-05
-2.3036E-06 -4.3891E-05 3.0433E-05 -2.2424E-06 -4.3737E-05 3.0247E-05 -
2.3926E-06 -4.3906E-05 3.0378E-05 -2.3925E-06 -4.3847E-05 3.0294E-05 -
2.1220E-06 -4.3571E-05 3.0170E-05 -2.2179E-06 -4.3826E-05 3.0479E-05 -
2.7226E-06 -4.8455E-05 3.3607E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 2.6828E-01 -3.5458E-01 8.9796E-01 2.4603E-01 -3.2351E-01
8.9761E-01 2.4592E-01 -3.2328E-01 9.0101E-01 2.4721E-01 -3.2578E-01
8.8476E-01 2.4568E-01 -3.2390E-01 8.8430E-01 2.4615E-01 -3.2498E-01
8.9904E-01 2.4847E-01 -3.2679E-01 9.0319E-01 2.4650E-01 -3.2270E-01
8.7862E-01 2.4478E-01 -3.2196E-01
   2   2.6828E-01 1.0000E+00 -9.5240E-01 2.5605E-01 9.1109E-01 -8.6822E-01
2.5646E-01 9.1098E-01 -8.6811E-01 2.5019E-01 9.1211E-01 -8.6891E-01
2.6316E-01 9.1038E-01 -8.6799E-01 2.6300E-01 9.1073E-01 -8.6822E-01
2.3547E-01 9.1292E-01 -8.6915E-01 2.4790E-01 9.1163E-01 -8.6801E-01
2.6542E-01 9.0938E-01 -8.6692E-01
   3 -3.5458E-01 -9.5240E-01 1.0000E+00 -3.3316E-01 -8.6778E-01 9.1040E-01
-3.3355E-01 -8.6768E-01 9.1027E-01 -3.2750E-01 -8.6865E-01 9.1132E-01 -
3.3924E-01 -8.6713E-01 9.1021E-01 -3.3905E-01 -8.6742E-01 9.1055E-01 -
3.1247E-01 -8.6930E-01 9.1166E-01 -3.2536E-01 -8.6826E-01 9.1011E-01 -
3.4103E-01 -8.6624E-01 9.0894E-01
   4   8.9796E-01 2.5605E-01 -3.3316E-01 1.0000E+00 2.8292E-01 -3.6848E-01
9.0126E-01 2.5634E-01 -3.3342E-01 8.9921E-01 2.5576E-01 -3.3254E-01
8.9623E-01 2.5625E-01 -3.3302E-01 8.9577E-01 2.5600E-01 -3.3257E-01
8.8649E-01 2.5502E-01 -3.3214E-01 8.9912E-01 2.5616E-01 -3.3367E-01
8.9310E-01 2.5656E-01 -3.3343E-01
   5   2.4603E-01 9.1109E-01 -8.6778E-01 2.8292E-01 1.0000E+00 -9.5252E-01
2.5678E-01 9.1027E-01 -8.6733E-01 2.4957E-01 9.1107E-01 -8.6753E-01
2.6484E-01 9.0972E-01 -8.6705E-01 2.6468E-01 9.0995E-01 -8.6702E-01
2.3299E-01 9.1150E-01 -8.6750E-01 2.4687E-01 9.1077E-01 -8.6737E-01
2.6762E-01 9.0893E-01 -8.6640E-01
   6 -3.2351E-01 -8.6822E-01 9.1040E-01 -3.6848E-01 -9.5252E-01 1.0000E+00
-3.3380E-01 -8.6732E-01 9.0973E-01 -3.2697E-01 -8.6802E-01 9.1030E-01 -
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3.4284E-01 -8.6610E-01 9.0862E-01
   7   8.9761E-01 2.5646E-01 -3.3355E-01 9.0126E-01 2.5678E-01 -3.3380E-01

1.0000E+00 2.8366E-01 -3.6918E-01 8.9901E-01 2.5615E-01 -3.3283E-01
8.9667E-01 2.5674E-01 -3.3342E-01 8.9621E-01 2.5646E-01 -3.3291E-01
8.8576E-01 2.5532E-01 -3.3236E-01 8.9880E-01 2.5661E-01 -3.3417E-01
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2.6788E-01 9.0888E-01 -8.6637E-01
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-3.6918E-01 -9.5258E-01 1.0000E+00 -3.2684E-01 -8.6789E-01 9.1008E-01 -
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  10 9.0101E-01 2.5019E-01 -3.2750E-01 8.9921E-01 2.4957E-01 -3.2697E-01
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-3.3283E-01 -8.6740E-01 9.1008E-01 -3.6081E-01 -9.5183E-01 1.0000E+00 -
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3.3760E-01 -8.6563E-01 9.0843E-01
  13 8.8476E-01 2.6316E-01 -3.3924E-01 8.9623E-01 2.6484E-01 -3.4062E-01
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-3.3342E-01 -8.6697E-01 9.0943E-01 -3.2711E-01 -8.6784E-01 9.1031E-01 -
3.8013E-01 -9.5239E-01 1.0000E+00 -3.3933E-01 -8.6674E-01 9.0964E-01 -
3.1154E-01 -8.6834E-01 9.1053E-01 -3.2484E-01 -8.6745E-01 9.0927E-01 -
3.4145E-01 -8.6564E-01 9.0822E-01
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8.9947E-01 2.6495E-01 -3.3933E-01 1.0000E+00 2.9694E-01 -3.7828E-01
8.6456E-01 2.5949E-01 -3.3448E-01 8.8598E-01 2.6389E-01 -3.4192E-01
8.9953E-01 2.6653E-01 -3.4223E-01
  17 2.4615E-01 9.1073E-01 -8.6742E-01 2.5600E-01 9.0995E-01 -8.6700E-01
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2.6411E-01 9.0934E-01 -8.6674E-01 2.9694E-01 1.0000E+00 -9.5199E-01
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2.6673E-01 9.0848E-01 -8.6595E-01

18 -3.2498E-01 -8.6822E-01 9.1055E-01 -3.3257E-01 -8.6702E-01 9.0967E-01
-3.3291E-01 -8.6690E-01 9.0949E-01 -3.2764E-01 -8.6815E-01 9.1105E-01 -
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3.3884E-01 -8.6531E-01 9.0802E-01
19 8.9904E-01 2.3547E-01 -3.1247E-01 8.8649E-01 2.3299E-01 -3.1041E-01
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8.9918E-01 2.4907E-01 -3.2750E-01 1.0000E+00 2.6823E-01 -3.5351E-01
8.8050E-01 2.4571E-01 -3.2306E-01
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24 -3.2270E-01 -8.6801E-01 9.1011E-01 -3.3367E-01 -8.6737E-01 9.0968E-01
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3.4476E-01 -8.6628E-01 9.0869E-01
25 8.7862E-01 2.6542E-01 -3.4103E-01 8.9310E-01 2.6762E-01 -3.4284E-01
8.9369E-01 2.6788E-01 -3.4332E-01 8.8385E-01 2.6463E-01 -3.3760E-01
8.9999E-01 2.6800E-01 -3.4145E-01 8.9953E-01 2.6673E-01 -3.3884E-01
8.5586E-01 2.6102E-01 -3.3517E-01 8.8050E-01 2.6661E-01 -3.4476E-01
1.0000E+00 3.0429E-01 -3.8715E-01
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2.3020E-01 9.0932E-01 -8.6529E-01 2.4571E-01 9.0920E-01 -8.6628E-01
3.0429E-01 1.0000E+00 -9.5293E-01
27 -3.2196E-01 -8.6692E-01 9.0894E-01 -3.3343E-01 -8.6640E-01 9.0862E-01
-3.3396E-01 -8.6637E-01 9.0859E-01 -3.2600E-01 -8.6666E-01 9.0843E-01 -
3.4242E-01 -8.6591E-01 9.0822E-01 -3.4223E-01 -8.6595E-01 9.0802E-01 -
3.0720E-01 -8.6654E-01 9.0822E-01 -3.2306E-01 -8.6662E-01 9.0869E-01 -
3.8715E-01 -9.5293E-01 1.0000E+00

G-FILE for the vectors

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C00100003 -274085068 11 154857489 87 268249486 57
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C00100007 671344778 11 -187661451 86 -336450865 57
C00100008 3101701 11 438899687 87 758145843 57
C00100009 -852577199 12 236965460 87 398541071 57
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1 7 8976137 1 8 2459242 1 9 -3232776 1 10 9010133 1 11 2472055 D 1
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17 2461507 1 18 -3249769 1 19 8990416 1 20 2484691 1 21 -3267919 D 1
22 9031941 1 23 2464984 1 24 -3227003 1 25 8786195 1 26 2447754 D 1
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-8689124 2 13 2631580 2 14 9103838 2 15 -8679943 2 16 2629976 D 2 17
9107337 2 18 -8682211 2 19 2354659 2 20 9129180 2 21 -8691496 D 2 22
2478954 2 23 9116336 2 24 -8680149 2 25 2654231 2 26 9093824 D 2 27 -
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2469618 17 23 9103536 17 24 -8668692 17 25 2667349 17 26 9084817 D 17 27 -
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2551746 19 21 -3437987 19 22 8991800 19 23 2340613 19 24 -3084417 D 19 25
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9122392 20 24 -8678045 20 25 2610166 20 26 9093165 20 27 -8665439 D 21 22 -
3274954 21 23 -8682600 21 24 9096324 21 25 -3351674 21 26 -8652942 D 21 27
9082196 22 23 2682348 22 24 -3535050 22 25 8804962 22 26 2457131 D 22 27 -
3230558 23 24 -9524773 23 25 2666123 23 26 9092029 23 27 -8666211 D 24 25 -
3447641 24 26 -8662751 24 27 9086945 25 26 3042899 25 27 -3871517 D 26 27 -
9529317

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	-9484.335	-5545565.319	3140135.921
lwes	-9484.340	-5545565.318	3140135.938
dstr	-9484.331	-5545565.284	3140135.905
gris	-9484.333	-5545565.308	3140135.927
houm	-9484.335	-5545565.295	3140135.912
lmcn	-9484.333	-5545565.335	3140135.942
bvhs	-9484.333	-5545565.328	3140135.931
covg	-9484.333	-5545565.320	3140135.920
awes	-9484.327	-5545565.327	3140135.925

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	-0.002	-0.006	-0.003	-0.001	-0.005	0.004
lwes	-0.006	-0.005	0.015	-0.006	0.011	0.012
dstr	0.003	0.029	-0.018	0.003	-0.001	-0.034
gris	0.001	0.005	0.004	0.001	0.006	-0.003

houm	-0.001	0.018	-0.011	-0.001	-
0.001	-0.022				
lmcn	0.001	-0.022	0.019	0.001	
0.005	0.028				
bvhs	0.001	-0.015	0.007	0.001	-
0.001	0.017				
covg	0.000	-0.007	-0.003	0.000	-
0.006	0.005				
awes	0.007	-0.014	0.002	0.007	-
0.005	0.013				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 433290.847
Easting (X) [feet] 3673086.011
Convergence [degrees] 0.61769097
Point Scale 0.99994078
Combined Factor 0.99994473

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.044 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.359
scatter (mean square distance from rover) is 4225.986
average edop for rover is 0.700
average ndop for rover is 1.220
average hdop for rover is 1.407
average vdop for rover is 1.920
average gdop for rover is 2.750

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:15 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA35.O00 OP1335488890422

FILE: QCFVA35.O00 OP1335488890422

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069q.12o TIME: 01:14:33 UTC

SOFTWARE: rsgps 1.37 RS81.prl 1.73 START: 2012/03/09 16:53:14
EPHEMERIS: igs16785.eph [precise] STOP: 2012/03/09 17:13:49
NAV FILE: brdc0690.12n OBS USED: 2583 / 2583 : 100%
ANT NAME: LEIAT502 NONE QUALITY IND. 17.56/ 14.08
ARP HEIGHT: 1.628 NORMALIZED RMS: 0.394

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18773)

X:	-10482.183(m)	0.006(m)	-10482.914(m)	0.006(m)
Y:	-5546865.558(m)	0.023(m)	-5546864.063(m)	0.023(m)
Z:	3137853.942(m)	0.015(m)	3137853.732(m)	0.015(m)

LAT:	29 39 43.01883	0.008(m)	29 39 43.03691	0.008(m)
E LON:	269 53 30.21178	0.006(m)	269 53 30.18449	0.006(m)
W LON:	90 6 29.78822	0.006(m)	90 6 29.81551	0.006(m)
EL HGT:	-24.978(m)	0.026(m)	-26.380(m)	0.026(m)
ORTHO HGT:	0.146(m)	0.028(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3284824.999	129430.163
Easting (X) [meters]	779901.707	1118590.924
Convergence [degrees]	1.43199417	0.61254496
Point Scale	1.00056678	0.99994313
Combined Factor	1.00057071	0.99994705

US NATIONAL GRID DESIGNATOR: 15RYN7990184824(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	28949.4

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 35242.6
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 42736.7
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 46317.3
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 60090.2
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 70091.0
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 77012.0
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 90237.7
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 97467.1

NEAREST NGS PUBLISHED CONTROL POINT
AU2310 876 1899 B TIDAL N294002.043 W0900633.556 596.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.134	-5534934.112	3158737.874
lwes	-33746.213	-5533652.941	3160795.441
dstr	-36892.836	-5530079.559	3166960.863
gris	4149.699	-5568493.960	3099600.305
houm	-70100.644	-5550262.335	3131144.921
lmcn	-64275.990	-5568696.875	3098580.604
bvhs	57650.139	-5564331.441	3106490.829
covg	-9174.169	-5501675.343	3215950.514
awes	-94742.055	-5521868.793	3179990.049
qcfv	-10482.914	-5546864.063	3137853.732

Covariance matrix of the stations:
1 1.8820E-07 -5.3370E-07 3.2940E-07 -8.9650E-09 5.9230E-08 -3.0600E-08
-9.5870E-09 5.5230E-08 -2.5780E-08 -1.6490E-09 1.0670E-07 -8.1560E-08 -
2.1520E-08 3.7850E-08 -3.2000E-08 -2.1390E-08 5.2710E-08 -5.3930E-08
1.2360E-08 1.4750E-07 -1.0010E-07 7.8600E-10 6.9190E-08 -1.2580E-08 -
2.7150E-08 5.3270E-09 7.1260E-09 -4.4930E-09 2.9240E-07 -1.8610E-07
2 -5.3370E-07 7.4290E-06 -4.5550E-06 6.8110E-08 -9.3410E-07 5.9360E-07
6.6860E-08 -9.4320E-07 6.0410E-07 8.3040E-08 -8.3040E-07 4.8500E-07
4.0900E-08 -9.5600E-07 5.7630E-07 4.0790E-08 -9.1760E-07 5.2640E-07
1.1390E-07 -7.6650E-07 4.6000E-07 9.0250E-08 -9.4040E-07 6.4890E-07
2.9580E-08 -1.0300E-06 6.6110E-07 -1.5600E-08 4.7430E-07 -2.7670E-07
3 3.2940E-07 -4.5550E-06 3.1690E-06 -4.2050E-08 5.8070E-07 -3.9270E-07
-4.1860E-08 5.8580E-07 -3.9730E-07 -4.4600E-08 5.2720E-07 -3.4670E-07 -
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4 -8.9650E-09 6.8110E-08 -4.2050E-08 1.6630E-07 -4.8770E-07 2.9140E-07
-6.3530E-09 6.1450E-08 -3.7850E-08 -8.3290E-09 6.2810E-08 -3.5170E-08 -
4.0860E-09 5.2170E-08 -2.9660E-08 -4.2100E-09 5.0600E-08 -2.6960E-08 -
1.1800E-08 7.1570E-08 -4.1630E-08 -8.5330E-09 7.0220E-08 -4.6790E-08 -
2.9300E-09 5.0760E-08 -3.1260E-08 1.3790E-08 -2.2540E-08 1.4050E-08
5 5.9230E-08 -9.3410E-07 5.8070E-07 -4.8770E-07 7.6130E-06 -4.6700E-06
6.1780E-08 -9.4210E-07 5.8520E-07 5.8910E-08 -9.2700E-07 5.7950E-07

6.3230E-08 -9.3920E-07 5.8530E-07 6.2660E-08 -9.3280E-07 5.8310E-07
5.6090E-08 -9.2530E-07 5.7810E-07 6.0910E-08 -9.4920E-07 5.8710E-07
6.4960E-08 -9.5260E-07 5.9100E-07 1.4830E-08 -2.5820E-07 1.7380E-07
  6 -3.0600E-08 5.9360E-07 -3.9270E-07 2.9140E-07 -4.6700E-06 3.2370E-06
-3.8190E-08 5.8570E-07 -3.8710E-07 -3.0640E-08 5.7970E-07 -3.9760E-07 -
4.4140E-08 5.6670E-07 -3.8460E-07 -4.3010E-08 5.6010E-07 -3.8810E-07 -
2.1870E-08 5.9820E-07 -4.0570E-07 -3.3930E-08 6.1010E-07 -3.9070E-07 -
4.9040E-08 5.7620E-07 -3.7980E-07 -1.7350E-08 3.0360E-07 -1.8180E-07
  7 -9.5870E-09 6.6860E-08 -4.1860E-08 -6.3530E-09 6.1780E-08 -3.8190E-08
1.6580E-07 -4.8400E-07 2.8940E-07 -8.7040E-09 6.0450E-08 -3.2770E-08 -
3.0850E-09 5.3100E-08 -2.9750E-08 -3.2250E-09 5.0610E-08 -2.5660E-08 -
1.3170E-08 6.7380E-08 -3.8530E-08 -9.0520E-09 7.0360E-08 -4.8930E-08 -
1.5410E-09 5.3430E-08 -3.3650E-08 1.4930E-08 -4.0560E-08 2.5340E-08
  8 5.5230E-08 -9.4320E-07 5.8580E-07 6.1450E-08 -9.4210E-07 5.8570E-07
-4.8400E-07 7.6540E-06 -4.7130E-06 5.6210E-08 -9.4230E-07 5.9630E-07
6.7470E-08 -9.3740E-07 5.8920E-07 6.6840E-08 -9.3590E-07 5.9430E-07
4.8350E-08 -9.4990E-07 5.9840E-07 5.7380E-08 -9.5080E-07 5.8010E-07
7.1140E-08 -9.4140E-07 5.8290E-07 1.9780E-08 -3.5240E-07 2.3520E-07
  9 -2.5780E-08 6.0410E-07 -3.9730E-07 -3.7850E-08 5.8520E-07 -3.8710E-07
2.8940E-07 -4.7130E-06 3.2770E-06 -2.7500E-08 5.9800E-07 -4.1730E-07 -
5.0060E-08 5.6290E-07 -3.8750E-07 -4.8850E-08 5.6260E-07 -4.0040E-07 -
1.2150E-08 6.2860E-07 -4.2990E-07 -2.9740E-08 6.1100E-07 -3.7960E-07 -
5.7500E-08 5.6040E-07 -3.6720E-07 -2.4200E-08 4.2510E-07 -2.5990E-07
 10 -1.6490E-09 8.3040E-08 -4.4600E-08 -8.3290E-09 5.8910E-08 -3.0640E-08
-8.7040E-09 5.6210E-08 -2.7500E-08 1.7930E-07 -4.9940E-07 2.7790E-07 -
1.6010E-08 4.1310E-08 -2.8930E-08 -1.5950E-08 5.0680E-08 -4.2750E-08
4.3980E-09 1.2140E-07 -7.8690E-08 -2.4330E-09 6.8730E-08 -2.1680E-08 -
1.9460E-08 1.9170E-08 -3.2120E-09 2.0930E-10 1.9140E-07 -1.2010E-07
 11 1.0670E-07 -8.3040E-07 5.2720E-07 6.2810E-08 -9.2700E-07 5.7970E-07
6.0450E-08 -9.4230E-07 5.9800E-07 -4.9940E-07 7.3400E-06 -4.4310E-06
1.3190E-08 -9.6550E-07 5.4760E-07 1.3330E-08 -9.0110E-07 4.6000E-07
1.4790E-07 -6.3970E-07 3.4670E-07 1.0280E-07 -9.3420E-07 6.7770E-07 -
8.0450E-09 -1.0890E-06 6.9490E-07 -4.3580E-08 8.5180E-07 -5.4510E-07
 12 -8.1560E-08 4.8500E-07 -3.4670E-07 -3.5170E-08 5.7950E-07 -3.9760E-07
-3.2770E-08 5.9630E-07 -4.1730E-07 2.7790E-07 -4.4310E-06 3.0720E-06
1.7430E-08 6.0840E-07 -3.5710E-07 1.7670E-08 5.3570E-07 -2.6250E-07 -
1.2420E-07 2.8140E-07 -1.5530E-07 -7.8240E-08 6.0200E-07 -5.0960E-07
3.9150E-08 7.4290E-07 -5.1450E-07 5.3960E-08 -9.6810E-07 6.3340E-07
 13 -2.1520E-08 4.0900E-08 -3.3010E-08 -4.0860E-09 6.3230E-08 -4.4140E-08
-3.0850E-09 6.7470E-08 -5.0060E-08 -1.6010E-08 1.3190E-08 1.7430E-08
1.7580E-07 -3.8950E-07 2.3760E-07 1.4510E-08 4.7280E-08 4.1350E-09 -
3.8820E-08 -1.3520E-08 2.4370E-08 -1.9170E-08 7.0610E-08 -8.3580E-08
2.3560E-08 1.0020E-07 -7.2640E-08 3.5490E-08 -3.7550E-07 2.3850E-07
 14 3.7850E-08 -9.5600E-07 5.7540E-07 5.2170E-08 -9.3920E-07 5.6670E-07
5.3100E-08 -9.3740E-07 5.6290E-07 4.1310E-08 -9.6550E-07 6.0840E-07 -
3.8950E-07 7.6990E-06 -4.6170E-06 6.6260E-08 -9.3390E-07 5.9450E-07
2.2980E-08 -9.9270E-07 6.1790E-07 4.1190E-08 -9.5040E-07 5.4600E-07
7.4920E-08 -9.1300E-07 5.4530E-07 2.0860E-08 -5.4040E-07 3.4070E-07
 15 -3.2000E-08 5.7630E-07 -3.7980E-07 -2.9660E-08 5.8530E-07 -3.8460E-07
-2.9750E-08 5.8920E-07 -3.8750E-07 -2.8930E-08 5.4760E-07 -3.5710E-07
2.3760E-07 -4.6170E-06 3.1430E-06 -2.4860E-08 5.5670E-07 -3.6080E-07 -
3.2210E-08 5.4420E-07 -3.5690E-07 -3.4230E-08 6.1090E-07 -4.0710E-07 -
2.6140E-08 6.0690E-07 -3.9840E-07 2.6360E-09 8.2300E-08 -3.4130E-08
 16 -2.1390E-08 4.0790E-08 -3.2130E-08 -4.2100E-09 6.2660E-08 -4.3010E-08

-3.2250E-09 6.6840E-08 -4.8850E-08 -1.5950E-08 1.3330E-08 1.7670E-08
1.4510E-08 6.6260E-08 -2.4860E-08 1.7600E-07 -4.0630E-07 2.5990E-07 -
3.8440E-08 -1.2790E-08 2.4380E-08 -1.9090E-08 7.0180E-08 -8.2040E-08
2.3030E-08 9.8960E-08 -7.0970E-08 3.5040E-08 -3.7010E-07 2.3570E-07
  17 5.2710E-08 -9.1760E-07 5.5160E-07 5.0600E-08 -9.3280E-07 5.6010E-07
5.0610E-08 -9.3590E-07 5.6260E-07 5.0680E-08 -9.0110E-07 5.3570E-07
4.7280E-08 -9.3390E-07 5.5670E-07 -4.0630E-07 7.5260E-06 -4.4480E-06
5.3570E-08 -8.8930E-07 5.3060E-07 5.4100E-08 -9.4400E-07 5.7370E-07
4.6970E-08 -9.6000E-07 5.7750E-07 -1.9350E-09 -1.4400E-07 8.0140E-08
  18 -5.3930E-08 5.2640E-07 -3.5760E-07 -2.6960E-08 5.8310E-07 -3.8810E-07
-2.5660E-08 5.9430E-07 -4.0040E-07 -4.2750E-08 4.6000E-07 -2.6250E-07
4.1350E-09 5.9450E-07 -3.6080E-07 2.5990E-07 -4.4480E-06 3.0410E-06 -
7.7850E-08 3.9820E-07 -2.4030E-07 -5.3100E-08 6.0750E-07 -4.6090E-07
1.6130E-08 6.8400E-07 -4.5950E-07 3.7120E-08 -5.0430E-07 3.4310E-07
  19 1.2360E-08 1.1390E-07 -5.4020E-08 -1.1800E-08 5.6090E-08 -2.1870E-08
-1.3170E-08 4.8350E-08 -1.2150E-08 4.3980E-09 1.4790E-07 -1.2420E-07 -
3.8820E-08 2.2980E-08 -3.2210E-08 -3.8440E-08 5.3570E-08 -7.7850E-08
2.3820E-07 -4.7080E-07 2.5370E-07 9.3190E-09 6.7550E-08 2.2280E-08 -
5.1040E-08 -3.9350E-08 4.6130E-08 -2.5770E-08 6.0270E-07 -3.8110E-07
  20 1.4750E-07 -7.6650E-07 5.1210E-07 7.1570E-08 -9.2530E-07 5.9820E-07
6.7380E-08 -9.4990E-07 6.2860E-07 1.2140E-07 -6.3970E-07 2.8140E-07 -
1.3520E-08 -9.9270E-07 5.4420E-07 -1.2790E-08 -8.8930E-07 3.9820E-07 -
4.7080E-07 7.3940E-06 -4.5110E-06 1.3950E-07 -9.2930E-07 7.6060E-07 -
5.0800E-08 -1.1900E-06 7.8820E-07 -7.6060E-08 1.6120E-06 -1.0210E-06
  21 -1.0010E-07 4.6000E-07 -3.4200E-07 -4.1630E-08 5.7810E-07 -4.0570E-07
-3.8530E-08 5.9840E-07 -4.2990E-07 -7.8690E-08 3.4670E-07 -1.5530E-07
2.4370E-08 6.1790E-07 -3.5690E-07 2.4380E-08 5.3060E-07 -2.4030E-07
2.5370E-07 -4.5110E-06 3.1340E-06 -9.5230E-08 5.9910E-07 -5.4190E-07
5.2170E-08 7.8030E-07 -5.5080E-07 6.3120E-08 -1.2560E-06 8.1210E-07
  22 7.8600E-10 9.0250E-08 -5.0690E-08 -8.5330E-09 6.0910E-08 -3.3930E-08
-9.0520E-09 5.7380E-08 -2.9740E-08 -2.4330E-09 1.0280E-07 -7.8240E-08 -
1.9170E-08 4.1190E-08 -3.4230E-08 -1.9090E-08 5.4100E-08 -5.3100E-08
9.3190E-09 1.3950E-07 -9.5230E-08 1.8310E-07 -5.5840E-07 3.7530E-07 -
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  23 6.9190E-08 -9.4040E-07 6.0490E-07 7.0220E-08 -9.4920E-07 6.1010E-07
7.0360E-08 -9.5080E-07 6.1100E-07 6.8730E-08 -9.3420E-07 6.0200E-07
7.0610E-08 -9.5040E-07 6.1090E-07 7.0180E-08 -9.4400E-07 6.0750E-07
6.7550E-08 -9.2930E-07 5.9910E-07 -5.5840E-07 7.6740E-06 -4.8650E-06
7.1530E-08 -9.6410E-07 6.1880E-07 2.2040E-08 -2.3890E-07 1.8100E-07
  24 -1.2580E-08 6.4890E-07 -4.2410E-07 -4.6790E-08 5.8710E-07 -3.9070E-07
-4.8930E-08 5.8010E-07 -3.7960E-07 -2.1680E-08 6.7770E-07 -5.0960E-07 -
8.3580E-08 5.4600E-07 -4.0710E-07 -8.2040E-08 5.7370E-07 -4.6090E-07
2.2280E-08 7.6060E-07 -5.4190E-07 3.7530E-07 -4.8650E-06 3.5440E-06 -
1.0200E-07 4.9090E-07 -3.1890E-07 -6.1800E-08 9.5380E-07 -6.0660E-07
  25 -2.7150E-08 2.9580E-08 -3.0860E-08 -2.9300E-09 6.4960E-08 -4.9040E-08
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5.1040E-08 -5.0800E-08 5.2170E-08 -2.3900E-08 7.1530E-08 -1.0200E-07
1.9060E-07 -3.0040E-07 1.5830E-07 4.5370E-08 -5.3450E-07 3.3830E-07
  26 5.3270E-09 -1.0300E-06 6.1760E-07 5.0760E-08 -9.5260E-07 5.7620E-07
5.3430E-08 -9.4140E-07 5.6040E-07 1.9170E-08 -1.0890E-06 7.4290E-07
1.0020E-07 -9.1300E-07 6.0690E-07 9.8960E-08 -9.6000E-07 6.8400E-07 -
3.9350E-08 -1.1900E-06 7.8030E-07 1.2380E-08 -9.6410E-07 4.9090E-07 -
3.0040E-07 8.1510E-06 -5.0600E-06 5.9690E-08 -1.2930E-06 8.3140E-07

27 7.1260E-09 6.6110E-07 -4.1760E-07 -3.1260E-08 5.9100E-07 -3.7980E-07
-3.3650E-08 5.8290E-07 -3.6720E-07 -3.2120E-09 6.9490E-07 -5.1450E-07 -
7.2640E-08 5.4530E-07 -3.9840E-07 -7.0970E-08 5.7750E-07 -4.5950E-07
4.6130E-08 7.8820E-07 -5.5080E-07 -1.5710E-10 6.1880E-07 -3.1890E-07
1.5830E-07 -5.0600E-06 3.5180E-06 -5.1610E-08 1.0550E-06 -6.5940E-07
28 -4.4930E-09 -1.5600E-08 -1.9130E-09 1.3790E-08 1.4830E-08 -1.7350E-08
1.4930E-08 1.9780E-08 -2.4200E-08 2.0930E-10 -4.3580E-08 5.3960E-08
3.5490E-08 2.0860E-08 2.6360E-09 3.5040E-08 -1.9350E-09 3.7120E-08 -
2.5770E-08 -7.6060E-08 6.3120E-08 -3.4230E-09 2.2040E-08 -6.1800E-08
4.5370E-08 5.9690E-08 -5.1610E-08 1.7590E-06 -6.7500E-06 4.0530E-06
29 2.9240E-07 4.7430E-07 -9.1400E-08 -2.2540E-08 -2.5820E-07 3.0360E-07
-4.0560E-08 -3.5240E-07 4.2510E-07 1.9140E-07 8.5180E-07 -9.6810E-07 -
3.7550E-07 -5.4040E-07 8.2300E-08 -3.7010E-07 -1.4400E-07 -5.0430E-07
6.0270E-07 1.6120E-06 -1.2560E-06 2.5600E-07 -2.3890E-07 9.5380E-07 -
5.3450E-07 -1.2930E-06 1.0550E-06 -6.7500E-06 9.4360E-05 -5.7900E-05
30 -1.8610E-07 -2.7670E-07 6.4430E-08 1.4050E-08 1.7380E-07 -1.8180E-07
2.5340E-08 2.3520E-07 -2.5990E-07 -1.2010E-07 -5.4510E-07 6.3340E-07
2.3850E-07 3.4070E-07 -3.4130E-08 2.3570E-07 8.0140E-08 3.4310E-07 -
3.8110E-07 -1.0210E-06 8.1210E-07 -1.6420E-07 1.8100E-07 -6.0660E-07
3.3830E-07 8.3140E-07 -6.5940E-07 4.0530E-06 -5.7900E-05 3.9160E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000017590	-0.0000067500	0.0000040530
-0.0000067500	0.0000943600	-0.0000579000
0.0000040530	-0.0000579000	0.0000391600

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000017848	0.0000002132	0.0000080768
0.0000002132	0.0000029161	0.0000061772
0.0000080768	0.0000061772	0.0001305781

Horizontal network accuracy = 0.00378 meters.
Vertical network accuracy = 0.02241 meters.

Vectors

To	From	X	Y	Z
eng5	qcfv	16112.048	11929.951	20884.143
lwes	qcfv	-23263.299	13211.122	22941.709
dstr	qcfv	-26409.922	16784.504	29107.131
gris	qcfv	14632.613	-21629.897	-38253.427
houm	qcfv	-59617.730	-3398.272	-6708.811
lmcn	qcfv	-53793.076	-21832.812	-39273.128
bvhs	qcfv	68133.053	-17467.378	-31362.902
covg	qcfv	1308.745	45188.721	78096.782
awes	qcfv	-84259.141	24995.270	42136.317

Covariance matrix of the 9 vectors
1 1.9562E-06 -7.5605E-06 4.5704E-06 1.7407E-06 -6.9980E-06 4.2259E-06
1.7390E-06 -7.0069E-06 4.2375E-06 1.7616E-06 -6.8921E-06 4.1036E-06
1.7065E-06 -7.0254E-06 4.2045E-06 1.7071E-06 -6.9878E-06 4.1481E-06
1.8016E-06 -6.8188E-06 4.0759E-06 1.7677E-06 -6.9952E-06 4.2883E-06
1.6910E-06 -7.0968E-06 4.2978E-06
2 -7.5605E-06 1.0084E-04 -6.2087E-05 -6.6437E-06 9.3210E-05 -5.7333E-05

-6.6270E-06 9.3295E-05 -5.7444E-05 -6.8428E-06 9.2203E-05 -5.6170E-05 -
6.3180E-06 9.3470E-05 -5.7129E-05 -6.3235E-06 9.3112E-05 -5.6593E-05 -
7.2232E-06 9.1507E-05 -5.5907E-05 -6.9001E-06 9.3184E-05 -5.7928E-05 -
6.1703E-06 9.4149E-05 -5.8017E-05
   3   4.5704E-06 -6.2087E-05 4.2200E-05 3.9988E-06 -5.7402E-05 3.8885E-05
3.9877E-06 -5.7458E-05 3.8958E-05 4.1304E-06 -5.6736E-05 3.8115E-05
3.7834E-06 -5.7574E-05 3.8750E-05 3.7871E-06 -5.7337E-05 3.8395E-05
4.3820E-06 -5.6276E-05 3.7941E-05 4.1684E-06 -5.7385E-05 3.9278E-05
3.6858E-06 -5.8022E-05 3.9337E-05
   4   1.7407E-06 -6.6437E-06 3.9988E-06 1.8977E-06 -7.2300E-06 4.3477E-06
1.7239E-06 -6.6858E-06 4.0253E-06 1.7367E-06 -6.6211E-06 3.9498E-06
1.7056E-06 -6.6961E-06 4.0067E-06 1.7060E-06 -6.6749E-06 3.9749E-06
1.7592E-06 -6.5798E-06 3.9342E-06 1.7401E-06 -6.6793E-06 4.0540E-06
1.6969E-06 -6.7364E-06 4.0593E-06
   5 -6.9980E-06 9.3210E-05 -5.7402E-05 -7.2300E-06 1.0249E-04 -6.3047E-05
-6.6625E-06 9.4028E-05 -5.7914E-05 -6.8973E-06 9.2839E-05 -5.6526E-05 -
6.3261E-06 9.4219E-05 -5.7571E-05 -6.3321E-06 9.3829E-05 -5.6986E-05 -
7.3114E-06 9.2081E-05 -5.6240E-05 -6.9599E-06 9.3908E-05 -5.8440E-05 -
6.1654E-06 9.4959E-05 -5.8538E-05
   6   4.2259E-06 -5.7333E-05 3.8885E-05 4.3477E-06 -6.3047E-05 4.2761E-05
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3.6830E-06 -5.8459E-05 3.9621E-05
   7   1.7390E-06 -6.6270E-06 3.9877E-06 1.7239E-06 -6.6625E-06 4.0068E-06
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1.6972E-06 -6.7157E-06 4.0456E-06
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6.1641E-06 9.5064E-05 -5.8607E-05
   9   4.2375E-06 -5.7444E-05 3.8958E-05 4.0253E-06 -5.7914E-05 3.9215E-05
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3.7886E-06 -5.8103E-05 3.9067E-05 3.7927E-06 -5.7843E-05 3.8676E-05
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  11 -6.8921E-06 9.2203E-05 -5.6736E-05 -6.6211E-06 9.2839E-05 -5.7079E-05
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1.7017E-06 -6.3340E-06 3.7935E-06
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4.3993E-06 -5.6417E-05 3.8025E-05 4.1803E-06 -5.7552E-05 3.9394E-05
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1.7058E-06 -6.3328E-06 3.7927E-06 1.7078E-06 -6.3230E-06 3.7810E-06
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3.6937E-06 -5.7543E-05 3.9017E-05
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1.6884E-06 -7.4517E-06 4.5318E-06
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3.9260E-06 -5.6281E-05 3.8178E-05 4.0313E-06 -5.5752E-05 3.7559E-05
3.7757E-06 -5.6367E-05 3.8025E-05 3.7786E-06 -5.6194E-05 3.7765E-05
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3.7037E-06 -5.6695E-05 3.8457E-05
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1.6932E-06 -7.0533E-06 4.2687E-06
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-6.6611E-06 9.4001E-05 -5.7895E-05 -6.8947E-06 9.2813E-05 -5.6511E-05 -
6.3259E-06 9.4189E-05 -5.7552E-05 -6.3318E-06 9.3799E-05 -5.6969E-05 -
7.3072E-06 9.2058E-05 -5.6226E-05 -7.5864E-06 1.0251E-04 -6.3900E-05 -

6.1660E-06 9.4928E-05 -5.8517E-05
  24   4.2883E-06 -5.7928E-05 3.9278E-05 4.0540E-06 -5.8440E-05 3.9558E-05
4.0405E-06 -5.8509E-05 3.9647E-05 4.2132E-06 -5.7631E-05 3.8624E-05
3.7927E-06 -5.8648E-05 3.9394E-05 3.7971E-06 -5.8360E-05 3.8963E-05
4.5182E-06 -5.7072E-05 3.8413E-05 4.6543E-06 -6.3900E-05 4.3917E-05
3.6745E-06 -5.9194E-05 4.0107E-05
  25   1.6910E-06 -6.1703E-06 3.6858E-06 1.6969E-06 -6.1654E-06 3.6830E-06
1.6972E-06 -6.1641E-06 3.6814E-06 1.6940E-06 -6.1800E-06 3.6999E-06
1.7017E-06 -6.1614E-06 3.6859E-06 1.7016E-06 -6.1666E-06 3.6937E-06
1.6884E-06 -6.1902E-06 3.7037E-06 1.6932E-06 -6.1660E-06 3.6745E-06
1.8589E-06 -6.5756E-06 3.9246E-06
  26 -7.0968E-06 9.4149E-05 -5.8022E-05 -6.7364E-06 9.4959E-05 -5.8459E-05
-6.7157E-06 9.5064E-05 -5.8596E-05 -6.9819E-06 9.3712E-05 -5.7020E-05 -
6.3340E-06 9.5280E-05 -5.8207E-05 -6.3406E-06 9.4837E-05 -5.7543E-05 -
7.4517E-06 9.2851E-05 -5.6695E-05 -7.0533E-06 9.4928E-05 -5.9194E-05 -
6.5756E-06 1.0510E-04 -6.4846E-05
  27   4.2978E-06 -5.8017E-05 3.9337E-05 4.0593E-06 -5.8538E-05 3.9621E-05
4.0456E-06 -5.8607E-05 3.9712E-05 4.2215E-06 -5.7715E-05 3.8671E-05
3.7935E-06 -5.8750E-05 3.9455E-05 3.7979E-06 -5.8458E-05 3.9017E-05
4.5318E-06 -5.7146E-05 3.8457E-05 4.2687E-06 -5.8517E-05 4.0107E-05
3.9246E-06 -6.4846E-05 4.3997E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -5.3830E-01 5.0303E-01 9.0347E-01 -4.9423E-01 4.6205E-01
9.0321E-01 -4.9431E-01 4.6226E-01 9.0479E-01 -4.9278E-01 4.5841E-01
8.9371E-01 -4.9460E-01 4.6182E-01 8.9375E-01 -4.9427E-01 4.6030E-01
8.9994E-01 -4.9116E-01 4.5696E-01 9.0532E-01 -4.9398E-01 4.6266E-01
8.8676E-01 -4.9495E-01 4.6327E-01
   2 -5.3830E-01 1.0000E+00 -9.5176E-01 -4.8026E-01 9.1686E-01 -8.7311E-01
-4.7940E-01 9.1668E-01 -8.7280E-01 -4.8950E-01 9.1820E-01 -8.7394E-01 -
4.6085E-01 9.1652E-01 -8.7399E-01 -4.6112E-01 9.1732E-01 -8.7466E-01 -
5.0254E-01 9.1802E-01 -8.7300E-01 -4.9220E-01 9.1651E-01 -8.7047E-01 -
4.5068E-01 9.1454E-01 -8.7102E-01
   3   5.0303E-01 -9.5176E-01 1.0000E+00 4.4685E-01 -8.7283E-01 9.1538E-01
4.4593E-01 -8.7271E-01 9.1501E-01 4.5674E-01 -8.7340E-01 9.1672E-01
4.2660E-01 -8.7268E-01 9.1638E-01 4.2689E-01 -8.7319E-01 9.1731E-01
4.7127E-01 -8.7273E-01 9.1584E-01 4.5964E-01 -8.7247E-01 9.1238E-01
4.1615E-01 -8.7125E-01 9.1293E-01
   4   9.0347E-01 -4.8026E-01 4.4685E-01 1.0000E+00 -5.1842E-01 4.8264E-01
9.0909E-01 -4.7886E-01 4.4583E-01 9.0560E-01 -4.8064E-01 4.4797E-01
9.0692E-01 -4.7863E-01 4.4682E-01 9.0682E-01 -4.7936E-01 4.4782E-01
8.9218E-01 -4.8119E-01 4.4782E-01 9.0481E-01 -4.7888E-01 4.4406E-01
9.0348E-01 -4.7700E-01 4.4425E-01
   5 -4.9423E-01 9.1686E-01 -8.7283E-01 -5.1842E-01 1.0000E+00 -9.5237E-01
-4.7808E-01 9.1642E-01 -8.7282E-01 -4.8942E-01 9.1707E-01 -8.7237E-01 -
4.5771E-01 9.1641E-01 -8.7363E-01 -4.5801E-01 9.1692E-01 -8.7364E-01 -
5.0457E-01 9.1632E-01 -8.7110E-01 -4.9245E-01 9.1617E-01 -8.7108E-01 -
4.4668E-01 9.1495E-01 -8.7174E-01
   6   4.6205E-01 -8.7311E-01 9.1538E-01 4.8264E-01 -9.5237E-01 1.0000E+00
4.4512E-01 -8.7293E-01 9.1498E-01 4.5697E-01 -8.7289E-01 9.1536E-01
4.2428E-01 -8.7302E-01 9.1603E-01 4.2460E-01 -8.7330E-01 9.1640E-01
4.7326E-01 -8.7175E-01 9.1420E-01 4.6014E-01 -8.7262E-01 9.1283E-01
4.1310E-01 -8.7203E-01 9.1348E-01
   7   9.0321E-01 -4.7940E-01 4.4593E-01 9.0909E-01 -4.7808E-01 4.4512E-01

1.0000E+00 -5.1702E-01 4.8117E-01 9.0548E-01 -4.7985E-01 4.4729E-01
9.0751E-01 -4.7762E-01 4.4588E-01 9.0741E-01 -4.7841E-01 4.4702E-01
8.9156E-01 -4.8053E-01 4.4722E-01 9.0461E-01 -4.7793E-01 4.4292E-01
9.0428E-01 -4.7588E-01 4.4307E-01
   8 -4.9431E-01 9.1668E-01 -8.7271E-01 -4.7886E-01 9.1642E-01 -8.7293E-01
-5.1702E-01 1.0000E+00 -9.5253E-01 -4.8941E-01 9.1682E-01 -8.7209E-01 -
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4.4609E-01 9.1495E-01 -8.7180E-01
   9   4.6226E-01 -8.7280E-01 9.1501E-01 4.4583E-01 -8.7282E-01 9.1498E-01
4.8117E-01 -9.5253E-01 1.0000E+00 4.5702E-01 -8.7247E-01 9.1466E-01
4.2341E-01 -8.7291E-01 9.1570E-01 4.2374E-01 -8.7310E-01 9.1586E-01
4.7394E-01 -8.7115E-01 9.1340E-01 4.6030E-01 -8.7245E-01 9.1280E-01
4.1198E-01 -8.7208E-01 9.1347E-01
  10   9.0479E-01 -4.8950E-01 4.5674E-01 9.0560E-01 -4.8942E-01 4.5697E-01
9.0548E-01 -4.8941E-01 4.5702E-01 1.0000E+00 -5.3139E-01 4.9350E-01
8.9834E-01 -4.8954E-01 4.5705E-01 8.9835E-01 -4.8956E-01 4.5635E-01
8.9783E-01 -4.8805E-01 4.5409E-01 9.0551E-01 -4.8918E-01 4.5670E-01
8.9252E-01 -4.8923E-01 4.5719E-01
  11 -4.9278E-01 9.1820E-01 -8.7340E-01 -4.8064E-01 9.1707E-01 -8.7289E-01
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4.5328E-01 9.1413E-01 -8.7013E-01
  12   4.5841E-01 -8.7394E-01 9.1672E-01 4.4797E-01 -8.7237E-01 9.1536E-01
4.4729E-01 -8.7209E-01 9.1466E-01 4.9350E-01 -9.5023E-01 1.0000E+00
4.3236E-01 -8.7174E-01 9.1698E-01 4.3258E-01 -8.7295E-01 9.1954E-01
4.6456E-01 -8.7562E-01 9.2018E-01 4.5718E-01 -8.7204E-01 9.1060E-01
4.2399E-01 -8.6902E-01 9.1090E-01
  13   8.9371E-01 -4.6085E-01 4.2660E-01 9.0692E-01 -4.5771E-01 4.2428E-01
9.0751E-01 -4.5725E-01 4.2341E-01 8.9834E-01 -4.6277E-01 4.3236E-01
1.0000E+00 -4.8936E-01 4.5568E-01 9.1343E-01 -4.5836E-01 4.2989E-01
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  15   4.6182E-01 -8.7399E-01 9.1638E-01 4.4682E-01 -8.7363E-01 9.1603E-01
4.4588E-01 -8.7352E-01 9.1570E-01 4.5705E-01 -8.7399E-01 9.1698E-01
4.5568E-01 -9.5209E-01 1.0000E+00 4.2633E-01 -8.7399E-01 9.1773E-01
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4.1532E-01 -8.7225E-01 9.1381E-01
  16   8.9375E-01 -4.6112E-01 4.2689E-01 9.0682E-01 -4.5801E-01 4.2460E-01
9.0741E-01 -4.5756E-01 4.2374E-01 8.9835E-01 -4.6302E-01 4.3258E-01
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8.7549E-01 -4.6598E-01 4.3387E-01 8.9605E-01 -4.5794E-01 4.1957E-01
9.1392E-01 -4.5291E-01 4.1928E-01
  17 -4.9427E-01 9.1732E-01 -8.7319E-01 -4.7936E-01 9.1692E-01 -8.7330E-01
-4.7841E-01 9.1678E-01 -8.7310E-01 -4.8956E-01 9.1761E-01 -8.7295E-01 -
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5.0436E-01 9.1695E-01 -8.7173E-01 -4.9251E-01 9.1652E-01 -8.7122E-01 -
4.4746E-01 9.1519E-01 -8.7189E-01

18 4.6030E-01 -8.7466E-01 9.1731E-01 4.4782E-01 -8.7364E-01 9.1640E-01
4.4702E-01 -8.7343E-01 9.1586E-01 4.5635E-01 -8.7521E-01 9.1954E-01
4.2989E-01 -8.7325E-01 9.1773E-01 4.5915E-01 -9.5079E-01 1.0000E+00
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4.2047E-01 -8.7116E-01 9.1293E-01
19 8.9994E-01 -5.0254E-01 4.7127E-01 8.9218E-01 -5.0457E-01 4.7326E-01
8.9156E-01 -5.0488E-01 4.7394E-01 8.9783E-01 -5.0032E-01 4.6456E-01
8.7532E-01 -5.0567E-01 4.7217E-01 8.7549E-01 -5.0436E-01 4.6833E-01
1.0000E+00 -5.4529E-01 5.0664E-01 8.9956E-01 -5.0422E-01 4.7632E-01
8.6516E-01 -5.0783E-01 4.7733E-01
20 -4.9116E-01 9.1802E-01 -8.7273E-01 -4.8119E-01 9.1632E-01 -8.7175E-01
-4.8053E-01 9.1599E-01 -8.7115E-01 -4.8805E-01 9.1936E-01 -8.7562E-01 -
4.6578E-01 9.1555E-01 -8.7315E-01 -4.6598E-01 9.1695E-01 -8.7523E-01 -
5.4529E-01 1.0000E+00 -9.4995E-01 -4.9002E-01 9.1599E-01 -8.6761E-01 -
4.5740E-01 9.1245E-01 -8.6794E-01
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5.0664E-01 -9.4995E-01 1.0000E+00 4.5590E-01 -8.7079E-01 9.0891E-01
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9.0461E-01 -4.9250E-01 4.6030E-01 9.0551E-01 -4.9137E-01 4.5718E-01
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8.9956E-01 -4.9002E-01 4.5590E-01 1.0000E+00 -5.3672E-01 5.0308E-01
8.8956E-01 -4.9283E-01 4.6098E-01
23 -4.9398E-01 9.1651E-01 -8.7247E-01 -4.7888E-01 9.1617E-01 -8.7262E-01
-4.7793E-01 9.1605E-01 -8.7245E-01 -4.8918E-01 9.1670E-01 -8.7204E-01 -
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4.4668E-01 9.1456E-01 -8.7134E-01
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4.4292E-01 -8.7112E-01 9.1280E-01 4.5670E-01 -8.6965E-01 9.1060E-01
4.1921E-01 -8.7142E-01 9.1321E-01 4.1957E-01 -8.7122E-01 9.1249E-01
4.7632E-01 -8.6761E-01 9.0891E-01 5.0308E-01 -9.5235E-01 1.0000E+00
4.0668E-01 -8.7130E-01 9.1242E-01
25 8.8676E-01 -4.5068E-01 4.1615E-01 9.0348E-01 -4.4668E-01 4.1310E-01
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9.1423E-01 -4.4499E-01 4.1532E-01 9.1392E-01 -4.4746E-01 4.2047E-01
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-4.7588E-01 9.1495E-01 -8.7208E-01 -4.8923E-01 9.1413E-01 -8.6902E-01 -
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4.7045E-01 1.0000E+00 -9.5363E-01
27 4.6327E-01 -8.7102E-01 9.1293E-01 4.4425E-01 -8.7174E-01 9.1348E-01
4.4307E-01 -8.7180E-01 9.1347E-01 4.5719E-01 -8.7013E-01 9.1090E-01
4.1891E-01 -8.7214E-01 9.1381E-01 4.1928E-01 -8.7189E-01 9.1293E-01
4.7733E-01 -8.6794E-01 9.0912E-01 4.6098E-01 -8.7134E-01 9.1242E-01
4.3397E-01 -9.5363E-01 1.0000E+00

G-FILE for the vectors

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C00100002 -232632990 13 132111218 101 229417094 65
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C00100006 -537930758 13 -218328115 101 -392731276 64
C00100007 681330528 14 -174673775 99 -313629024 63
C00100008 13087448 13 451887205 101 780967820 66
C00100009 -842591409 13 249952700 102 421363172 66
D 1 2 -5383046 1 3 5030294 1 4 9034669 1 5 -4942303 1 6 4620480 D
1 7 9032142 1 8 -4943095 1 9 4622646 1 10 9047887 1 11 -4927828 D 1
12 4584059 1 13 8937064 1 14 -4945992 1 15 4618169 1 16 8937465 D 1
17 -4942678 1 18 4602962 1 19 8999438 1 20 -4911579 1 21 4569622 D 1
22 9053240 1 23 -4939821 1 24 4626630 1 25 8867644 1 26 -4949485 D 1
27 4632700 2 3 -9517562 2 4 -4802638 2 5 9168637 2 6 -8731075 D 2
7 -4794028 2 8 9166755 2 9 -8727979 2 10 -4894974 2 11 9182013 D 2 12
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9173153 2 18 -8746632 2 19 -5025380 2 20 9180233 2 21 -8730019 D 2 22 -
4921997 2 23 9165118 2 24 -8704732 2 25 -4506787 2 26 9145382 D 2 27 -
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9056034 4 11 -4806400 4 12 4479749 4 13 9069175 4 14 -4786256 D 4 15
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4558973 21 23 -8707900 21 24 9089089 21 25 4259732 21 26 -8671901 D 21 27
9091241 22 23 -5367242 22 24 5030801 22 25 8895553 22 26 -4928308 D 22 27
4609782 23 24 -9523470 23 25 -4466773 23 26 9145581 23 27 -8713368 D 24 25
4066844 24 26 -8712993 24 27 9124170 25 26 -4704529 25 27 4339729 D 26 27 -
9536305

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	-10482.909	-5546864.063	3137853.734
lwes	-10482.921	-5546864.051	3137853.728
dstr	-10482.915	-5546864.045	3137853.722
gris	-10482.925	-5546864.049	3137853.735
houm	-10482.911	-5546864.056	3137853.721
lmcn	-10482.914	-5546864.081	3137853.757
bvhs	-10482.908	-5546864.109	3137853.753
covg	-10482.910	-5546864.061	3137853.716
awes	-10482.908	-5546864.095	3137853.746

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	0.005	0.000	0.002	0.005	0.002	0.001
lwes	-0.007	0.012	-0.004	-0.007	0.003	-0.012
dstr	-0.001	0.019	-0.010	-0.001	0.001	-0.021
gris	-0.012	0.014	0.004	-0.012	0.010	-0.011

houm	0.002	0.008	-0.010	0.002	-0.005	-0.012
lmcn	0.000	-0.017	0.025	0.000	0.013	0.027
bvhs	0.006	-0.045	0.021	0.006	-0.004	0.050
covg	0.003	0.002	-0.016	0.003	-0.013	-0.010
awes	0.006	-0.032	0.014	0.006	-0.004	0.035

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 424638.795
Easting (X) [feet] 3669910.390
Convergence [degrees] 0.61254496
Point Scale 0.99994313
Combined Factor 0.99994705

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.058 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.359
scatter (mean square distance from rover) is 4238.556
average edop for rover is 0.640
average ndop for rover is 0.980
average hdop for rover is 1.170
average vdop for rover is 2.000
average gdop for rover is 2.690

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:16 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA36.O00 OP1335488934717

FILE: QCFVA36.O00 OP1335488934717

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068q.12o TIME: 01:15:18 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/08 16:24:42
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 16:45:30
NAV FILE: brdc0680.12n OBS USED: 2538 / 2646 : 96%
ANT NAME: LEIAT502 NONE QUALITY IND. 23.11/ 33.60
ARP HEIGHT: 1.521 NORMALIZED RMS: 0.318

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18495)

X:	-2557.074(m)	0.005(m)	-2557.806(m)	0.005(m)
Y:	-5526491.417(m)	0.018(m)	-5526489.926(m)	0.018(m)
Z:	3173373.980(m)	0.013(m)	3173373.772(m)	0.013(m)

LAT:	30 1 53.03492	0.006(m)	30 1 53.05330	0.006(m)
E LON:	269 58 24.56253	0.005(m)	269 58 24.53519	0.005(m)
W LON:	90 1 35.43747	0.005(m)	90 1 35.46481	0.005(m)
EL HGT:	-27.139(m)	0.021(m)	-28.534(m)	0.021(m)
ORTHO HGT:	-0.940(m)	0.024(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (Zone 15)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3325990.739	170465.483
Easting (X) [meters]	786760.569	1126038.696
Convergence [degrees]	1.48917304	0.65342805
Point Scale	1.00061467	0.99992589
Combined Factor	1.00061894	0.99993015

US NATIONAL GRID DESIGNATOR: 15RYP8676025990(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	14049.8

DJ9601 ENG6 ENGLISH TURN 6 CORS ARP N295245.044 W0895631.484 18738.9
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 34383.7
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 49722.4
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 83129.0
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 90117.0
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 97623.3
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 105757.2
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 118628.7

NEAREST NGS PUBLISHED CONTROL POINT
BJ4264 SHUSHAN 2 1934 N300156.539 W0900153.155 486.5

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.034	-5531876.844	3164070.911
eng6	5594.599	-5534921.921	3158759.200
lwes	-33746.213	-5533652.931	3160795.437
covg	-9174.167	-5501675.348	3215950.500
houm	-70100.643	-5550262.337	3131144.913
gvms	-86907.676	-5510048.225	3200500.222
bvhs	57650.147	-5564331.454	3106490.833
lmcn	-64275.991	-5568696.879	3098580.617
mspk	82001.471	-5483970.063	3244889.913
qcfv	-2557.806	-5526489.926	3173373.772

Covariance matrix of the stations:
1 2.6670E-07 -8.6950E-07 6.2780E-07 -1.9580E-08 1.1380E-07 -8.1750E-08
-1.9050E-08 1.0440E-07 -7.5790E-08 -1.9490E-08 1.1250E-07 -7.9950E-08 -
1.8670E-08 9.4250E-08 -7.0060E-08 -1.8560E-08 9.1960E-08 -6.6770E-08 -
2.0300E-08 1.2360E-07 -8.8510E-08 -1.8730E-08 9.5020E-08 -7.1330E-08 -
2.1250E-08 1.3400E-07 -9.3640E-08 1.2520E-08 1.4710E-08 -7.5860E-09
2 -8.6950E-07 8.6330E-06 -4.9910E-06 1.1210E-07 -1.0530E-06 6.1220E-07
1.0640E-07 -1.0770E-06 6.3100E-07 1.1300E-07 -1.0710E-06 6.4640E-07
9.8750E-08 -1.0930E-06 6.3210E-07 9.9330E-08 -1.1180E-06 6.7670E-07
1.1540E-07 -1.0090E-06 5.6430E-07 9.7790E-08 -1.0800E-06 6.1180E-07
1.2660E-07 -1.0200E-06 6.1680E-07 -1.5740E-08 1.8620E-07 -1.0570E-07
3 6.2780E-07 -4.9910E-06 3.3300E-06 -8.0490E-08 6.1090E-07 -3.9070E-07
-7.6590E-08 6.3210E-07 -4.0680E-07 -8.4330E-08 6.4900E-07 -4.3310E-07 -
6.9730E-08 6.3350E-07 -4.0080E-07 -7.3580E-08 6.8300E-07 -4.5520E-07 -
7.9870E-08 5.5680E-07 -3.4110E-07 -6.7520E-08 6.1060E-07 -3.7710E-07 -
9.5660E-08 6.1530E-07 -4.1420E-07 1.3390E-08 -1.2660E-07 9.8380E-08
4 -1.9580E-08 1.1210E-07 -8.0490E-08 2.7470E-07 -8.8490E-07 6.3170E-07
-2.1250E-08 1.0300E-07 -7.4640E-08 -1.8580E-08 1.1310E-07 -7.1080E-08 -
2.4690E-08 8.8720E-08 -7.0350E-08 -2.4880E-08 7.9570E-08 -4.9470E-08 -
1.6840E-08 1.4410E-07 -1.1250E-07 -2.4990E-08 9.3870E-08 -8.0080E-08 -
1.2830E-08 1.5040E-07 -9.3180E-08 -2.6470E-10 1.1440E-07 -6.9980E-08
5 1.1380E-07 -1.0530E-06 6.1090E-07 -8.8490E-07 8.5800E-06 -4.9380E-06
1.0560E-07 -1.0800E-06 6.2850E-07 1.2050E-07 -1.0690E-06 6.6490E-07

8.7830E-08 -1.1060E-06 6.2570E-07 8.7830E-08 -1.1510E-06 7.1780E-07
1.2920E-07 -9.5240E-07 4.9450E-07 8.6170E-08 -1.0810E-06 5.8260E-07
1.5380E-07 -9.7660E-07 6.1280E-07 -1.3400E-08 1.8760E-07 -1.1270E-07
  6 -8.1750E-08 6.1220E-07 -3.9070E-07 6.3170E-07 -4.9380E-06 3.2860E-06
-7.4020E-08 6.3490E-07 -4.0570E-07 -9.0520E-08 6.4690E-07 -4.5410E-07 -
5.6490E-08 6.4760E-07 -3.9560E-07 -5.9680E-08 7.1760E-07 -5.0000E-07 -
9.2820E-08 4.9710E-07 -2.6930E-07 -5.3560E-08 6.1210E-07 -3.4800E-07 -
1.2270E-07 5.6930E-07 -4.1160E-07 2.0180E-08 -2.2320E-07 1.5220E-07
  7 -1.9050E-08 1.0640E-07 -7.6590E-08 -2.1250E-08 1.0560E-07 -7.4020E-08
2.6090E-07 -8.3940E-07 6.1000E-07 -2.1070E-08 1.1230E-07 -9.3030E-08 -
9.8660E-09 1.0300E-07 -6.9310E-08 -9.3480E-09 1.1110E-07 -9.2430E-08 -
2.5620E-08 9.3350E-08 -5.2440E-08 -9.5730E-09 9.7140E-08 -5.7900E-08 -
3.4040E-08 1.1050E-07 -9.4220E-08 2.1600E-08 -8.4460E-08 5.1920E-08
  8 1.0440E-07 -1.0770E-06 6.3210E-07 1.0300E-07 -1.0800E-06 6.3490E-07
-8.3940E-07 8.7680E-06 -5.0770E-06 1.0410E-07 -1.0810E-06 6.2610E-07
1.1110E-07 -1.0840E-06 6.4000E-07 1.1250E-07 -1.0870E-06 6.3000E-07
9.8890E-08 -1.0820E-06 6.4570E-07 1.1090E-07 -1.0850E-06 6.4580E-07
9.4740E-08 -1.0800E-06 6.2290E-07 2.5900E-08 -2.7670E-07 1.7740E-07
  9 -7.5790E-08 6.3100E-07 -4.0680E-07 -7.4640E-08 6.2850E-07 -4.0570E-07
6.1000E-07 -5.0770E-06 3.3860E-06 -7.8600E-08 6.5540E-07 -4.1940E-07 -
7.8230E-08 6.2720E-07 -4.0580E-07 -8.2630E-08 6.6210E-07 -4.2370E-07 -
6.9040E-08 6.0500E-07 -3.9540E-07 -7.6510E-08 6.1350E-07 -3.9970E-07 -
7.4600E-08 6.5460E-07 -4.1810E-07 -1.5100E-08 1.6870E-07 -9.1880E-08
 10 -1.9490E-08 1.1300E-07 -8.4330E-08 -1.8580E-08 1.2050E-07 -9.0520E-08
-2.1070E-08 1.0410E-07 -7.8600E-08 2.7380E-07 -8.9890E-07 6.7800E-07 -
2.4370E-08 9.0320E-08 -7.4490E-08 -2.4390E-08 8.0390E-08 -5.3620E-08 -
1.7100E-08 1.4510E-07 -1.1590E-07 -2.4720E-08 9.5730E-08 -8.4140E-08 -
1.3000E-08 1.4970E-07 -9.6410E-08 1.8230E-10 1.1190E-07 -7.1770E-08
 11 1.1250E-07 -1.0710E-06 6.4900E-07 1.1310E-07 -1.0690E-06 6.4690E-07
1.1230E-07 -1.0810E-06 6.5540E-07 -8.9890E-07 8.7150E-06 -5.2100E-06
1.1100E-07 -1.0930E-06 6.6040E-07 1.1120E-07 -1.0990E-06 6.7180E-07
1.1330E-07 -1.0540E-06 6.3270E-07 1.1080E-07 -1.0900E-06 6.5560E-07
1.1470E-07 -1.0460E-06 6.3770E-07 2.2030E-08 -1.6200E-07 1.2810E-07
 12 -7.9950E-08 6.4640E-07 -4.3310E-07 -7.1080E-08 6.6490E-07 -4.5410E-07
-9.3030E-08 6.2610E-07 -4.1940E-07 6.7800E-07 -5.2100E-06 3.6410E-06 -
1.1750E-07 5.9550E-07 -4.2640E-07 -1.2300E-07 5.8250E-07 -3.3270E-07 -
5.1190E-08 7.3500E-07 -5.6200E-07 -1.1750E-07 6.1100E-07 -4.7360E-07 -
2.4850E-08 7.4850E-07 -4.2870E-07 -7.1780E-08 6.5930E-07 -4.0860E-07
 13 -1.8670E-08 9.8750E-08 -6.9730E-08 -2.4690E-08 8.7830E-08 -5.6490E-08
-9.8660E-09 1.1110E-07 -7.8230E-08 -2.4370E-08 1.1100E-07 -1.1750E-07
2.6720E-07 -7.5090E-07 5.6460E-07 9.0010E-09 1.4880E-07 -1.4220E-07 -
3.6340E-08 3.1090E-08 2.2190E-08 8.7490E-09 9.9950E-08 -2.8800E-08 -
5.9850E-08 6.2290E-08 -9.3630E-08 4.7640E-08 -3.2420E-07 2.0060E-07
 14 9.4250E-08 -1.0930E-06 6.3350E-07 8.8720E-08 -1.1060E-06 6.4760E-07
1.0300E-07 -1.0840E-06 6.2720E-07 9.0320E-08 -1.0930E-06 5.9550E-07 -
7.5090E-07 8.9270E-06 -5.0830E-06 1.2190E-07 -1.0550E-06 5.7110E-07
7.6420E-08 -1.1550E-06 7.1870E-07 1.1970E-07 -1.0860E-06 6.6890E-07
5.7040E-08 -1.1430E-06 6.2070E-07 4.2990E-08 -5.3860E-07 3.2920E-07
 15 -7.0060E-08 6.3210E-07 -4.0080E-07 -7.0350E-08 6.2570E-07 -3.9560E-07
-6.9310E-08 6.4000E-07 -4.0580E-07 -7.4490E-08 6.6040E-07 -4.2640E-07
5.6460E-07 -5.0830E-06 3.3430E-06 -7.0130E-08 6.8130E-07 -4.4000E-07 -
6.7340E-08 5.8400E-07 -3.6260E-07 -6.3680E-08 6.1680E-07 -3.8390E-07 -
7.9300E-08 6.4270E-07 -4.1630E-07 7.0850E-10 7.8440E-08 -3.0030E-08
 16 -1.8560E-08 9.9330E-08 -7.3580E-08 -2.4880E-08 8.7830E-08 -5.9680E-08

-9.3480E-09 1.1250E-07 -8.2630E-08 -2.4390E-08 1.1120E-07 -1.2300E-07
9.0010E-09 1.2190E-07 -7.0130E-08 2.6790E-07 -7.2280E-07 5.1570E-07 -
3.7190E-08 2.8840E-08 2.2430E-08 1.0020E-08 1.0210E-07 -3.1690E-08 -
6.1420E-08 5.9050E-08 -9.7160E-08 4.9500E-08 -3.3960E-07 2.0650E-07
  17 9.1960E-08 -1.1180E-06 6.8300E-07 7.9570E-08 -1.1510E-06 7.1760E-07
1.1110E-07 -1.0870E-06 6.6210E-07 8.0390E-08 -1.0990E-06 5.8250E-07
1.4880E-07 -1.0550E-06 6.8130E-07 -7.2280E-07 9.2410E-06 -5.6420E-06
5.5020E-08 -1.2880E-06 8.9840E-07 1.5100E-07 -1.0980E-06 7.6350E-07
5.5430E-09 -1.2350E-06 6.5340E-07 8.8500E-08 -9.9480E-07 6.4270E-07
  18 -6.6770E-08 6.7670E-07 -4.5520E-07 -4.9470E-08 7.1780E-07 -5.0000E-07
-9.2430E-08 6.3000E-07 -4.2370E-07 -5.3620E-08 6.7180E-07 -3.3270E-07 -
1.4220E-07 5.7110E-07 -4.4000E-07 5.1570E-07 -5.6420E-06 3.9800E-06 -
1.3500E-08 8.8690E-07 -7.3460E-07 -1.4380E-07 6.1630E-07 -5.4360E-07
4.5790E-08 8.7160E-07 -4.3900E-07 -1.1490E-07 1.1990E-06 -7.4190E-07
  19 -2.0300E-08 1.1540E-07 -7.9870E-08 -1.6840E-08 1.2920E-07 -9.2820E-08
-2.5620E-08 9.8890E-08 -6.9040E-08 -1.7100E-08 1.1330E-07 -5.1190E-08 -
3.6340E-08 7.6420E-08 -6.7340E-08 -3.7190E-08 5.5020E-08 -1.3500E-08
2.9850E-07 -8.5830E-07 5.5590E-07 -3.7030E-08 8.9560E-08 -9.2960E-08
2.9680E-09 1.8060E-07 -8.9410E-08 -1.7340E-08 2.6570E-07 -1.5980E-07
  20 1.2360E-07 -1.0090E-06 5.5680E-07 1.4410E-07 -9.5240E-07 4.9710E-07
9.3350E-08 -1.0820E-06 6.0500E-07 1.4510E-07 -1.0540E-06 7.3500E-07
3.1090E-08 -1.1550E-06 5.8400E-07 2.8840E-08 -1.2880E-06 8.8690E-07 -
8.5830E-07 8.5070E-06 -4.8900E-06 2.6260E-08 -1.0750E-06 4.4020E-07
2.6530E-07 -7.7930E-07 5.8540E-07 -1.0290E-07 1.1290E-06 -7.1550E-07
  21 -8.8510E-08 5.6430E-07 -3.4110E-07 -1.1250E-07 4.9450E-07 -2.6930E-07
-5.2440E-08 6.4570E-07 -3.9540E-07 -1.1590E-07 6.3270E-07 -5.6200E-07
2.2190E-08 7.1870E-07 -3.6260E-07 2.2430E-08 8.9840E-07 -7.3460E-07
5.5590E-07 -4.8900E-06 3.3570E-06 2.8970E-08 6.1480E-07 -1.8690E-07 -
2.5980E-07 3.2080E-07 -3.9410E-07 1.4070E-07 -1.4230E-06 9.0550E-07
  22 -1.8730E-08 9.7790E-08 -6.7520E-08 -2.4990E-08 8.6170E-08 -5.3560E-08
-9.5730E-09 1.1090E-07 -7.6510E-08 -2.4720E-08 1.1080E-07 -1.1750E-07
8.7490E-09 1.1970E-07 -6.3680E-08 1.0020E-08 1.5100E-07 -1.4380E-07 -
3.7030E-08 2.6260E-08 2.8970E-08 2.6920E-07 -7.6180E-07 5.8590E-07 -
6.1630E-08 5.9160E-08 -9.2120E-08 4.9200E-08 -3.3980E-07 2.1180E-07
  23 9.5020E-08 -1.0800E-06 6.1060E-07 9.3870E-08 -1.0810E-06 6.1210E-07
9.7140E-08 -1.0850E-06 6.1350E-07 9.5730E-08 -1.0900E-06 6.1100E-07
9.9950E-08 -1.0860E-06 6.1680E-07 1.0210E-07 -1.0980E-06 6.1630E-07
8.9560E-08 -1.0750E-06 6.1480E-07 -7.6180E-07 8.7950E-06 -4.9020E-06
8.8680E-08 -1.0860E-06 6.0720E-07 1.3760E-08 -2.5460E-07 1.4040E-07
  24 -7.1330E-08 6.1180E-07 -3.7710E-07 -8.0080E-08 5.8260E-07 -3.4800E-07
-5.7900E-08 6.4580E-07 -3.9970E-07 -8.4140E-08 6.5560E-07 -4.7360E-07 -
2.8800E-08 6.6890E-07 -3.8390E-07 -3.1690E-08 7.6350E-07 -5.4360E-07 -
9.2960E-08 4.4020E-07 -1.8690E-07 5.8590E-07 -4.9020E-06 3.2310E-06 -
1.3900E-07 5.3340E-07 -4.0760E-07 5.6460E-08 -4.5790E-07 3.0890E-07
  25 -2.1250E-08 1.2660E-07 -9.5660E-08 -1.2830E-08 1.5380E-07 -1.2270E-07
-3.4040E-08 9.4740E-08 -7.4600E-08 -1.3000E-08 1.1470E-07 -2.4850E-08 -
5.9850E-08 5.7040E-08 -7.9300E-08 -6.1420E-08 5.5430E-09 4.5790E-08
2.9680E-09 2.6530E-07 -2.5980E-07 -6.1630E-08 8.8680E-08 -1.3900E-07
3.7190E-07 -9.0620E-07 7.4990E-07 -5.1910E-08 5.8090E-07 -3.6140E-07
  26 1.3400E-07 -1.0200E-06 6.1530E-07 1.5040E-07 -9.7660E-07 5.6930E-07
1.1050E-07 -1.0800E-06 6.5460E-07 1.4970E-07 -1.0460E-06 7.4850E-07
6.2290E-08 -1.1430E-06 6.4270E-07 5.9050E-08 -1.2350E-06 8.7160E-07
1.8060E-07 -7.7930E-07 3.2080E-07 5.9160E-08 -1.0860E-06 5.3340E-07 -
9.0620E-07 8.4780E-06 -4.9570E-06 -6.1120E-08 8.3520E-07 -4.8390E-07

27 -9.3640E-08 6.1680E-07 -4.1420E-07 -9.3180E-08 6.1280E-07 -4.1160E-07
-9.4220E-08 6.2290E-07 -4.1810E-07 -9.6410E-08 6.3770E-07 -4.2870E-07 -
9.3630E-08 6.2070E-07 -4.1630E-07 -9.7160E-08 6.5340E-07 -4.3900E-07 -
8.9410E-08 5.8540E-07 -3.9410E-07 -9.2120E-08 6.0720E-07 -4.0760E-07
7.4990E-07 -4.9570E-06 3.4410E-06 -2.9610E-08 1.2450E-07 -8.1060E-08
28 1.2520E-08 -1.5740E-08 1.3390E-08 -2.6470E-10 -1.3400E-08 2.0180E-08
2.1600E-08 2.5900E-08 -1.5100E-08 1.8230E-10 2.2030E-08 -7.1780E-08
4.7640E-08 4.2990E-08 7.0850E-10 4.9500E-08 8.8500E-08 -1.1490E-07 -
1.7340E-08 -1.0290E-07 1.4070E-07 4.9200E-08 1.3760E-08 5.6460E-08 -
5.1910E-08 -6.1120E-08 -2.9610E-08 2.8620E-06 -1.0620E-05 7.5390E-06
29 1.4710E-08 1.8620E-07 -1.2660E-07 1.1440E-07 1.8760E-07 -2.2320E-07
-8.4460E-08 -2.7670E-07 1.6870E-07 1.1190E-07 -1.6200E-07 6.5930E-07 -
3.2420E-07 -5.3860E-07 7.8440E-08 -3.3960E-07 -9.9480E-07 1.1990E-06
2.6570E-07 1.1290E-06 -1.4230E-06 -3.3980E-07 -2.5460E-07 -4.5790E-07
5.8090E-07 8.3520E-07 1.2450E-07 -1.0620E-05 1.0040E-04 -5.8820E-05
30 -7.5860E-09 -1.0570E-07 9.8380E-08 -6.9980E-08 -1.1270E-07 1.5220E-07
5.1920E-08 1.7740E-07 -9.1880E-08 -7.1770E-08 1.2810E-07 -4.0860E-07
2.0060E-07 3.2920E-07 -3.0030E-08 2.0650E-07 6.4270E-07 -7.4190E-07 -
1.5980E-07 -7.1550E-07 9.0550E-07 2.1180E-07 1.4040E-07 3.0890E-07 -
3.6140E-07 -4.8390E-07 -8.1060E-08 7.5390E-06 -5.8820E-05 3.8860E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000028620	-0.0000106200	0.0000075390
-0.0000106200	0.0001004000	-0.0000588200
0.0000075390	-0.0000588200	0.0000388600

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000028719	0.0000012507	0.0000130165
0.0000012507	0.0000033197	0.0000030776
0.0000130165	0.0000030776	0.0001359304

Horizontal network accuracy = 0.00441 meters.
Vertical network accuracy = 0.02286 meters.

Vectors

To	From	X	Y	Z
nola	qcfv	-9046.228	-5386.919	-9302.862
eng6	qcfv	8152.405	-8431.995	-14614.572
lwes	qcfv	-31188.407	-7163.005	-12578.335
covg	qcfv	-6616.361	24814.577	42576.727
houm	qcfv	-67542.837	-23772.411	-42228.859
gvms	qcfv	-84349.870	16441.701	27126.450
bvhs	qcfv	60207.953	-37841.528	-66882.939
lmcn	qcfv	-61718.185	-42206.953	-74793.156
mspk	qcfv	84559.277	42519.863	71516.141

Covariance matrix of the 9 vectors
1 3.1037E-06 -1.1488E-05 8.1610E-06 2.8302E-06 -1.0508E-05 7.4447E-06
2.8088E-06 -1.0556E-05 7.4859E-06 2.8298E-06 -1.0544E-05 7.5384E-06
2.7832E-06 -1.0583E-05 7.4758E-06 2.7814E-06 -1.0631E-05 7.5947E-06
2.8465E-06 -1.0408E-05 7.3174E-06 2.7816E-06 -1.0553E-05 7.4188E-06
2.8801E-06 -1.0440E-05 7.4826E-06
2 -1.1488E-05 1.0866E-04 -6.3579E-05 -1.0607E-05 9.8973E-05 -5.7879E-05

-1.0413E-05 9.9413E-05 -5.8252E-05 -1.0603E-05 9.9305E-05 -5.8727E-05 -
1.0181E-05 9.9659E-05 -5.8161E-05 -1.0165E-05 1.0009E-04 -5.9237E-05 -
1.0755E-05 9.8076E-05 -5.6727E-05 -1.0167E-05 9.9388E-05 -5.7645E-05 -
1.1059E-05 9.8359E-05 -5.8222E-05
  3 8.1610E-06 -6.3579E-05 4.1993E-05 7.5151E-06 -5.7970E-05 3.8219E-05
7.3971E-06 -5.8239E-05 3.8447E-05 7.5131E-06 -5.8173E-05 3.8737E-05
7.2553E-06 -5.8389E-05 3.8391E-05 7.2455E-06 -5.8653E-05 3.9048E-05
7.6055E-06 -5.7421E-05 3.7515E-05 7.2463E-06 -5.8223E-05 3.8076E-05
7.7913E-06 -5.7594E-05 3.8428E-05
  4 2.8302E-06 -1.0607E-05 7.5151E-06 3.1372E-06 -1.1606E-05 8.2205E-06
2.8194E-06 -1.0657E-05 7.5494E-06 2.8435E-06 -1.0643E-05 7.6097E-06
2.7899E-06 -1.0689E-05 7.5379E-06 2.7879E-06 -1.0743E-05 7.6744E-06
2.8628E-06 -1.0487E-05 7.3558E-06 2.7881E-06 -1.0654E-05 7.4724E-06
2.9013E-06 -1.0523E-05 7.5454E-06
  5 -1.0508E-05 9.8973E-05 -5.7970E-05 -1.1606E-05 1.0860E-04 -6.3422E-05
-1.0417E-05 9.9409E-05 -5.8248E-05 -1.0598E-05 9.9305E-05 -5.8702E-05 -
1.0195E-05 9.9645E-05 -5.8160E-05 -1.0179E-05 1.0006E-04 -5.9189E-05 -
1.0743E-05 9.8131E-05 -5.6790E-05 -1.0181E-05 9.9386E-05 -5.7667E-05 -
1.1034E-05 9.8401E-05 -5.8219E-05
  6 7.4447E-06 -5.7879E-05 3.8219E-05 8.2205E-06 -6.3422E-05 4.1842E-05
7.3929E-06 -5.8139E-05 3.8394E-05 7.5001E-06 -5.8078E-05 3.8662E-05
7.2617E-06 -5.8278E-05 3.8342E-05 7.2526E-06 -5.8522E-05 3.8950E-05
7.5858E-06 -5.7384E-05 3.7533E-05 7.2535E-06 -5.8125E-05 3.8051E-05
7.7575E-06 -5.7544E-05 3.8377E-05
  7 2.8088E-06 -1.0413E-05 7.3971E-06 2.8194E-06 -1.0417E-05 7.3929E-06
3.0797E-06 -1.1401E-05 8.1122E-06 2.8191E-06 -1.0445E-05 7.4658E-06
2.7829E-06 -1.0476E-05 7.4171E-06 2.7816E-06 -1.0513E-05 7.5095E-06
2.8321E-06 -1.0339E-05 7.2939E-06 2.7816E-06 -1.0452E-05 7.3727E-06
2.8583E-06 -1.0364E-05 7.4225E-06
  8 -1.0556E-05 9.9413E-05 -5.8239E-05 -1.0657E-05 9.9409E-05 -5.8139E-05
-1.1401E-05 1.0972E-04 -6.4243E-05 -1.0654E-05 9.9758E-05 -5.9031E-05 -
1.0211E-05 1.0013E-04 -5.8436E-05 -1.0194E-05 1.0058E-04 -5.9566E-05 -
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7.5494E-06 -5.7206E-05 3.7459E-05 7.8566E-06 -6.3404E-05 4.1473E-05
7.7049E-06 -5.7345E-05 3.8225E-05
  25   2.8801E-06 -1.1059E-05 7.7913E-06 2.9013E-06 -1.1034E-05 7.7575E-06
2.8583E-06 -1.1132E-05 7.8409E-06 2.9007E-06 -1.1108E-05 7.9473E-06
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3.3377E-06 -1.2046E-05 8.6799E-06
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-1.0364E-05 9.8762E-05 -5.7850E-05 -1.0521E-05 9.8681E-05 -5.8247E-05 -
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1.2046E-05 1.0721E-04 -6.3418E-05
  27   7.4826E-06 -5.8222E-05 3.8428E-05 7.5454E-06 -5.8219E-05 3.8377E-05
7.4225E-06 -5.8499E-05 3.8615E-05 7.5440E-06 -5.8435E-05 3.8921E-05
7.2744E-06 -5.8653E-05 3.8555E-05 7.2649E-06 -5.8934E-05 3.9244E-05
7.6390E-06 -5.7644E-05 3.7641E-05 7.2647E-06 -5.8478E-05 3.8225E-05
8.6799E-06 -6.3418E-05 4.2463E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -6.2559E-01 7.1485E-01 9.0699E-01 -5.7232E-01 6.5329E-01
9.0852E-01 -5.7204E-01 6.5234E-01 9.0713E-01 -5.7213E-01 6.5014E-01
9.0699E-01 -5.7174E-01 6.5274E-01 9.0687E-01 -5.7116E-01 6.4752E-01
9.0392E-01 -5.7209E-01 6.5342E-01 9.0663E-01 -5.7193E-01 6.5390E-01
8.9485E-01 -5.7231E-01 6.5179E-01
   2 -6.2559E-01 1.0000E+00 -9.4121E-01 -5.7447E-01 9.1108E-01 -8.5838E-01
-5.6925E-01 9.1047E-01 -8.5791E-01 -5.7445E-01 9.1064E-01 -8.5599E-01 -
5.6075E-01 9.0989E-01 -8.5825E-01 -5.6014E-01 9.0879E-01 -8.5356E-01 -
5.7718E-01 9.1106E-01 -8.5611E-01 -5.6004E-01 9.1031E-01 -8.5869E-01 -
5.8068E-01 9.1130E-01 -8.5713E-01
   3   7.1485E-01 -9.4121E-01 1.0000E+00 6.5474E-01 -8.5840E-01 9.1176E-01
6.5046E-01 -8.5798E-01 9.1082E-01 6.5475E-01 -8.5811E-01 9.0824E-01
6.4278E-01 -8.5753E-01 9.1129E-01 6.4224E-01 -8.5666E-01 9.0510E-01
6.5659E-01 -8.5803E-01 9.1074E-01 6.4210E-01 -8.5782E-01 9.1238E-01
6.5811E-01 -8.5837E-01 9.1003E-01
   4   9.0699E-01 -5.7447E-01 6.5474E-01 1.0000E+00 -6.2875E-01 7.1750E-01
9.0705E-01 -5.7442E-01 6.5434E-01 9.0663E-01 -5.7441E-01 6.5277E-01
9.0431E-01 -5.7433E-01 6.5463E-01 9.0410E-01 -5.7408E-01 6.5081E-01
9.0420E-01 -5.7335E-01 6.5333E-01 9.0388E-01 -5.7430E-01 6.5510E-01
8.9661E-01 -5.7378E-01 6.5374E-01
   5 -5.7232E-01 9.1108E-01 -8.5840E-01 -6.2875E-01 1.0000E+00 -9.4083E-01
-5.6957E-01 9.1066E-01 -8.5806E-01 -5.7432E-01 9.1088E-01 -8.5584E-01 -
5.6162E-01 9.0999E-01 -8.5846E-01 -5.6105E-01 9.0872E-01 -8.5309E-01 -
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5.7952E-01 9.1193E-01 -8.5730E-01
   6   6.5329E-01 -8.5838E-01 9.1176E-01 7.1750E-01 -9.4083E-01 1.0000E+00
6.5126E-01 -8.5806E-01 9.1122E-01 6.5481E-01 -8.5827E-01 9.0813E-01
6.4452E-01 -8.5745E-01 9.1179E-01 6.4403E-01 -8.5629E-01 9.0444E-01
6.5607E-01 -8.5903E-01 9.1282E-01 6.4390E-01 -8.5792E-01 9.1343E-01
6.5644E-01 -8.5917E-01 9.1047E-01
   7   9.0852E-01 -5.6925E-01 6.5046E-01 9.0705E-01 -5.6957E-01 6.5126E-01

1.0000E+00 -6.2021E-01 7.0966E-01 9.0722E-01 -5.6896E-01 6.4638E-01
9.1042E-01 -5.6811E-01 6.5013E-01 9.1043E-01 -5.6699E-01 6.4275E-01
9.0284E-01 -5.7050E-01 6.5386E-01 9.1017E-01 -5.6864E-01 6.5236E-01
8.9151E-01 -5.7037E-01 6.4907E-01
   8 -5.7204E-01 9.1047E-01 -8.5798E-01 -5.7442E-01 9.1066E-01 -8.5806E-01
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5.8171E-01 9.1060E-01 -8.5703E-01
   9   6.5234E-01 -8.5791E-01 9.1082E-01 6.5434E-01 -8.5806E-01 9.1122E-01
7.0966E-01 -9.4155E-01 1.0000E+00 6.5434E-01 -8.5792E-01 9.0832E-01
6.4123E-01 -8.5751E-01 9.1097E-01 6.4064E-01 -8.5684E-01 9.0554E-01
6.5658E-01 -8.5728E-01 9.0932E-01 6.4051E-01 -8.5768E-01 9.1167E-01
6.5888E-01 -8.5774E-01 9.0973E-01
  10   9.0713E-01 -5.7445E-01 6.5475E-01 9.0663E-01 -5.7432E-01 6.5481E-01
9.0722E-01 -5.7439E-01 6.5434E-01 1.0000E+00 -6.2907E-01 7.1738E-01
9.0453E-01 -5.7427E-01 6.5462E-01 9.0437E-01 -5.7407E-01 6.5079E-01
9.0424E-01 -5.7332E-01 6.5337E-01 9.0408E-01 -5.7423E-01 6.5509E-01
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6.5615E-01 -8.5375E-01 9.0354E-01 6.3528E-01 -8.5599E-01 9.0800E-01
6.6094E-01 -8.5472E-01 9.0749E-01
  13   9.0699E-01 -5.6075E-01 6.4278E-01 9.0431E-01 -5.6162E-01 6.4452E-01
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6.9786E-01 -9.4148E-01 1.0000E+00 6.4161E-01 -8.5693E-01 9.0552E-01
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  16   9.0687E-01 -5.6014E-01 6.4224E-01 9.0410E-01 -5.6105E-01 6.4403E-01
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1.0000E+00 -6.3062E-01 7.1411E-01 8.9726E-01 -5.7738E-01 6.5581E-01
8.9850E-01 -5.7510E-01 6.5582E-01
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-5.7050E-01 9.1025E-01 -8.5728E-01 -5.7332E-01 9.1062E-01 -8.5375E-01 -
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7.1411E-01 -9.3795E-01 1.0000E+00 6.5181E-01 -8.5497E-01 9.1505E-01
6.4581E-01 -8.5985E-01 9.0874E-01
22 9.0663E-01 -5.6004E-01 6.4210E-01 9.0388E-01 -5.6096E-01 6.4390E-01
9.1017E-01 -5.5889E-01 6.4051E-01 9.0408E-01 -5.5941E-01 6.3528E-01
9.1447E-01 -5.5761E-01 6.4151E-01 9.1473E-01 -5.5532E-01 6.2948E-01
8.9726E-01 -5.6443E-01 6.5181E-01 1.0000E+00 -6.0612E-01 7.0054E-01
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24 6.5390E-01 -8.5869E-01 9.1238E-01 6.5510E-01 -8.5925E-01 9.1343E-01
6.5236E-01 -8.5823E-01 9.1167E-01 6.5509E-01 -8.5846E-01 9.0800E-01
6.4661E-01 -8.5747E-01 9.1236E-01 6.4614E-01 -8.5596E-01 9.0378E-01
6.5581E-01 -8.6017E-01 9.1505E-01 7.0054E-01 -9.3999E-01 1.0000E+00
6.5488E-01 -8.6000E-01 9.1086E-01
25 8.9485E-01 -5.8068E-01 6.5811E-01 8.9661E-01 -5.7952E-01 6.5644E-01
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8.9850E-01 -5.7416E-01 6.4581E-01 8.8103E-01 -5.8144E-01 6.5488E-01
1.0000E+00 -6.3680E-01 7.2910E-01
26 -5.7231E-01 9.1130E-01 -8.5837E-01 -5.7378E-01 9.1193E-01 -8.5917E-01
-5.7037E-01 9.1060E-01 -8.5774E-01 -5.7385E-01 9.1103E-01 -8.5472E-01 -
5.6404E-01 9.0961E-01 -8.5827E-01 -5.6364E-01 9.0793E-01 -8.5101E-01 -
5.7510E-01 9.1329E-01 -8.5985E-01 -5.6345E-01 9.1042E-01 -8.6000E-01 -
6.3680E-01 1.0000E+00 -9.3992E-01
27 6.5179E-01 -8.5713E-01 9.1003E-01 6.5374E-01 -8.5730E-01 9.1047E-01
6.4907E-01 -8.5703E-01 9.0973E-01 6.5380E-01 -8.5720E-01 9.0749E-01
6.4090E-01 -8.5663E-01 9.1011E-01 6.4038E-01 -8.5599E-01 9.0458E-01
6.5582E-01 -8.5658E-01 9.0874E-01 6.4016E-01 -8.5679E-01 9.1086E-01
7.2910E-01 -9.3992E-01 1.0000E+00

G-FILE for the vectors

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C00100006 -843498703 17 164417008 105 271264501 66
C00100007 602079528 17 -378415282 103 -668829388 63
C00100008 -617181847 17 -422069529 104 -747931555 64
C00100009 845592773 18 425198631 103 715161409 65
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1 7 9085193 1 8 -5720385 1 9 6523361 1 10 9071329 1 11 -5721266 D 1
12 6501414 1 13 9069860 1 14 -5717384 1 15 6527413 1 16 9068672 D 1
17 -5711571 1 18 6475241 1 19 9039189 1 20 -5720850 1 21 6534244 D 1
22 9066254 1 23 -5719337 1 24 6539018 1 25 8948527 1 26 -5723129 D 1
27 6517888 2 3 -9412086 2 4 -5744673 2 5 9110811 2 6 -8583809 D 2
7 -5692490 2 8 9104658 2 9 -8579056 2 10 -5744474 2 11 9106429 D 2 12
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6401610 23 24 -9399931 23 25 -5814357 23 26 9104155 23 27 -8567866 D 24 25
6548782 24 26 -8599980 24 27 9108623 25 26 -6368019 25 27 7290953 D 26 27 -
9399203

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-2557.805	-5526489.925	3173373.779
eng6	-2557.809	-5526489.923	3173373.761
lwes	-2557.811	-5526489.918	3173373.776
covg	-2557.803	-5526489.946	3173373.785
houm	-2557.805	-5526489.928	3173373.777
gvms	-2557.796	-5526489.927	3173373.772
bvhs	-2557.813	-5526489.951	3173373.779
lmcn	-2557.806	-5526489.928	3173373.771
mspk	-2557.808	-5526489.889	3173373.742

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.001	0.001	0.007	0.001	0.007	0.003
eng6	-0.003	0.003	-0.011	-0.003	-0.008	-0.008
lwes	-0.006	0.008	0.004	-0.006	0.007	-0.005
covg	0.003	-0.021	0.013	0.003	0.001	0.024

houm	0.001	-0.002	0.005	0.001		
0.003	0.005					
gvms	0.010	-0.002	-0.000	0.010	-	
0.001	0.001					
bvhs	-0.007	-0.025	0.007	-0.007	-	
0.007	0.025					
lmcn	-0.000	-0.003	-0.001	-0.000	-	
0.002	0.002					
mspk	-0.002	0.037	-0.030	-0.002	-	
0.008	-0.047					

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 559268.839
Easting (X) [feet] 3694345.290
Convergence [degrees] 0.65342805
Point Scale 0.99992589
Combined Factor 0.99993015

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -1.045 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.344
scatter (mean square distance from rover) is 6002.127
average edop for rover is 0.720
average ndop for rover is 0.880
average hdop for rover is 1.137
average vdop for rover is 2.000
average gdop for rover is 2.630

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:17 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA37.O00 OP1335488982575

FILE: QCFVA37.O00 OP1335488982575

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068q.12o TIME: 01:16:56 UTC

SOFTWARE: rsgps 1.37 RS1.prl 1.73 START: 2012/03/08 16:45:59
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 17:19:51
NAV FILE: brdc0680.12n OBS USED: 3400 / 3904 : 87%
ANT NAME: LEIAT502 NONE QUALITY IND. 27.46/ 30.94
ARP HEIGHT: 1.601 NORMALIZED RMS: 0.319

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18500)

X:	-1612.573(m)	0.005(m)	-1613.305(m)	0.005(m)
Y:	-5529453.812(m)	0.015(m)	-5529452.320(m)	0.015(m)
Z:	3168243.644(m)	0.010(m)	3168243.436(m)	0.010(m)

LAT:	29 58 40.64808	0.004(m)	29 58 40.66643	0.004(m)
E LON:	269 58 59.84631	0.005(m)	269 58 59.81899	0.005(m)
W LON:	90 1 0.15369	0.005(m)	90 1 0.18101	0.005(m)
EL HGT:	-27.590(m)	0.017(m)	-28.986(m)	0.017(m)
ORTHO HGT:	-1.516(m)	0.021(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 15))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3320089.644	164553.088
Easting (X) [meters]	787860.635	1127051.994
Convergence [degrees]	1.49167812	0.65832870
Point Scale	1.00062249	0.99992582
Combined Factor	1.00062682	0.99993016

US NATIONAL GRID DESIGNATOR: 15RYP8786020089(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	11095.2

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 33251.2
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 55719.8
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 79179.2
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 92423.4
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 101585.7
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 122207.8
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 139926.9

NEAREST NGS PUBLISHED CONTROL POINT
AU2701 NEW ORLEANS E BANK HIGHLINE TR N295850.357 W0900110.118 401.7

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

nola	-11604.039	-5531876.837	3164070.913
lwes	-33746.209	-5533652.932	3160795.438
covg	-9174.168	-5501675.338	3215950.499
gris	4149.692	-5568493.951	3099600.308
bvhs	57650.145	-5564331.463	3106490.842
lmcn	-64275.992	-5568696.876	3098580.611
mspk	82001.473	-5483970.069	3244889.917
msga	130192.483	-5504708.293	3208174.551
qcfv	-1613.305	-5529452.320	3168243.436

Covariance matrix of the stations:
1 1.3800E-07 -4.3480E-07 2.7930E-07 1.2000E-08 7.6400E-08 -4.4940E-08
3.3030E-09 8.9080E-08 -7.1130E-08 5.6630E-09 4.6280E-08 -1.0510E-08 -
7.0050E-09 3.6220E-08 -9.3260E-09 2.2400E-08 5.9700E-08 -1.4700E-08 -
2.0300E-08 7.5290E-08 -7.6110E-08 -2.9060E-08 5.1700E-08 -5.2530E-08
3.3570E-08 -1.3380E-07 8.4750E-08
2 -4.3480E-07 5.6930E-06 -3.5120E-06 8.0340E-08 -7.6560E-07 4.8750E-07
6.9920E-08 -7.6940E-07 4.6500E-07 7.0440E-08 -7.9570E-07 5.2860E-07
5.3500E-08 -8.2000E-07 5.3710E-07 9.3450E-08 -7.6610E-07 5.1560E-07
3.9840E-08 -8.1140E-07 4.7420E-07 2.7480E-08 -8.3940E-07 5.0420E-07
2.4780E-08 -2.0800E-07 1.4450E-07
3 2.7930E-07 -3.5120E-06 2.4400E-06 -4.8410E-08 4.8420E-07 -3.2130E-07
-4.4900E-08 5.0390E-07 -3.2190E-07 -4.2060E-08 4.8330E-07 -3.3220E-07 -
3.3910E-08 4.9970E-07 -3.3920E-07 -5.3500E-08 4.6530E-07 -3.2360E-07 -
3.1860E-08 5.3580E-07 -3.3440E-07 -2.4850E-08 5.4000E-07 -3.4270E-07 -
1.2540E-08 1.1950E-07 -5.9080E-08
4 1.2000E-08 8.0340E-08 -4.8410E-08 1.4720E-07 -3.8200E-07 2.4960E-07
6.7550E-09 1.0740E-07 -9.3840E-08 1.0960E-08 3.2900E-08 1.2750E-08 -
1.0650E-08 6.5770E-09 2.0150E-08 3.9870E-08 6.8280E-08 -1.7800E-09 -
3.3270E-08 6.6820E-08 -9.1800E-08 -4.7860E-08 1.9500E-08 -4.6490E-08
4.6060E-08 -2.3050E-07 1.4670E-07
5 7.6400E-08 -7.6560E-07 4.8420E-07 -3.8200E-07 5.8190E-06 -3.5700E-06
7.0080E-08 -7.4410E-07 4.2800E-07 7.3670E-08 -8.2310E-07 5.6810E-07
4.1880E-08 -8.7470E-07 5.8700E-07 1.1690E-07 -7.5680E-07 5.3770E-07
1.2730E-08 -8.3100E-07 4.4920E-07 -9.2840E-09 -8.9870E-07 5.1530E-07

5.1360E-08 -4.9060E-07 3.1640E-07
   6 -4.4940E-08 4.8750E-07 -3.2130E-07 2.4960E-07 -3.5700E-06 2.4640E-06
-4.3720E-08 4.9510E-07 -3.0780E-07 -4.2040E-08 4.9470E-07 -3.4740E-07 -
2.8200E-08 5.2160E-07 -3.5840E-07 -6.1250E-08 4.6250E-07 -3.3200E-07 -
2.0220E-08 5.4440E-07 -3.2490E-07 -9.4960E-09 5.6370E-07 -3.4710E-07 -
2.3310E-08 2.4910E-07 -1.3940E-07
   7   3.3030E-09 6.9920E-08 -4.4900E-08 6.7550E-09 7.0080E-08 -4.3720E-08
1.3630E-07 -4.5780E-07 2.9320E-07 2.8040E-09 5.5270E-08 -2.5400E-08 -
5.0450E-09 5.3990E-08 -2.7560E-08 1.2980E-08 5.6790E-08 -2.4010E-08 -
1.3230E-08 8.1160E-08 -6.9610E-08 -1.8880E-08 7.0540E-08 -5.7870E-08
2.4910E-08 -6.6680E-08 4.1380E-08
   8   8.9080E-08 -7.6940E-07 5.0390E-07 1.0740E-07 -7.4410E-07 4.9510E-07
-4.5780E-07 5.9480E-06 -3.8240E-06 8.6220E-08 -8.4840E-07 6.1400E-07
4.6230E-08 -9.1470E-07 6.3840E-07 1.4060E-07 -7.6200E-07 5.7420E-07
7.8790E-09 -8.4680E-07 4.5560E-07 -1.9320E-08 -9.3770E-07 5.4270E-07
7.1320E-08 -5.9650E-07 3.9990E-07
   9 -7.1130E-08 4.6500E-07 -3.2190E-07 -9.3840E-08 4.2800E-07 -3.0780E-07
2.9320E-07 -3.8240E-06 2.7660E-06 -6.6940E-08 5.5830E-07 -4.5680E-07 -
1.7370E-08 6.5020E-07 -4.9250E-07 -1.3480E-07 4.3820E-07 -4.0010E-07
2.8400E-08 5.8480E-07 -2.7600E-07 6.2240E-08 7.0020E-07 -3.8580E-07 -
8.1840E-08 6.7920E-07 -4.2260E-07
  10   5.6630E-09 7.0440E-08 -4.2060E-08 1.0960E-08 7.3670E-08 -4.2040E-08
2.8040E-09 8.6220E-08 -6.6940E-08 1.3870E-07 -4.5290E-07 2.9740E-07 -
6.8010E-09 3.7160E-08 -9.4600E-09 2.0700E-08 5.7280E-08 -1.3350E-08 -
1.9340E-08 7.4890E-08 -7.2640E-08 -2.7560E-08 5.3230E-08 -5.0860E-08
3.0880E-08 -1.1650E-07 7.5610E-08
  11   4.6280E-08 -7.9570E-07 4.8330E-07 3.2900E-08 -8.2310E-07 4.9470E-07
5.5270E-08 -8.4840E-07 5.5830E-07 -4.5290E-07 5.4390E-06 -3.2970E-06
7.4900E-08 -6.4700E-07 3.5830E-07 6.0560E-09 -7.9080E-07 4.2220E-07
1.1010E-07 -7.5260E-07 5.3210E-07 1.2750E-07 -6.5640E-07 4.4870E-07 -
3.3680E-08 2.4780E-07 -1.6420E-07
  12 -1.0510E-08 5.2860E-07 -3.3220E-07 1.2750E-08 5.6810E-07 -3.4740E-07
-2.5400E-08 6.1400E-07 -4.5680E-07 2.9740E-07 -3.2970E-06 2.3240E-06 -
6.0680E-08 2.9120E-07 -1.2880E-07 5.8490E-08 5.0860E-07 -2.2210E-07 -
1.2050E-07 4.6970E-07 -4.2350E-07 -1.5150E-07 3.1670E-07 -2.8810E-07
6.9450E-08 -5.2570E-07 3.5930E-07
  13 -7.0050E-09 5.3500E-08 -3.3910E-08 -1.0650E-08 4.1880E-08 -2.8200E-08
-5.0450E-09 4.6230E-08 -1.7370E-08 -6.8010E-09 7.4900E-08 -6.0680E-08
1.5050E-07 -4.7170E-07 2.8380E-07 -1.7710E-08 3.8530E-08 -4.1420E-08
8.6090E-09 9.3370E-08 -3.8380E-08 1.3080E-08 1.2340E-07 -6.3960E-08
5.3270E-10 1.1380E-07 -7.0670E-08
  14   3.6220E-08 -8.2000E-07 4.9970E-07 6.5770E-09 -8.7470E-07 5.2160E-07
5.3990E-08 -9.1470E-07 6.5020E-07 3.7160E-08 -6.4700E-07 2.9120E-07 -
4.7170E-07 5.4330E-06 -3.3570E-06 -5.0850E-08 -8.1890E-07 3.7290E-07
1.7390E-07 -7.1170E-07 5.9560E-07 2.1440E-07 -5.2110E-07 4.2590E-07 -
7.5810E-08 6.7200E-07 -4.2790E-07
  15 -9.3260E-09 5.3710E-07 -3.3920E-07 2.0150E-08 5.8700E-07 -3.5840E-07
-2.7560E-08 6.3840E-07 -4.9250E-07 -9.4600E-09 3.5830E-07 -1.2880E-07
2.8380E-07 -3.3570E-06 2.3760E-06 7.7570E-08 5.1870E-07 -2.0410E-07 -
1.4750E-07 4.5310E-07 -4.4830E-07 -1.8740E-07 2.6400E-07 -2.7990E-07
8.2910E-08 -6.8880E-07 4.5940E-07
  16   2.2400E-08 9.3450E-08 -5.3500E-08 3.9870E-08 1.1690E-07 -6.1250E-08
1.2980E-08 1.4060E-07 -1.3480E-07 2.0700E-08 6.0560E-09 5.8490E-08 -
1.7710E-08 -5.0850E-08 7.7570E-08 1.8830E-07 -3.1360E-07 2.6660E-07 -

5.7950E-08 4.9600E-08 -1.1960E-07 -8.3450E-08 -4.2480E-08 -3.3340E-08
7.1680E-08 -4.3020E-07 2.7450E-07
  17   5.9700E-08 -7.6610E-07 4.6530E-07 6.8280E-08 -7.5680E-07 4.6250E-07
5.6790E-08 -7.6200E-07 4.3820E-07 5.7280E-08 -7.9080E-07 5.0860E-07
3.8530E-08 -8.1890E-07 5.1870E-07 -3.1360E-07 5.6730E-06 -3.3260E-06
2.3590E-08 -8.1080E-07 4.5000E-07 9.9090E-09 -8.4240E-07 4.8350E-07
2.3050E-08 -3.2840E-07 1.9590E-07
  18 -1.4700E-08 5.1560E-07 -3.2360E-07 -1.7800E-09 5.3770E-07 -3.3200E-07
-2.4010E-08 5.7420E-07 -4.0010E-07 -1.3350E-08 4.2220E-07 -2.2210E-07 -
4.1420E-08 3.7290E-07 -2.0410E-07 2.6660E-07 -3.3260E-06 2.2960E-06 -
7.7650E-08 4.9820E-07 -3.8490E-07 -9.4080E-08 4.0520E-07 -3.0440E-07
4.4840E-08 -2.5330E-07 1.8970E-07
  19 -2.0300E-08 3.9840E-08 -3.1860E-08 -3.3270E-08 1.2730E-08 -2.0220E-08
-1.3230E-08 7.8790E-09 2.8400E-08 -1.9340E-08 1.1010E-07 -1.2050E-07
8.6090E-09 1.7390E-07 -1.4750E-07 -5.7950E-08 2.3590E-08 -7.7650E-08
2.0480E-07 -5.6830E-07 4.5290E-07 5.5500E-08 2.0040E-07 -8.3740E-08 -
3.1150E-08 3.5740E-07 -2.2920E-07
  20   7.5290E-08 -8.1140E-07 5.3580E-07 6.6820E-08 -8.3100E-07 5.4440E-07
8.1160E-08 -8.4680E-07 5.8480E-07 7.4890E-08 -7.5260E-07 4.6970E-07
9.3370E-08 -7.1170E-07 4.5310E-07 4.9600E-08 -8.1080E-07 4.9820E-07 -
5.6830E-07 5.6050E-06 -3.5960E-06 1.2680E-07 -7.1580E-07 5.0950E-07
4.5750E-09 1.0200E-07 -3.0610E-08
  21 -7.6110E-08 4.7420E-07 -3.3440E-07 -9.1800E-08 4.4920E-07 -3.2490E-07
-6.9610E-08 4.5560E-07 -2.7600E-07 -7.2640E-08 5.3210E-07 -4.2350E-07 -
3.8380E-08 5.9560E-07 -4.4830E-07 -1.1960E-07 4.5000E-07 -3.8490E-07
4.5290E-07 -3.5960E-06 2.6980E-06 1.5460E-08 6.3950E-07 -3.8060E-07 -
7.2940E-08 4.9470E-07 -3.1420E-07
  22 -2.9060E-08 2.7480E-08 -2.4850E-08 -4.7860E-08 -9.2840E-09 -9.4960E-09
-1.8880E-08 -1.9320E-08 6.2240E-08 -2.7560E-08 1.2750E-07 -1.5150E-07
1.3080E-08 2.1440E-07 -1.8740E-07 -8.3450E-08 9.9090E-09 -9.4080E-08
5.5500E-08 1.2680E-07 1.5460E-08 2.6310E-07 -4.7710E-07 3.8930E-07 -
5.1440E-08 5.0630E-07 -3.2300E-07
  23   5.1700E-08 -8.3940E-07 5.4000E-07 1.9500E-08 -8.9870E-07 5.6370E-07
7.0540E-08 -9.3770E-07 7.0020E-07 5.3230E-08 -6.5640E-07 3.1670E-07
1.2340E-07 -5.2110E-07 2.6400E-07 -4.2480E-08 -8.4240E-07 4.0520E-07
2.0040E-07 -7.1580E-07 6.3950E-07 -4.7710E-07 5.5370E-06 -3.4300E-06 -
6.5690E-08 7.2680E-07 -4.3400E-07
  24 -5.2530E-08 5.0420E-07 -3.4270E-07 -4.6490E-08 5.1530E-07 -3.4710E-07
-5.7870E-08 5.4270E-07 -3.8580E-07 -5.0860E-08 4.4870E-07 -2.8810E-07 -
6.3960E-08 4.2590E-07 -2.7990E-07 -3.3340E-08 4.8350E-07 -3.0440E-07 -
8.3740E-08 5.0950E-07 -3.8060E-07 3.8930E-07 -3.4300E-06 2.4540E-06 -
6.4780E-09 -7.5090E-08 5.2010E-08
  25   3.3570E-08 2.4780E-08 -1.2540E-08 4.6060E-08 5.1360E-08 -2.3310E-08
2.4910E-08 7.1320E-08 -8.1840E-08 3.0880E-08 -3.3680E-08 6.9450E-08
5.3270E-10 -7.5810E-08 8.2910E-08 7.1680E-08 2.3050E-08 4.4840E-08 -
3.1150E-08 4.5750E-09 -7.2940E-08 -5.1440E-08 -6.5690E-08 -6.4780E-09
1.3350E-06 -5.4600E-06 3.4990E-06
  26 -1.3380E-07 -2.0800E-07 1.1950E-07 -2.3050E-07 -4.9060E-07 2.4910E-07
-6.6680E-08 -5.9650E-07 6.7920E-07 -1.1650E-07 2.4780E-07 -5.2570E-07
1.1380E-07 6.7200E-07 -6.8880E-07 -4.3020E-07 -3.2840E-07 -2.5330E-07
3.5740E-07 1.0200E-07 4.9470E-07 5.0630E-07 7.2680E-07 -7.5090E-08 -
5.4600E-06 6.5310E-05 -4.0710E-05
  27   8.4750E-08 1.4450E-07 -5.9080E-08 1.4670E-07 3.1640E-07 -1.3940E-07
4.1380E-08 3.9990E-07 -4.2260E-07 7.5610E-08 -1.6420E-07 3.5930E-07 -

7.0670E-08 -4.2790E-07 4.5940E-07 2.7450E-07 1.9590E-07 1.8970E-07 -
2.2920E-07 -3.0610E-08 -3.1420E-07 -3.2300E-07 -4.3400E-07 5.2010E-08
3.4990E-06 -4.0710E-05 2.8060E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000013350	-0.0000054600	0.0000034990
-0.0000054600	0.0000653100	-0.0000407100
0.0000034990	-0.0000407100	0.0000280600

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000013382	0.0000003225	0.0000064991
0.0000003225	0.0000021454	0.0000045190
0.0000064991	0.0000045190	0.0000912214

Horizontal network accuracy = 0.00327 meters.
Vertical network accuracy = 0.01873 meters.

		Vectors		
To	From	X	Y	Z
nola	qcfv	-9990.733	-2424.517	-4172.523
lwes	qcfv	-32132.904	-4200.612	-7447.998
covg	qcfv	-7560.863	27776.981	47707.063
gris	qcfv	5762.998	-39041.632	-68643.128
bvhs	qcfv	59263.451	-34879.143	-61752.594
lmcn	qcfv	-62662.687	-39244.557	-69662.824
mspk	qcfv	83614.779	45482.251	76646.481
msga	qcfv	131805.789	24744.027	39931.115

Covariance matrix of the 8 vectors
1 1.4059E-06 -5.7858E-06 3.7061E-06 1.2674E-06 -5.3012E-06 3.3926E-06
1.2798E-06 -5.3084E-06 3.4250E-06 1.2762E-06 -5.2462E-06 3.3343E-06
1.2939E-06 -5.2142E-06 3.3220E-06 1.2521E-06 -5.2896E-06 3.3547E-06
1.3123E-06 -5.2555E-06 3.4111E-06 1.3238E-06 -5.2088E-06 3.3682E-06
2 -5.7858E-06 7.1419E-05 -4.4486E-05 -5.1739E-06 6.5243E-05 -4.0616E-05
-5.3482E-06 6.5345E-05 -4.1069E-05 -5.2978E-06 6.4475E-05 -3.9800E-05 -
5.5451E-06 6.4026E-05 -3.9629E-05 -4.9611E-06 6.5080E-05 -4.0086E-05 -
5.8023E-06 6.4605E-05 -4.0875E-05 -5.9636E-06 6.3952E-05 -4.0275E-05
3 3.7061E-06 -4.4486E-05 3.0618E-05 3.3164E-06 -4.0662E-05 2.7937E-05
3.4253E-06 -4.0726E-05 2.8220E-05 3.3939E-06 -4.0182E-05 2.7428E-05
3.5483E-06 -3.9902E-05 2.7320E-05 3.1835E-06 -4.0560E-05 2.7606E-05
3.7089E-06 -4.0263E-05 2.8099E-05 3.8097E-06 -3.9856E-05 2.7724E-05
4 1.2674E-06 -5.1739E-06 3.3164E-06 1.3901E-06 -5.6629E-06 3.6252E-06
1.2708E-06 -5.1934E-06 3.3403E-06 1.2690E-06 -5.1629E-06 3.2956E-06
1.2778E-06 -5.1471E-06 3.2895E-06 1.2571E-06 -5.1843E-06 3.3057E-06
1.2868E-06 -5.1673E-06 3.3334E-06 1.2925E-06 -5.1443E-06 3.3123E-06
5 -5.3012E-06 6.5243E-05 -4.0662E-05 -5.6629E-06 7.2110E-05 -4.4846E-05
-5.3746E-06 6.5653E-05 -4.1278E-05 -5.3212E-06 6.4730E-05 -3.9933E-05 -
5.5833E-06 6.4254E-05 -3.9751E-05 -4.9643E-06 6.5372E-05 -4.0235E-05 -
5.8560E-06 6.4868E-05 -4.1072E-05 -6.0269E-06 6.4175E-05 -4.0436E-05
6 3.3926E-06 -4.0616E-05 2.7937E-05 3.6252E-06 -4.4846E-05 3.0803E-05
3.4372E-06 -4.0864E-05 2.8314E-05 3.4047E-06 -4.0300E-05 2.7493E-05
3.5648E-06 -4.0010E-05 2.7382E-05 3.1866E-06 -4.0693E-05 2.7678E-05
3.7313E-06 -4.0384E-05 2.8189E-05 3.8358E-06 -3.9961E-05 2.7800E-05

7 1.2798E-06 -5.3482E-06 3.4253E-06 1.2708E-06 -5.3746E-06 3.4372E-06
1.4215E-06 -5.9224E-06 3.8327E-06 1.2820E-06 -5.3044E-06 3.3628E-06
1.3045E-06 -5.2635E-06 3.3471E-06 1.2514E-06 -5.3596E-06 3.3888E-06
1.3280E-06 -5.3167E-06 3.4609E-06 1.3426E-06 -5.2571E-06 3.4062E-06
8 -5.3084E-06 6.5345E-05 -4.0726E-05 -5.1934E-06 6.5653E-05 -4.0864E-05
-5.9224E-06 7.2451E-05 -4.5613E-05 -5.3286E-06 6.4810E-05 -3.9970E-05 -
5.5989E-06 6.4320E-05 -3.9783E-05 -4.9605E-06 6.5473E-05 -4.0282E-05 -
5.8808E-06 6.4958E-05 -4.1149E-05 -6.0569E-06 6.4242E-05 -4.0492E-05
9 3.4250E-06 -4.1069E-05 2.8220E-05 3.3403E-06 -4.1278E-05 2.8314E-05
3.8327E-06 -4.5613E-05 3.1671E-05 3.4383E-06 -4.0667E-05 2.7667E-05
3.6341E-06 -4.0311E-05 2.7531E-05 3.1715E-06 -4.1147E-05 2.7893E-05
3.8384E-06 -4.0774E-05 2.8521E-05 3.9661E-06 -4.0255E-05 2.8045E-05
10 1.2762E-06 -5.2978E-06 3.3939E-06 1.2690E-06 -5.3212E-06 3.4047E-06
1.2820E-06 -5.3286E-06 3.4383E-06 1.4119E-06 -5.7627E-06 3.6513E-06
1.2968E-06 -5.2305E-06 3.3310E-06 1.2531E-06 -5.3093E-06 3.3652E-06
1.3159E-06 -5.2732E-06 3.4237E-06 1.3280E-06 -5.2246E-06 3.3790E-06
11 -5.2462E-06 6.4475E-05 -4.0182E-05 -5.1629E-06 6.4730E-05 -4.0300E-05
-5.3044E-06 6.4810E-05 -4.0667E-05 -5.7627E-06 7.0253E-05 -4.3317E-05 -
5.4652E-06 6.3743E-05 -3.9499E-05 -4.9901E-06 6.4600E-05 -3.9870E-05 -
5.6736E-06 6.4208E-05 -4.0508E-05 -5.8051E-06 6.3679E-05 -4.0022E-05
12 3.3343E-06 -3.9800E-05 2.7428E-05 3.2956E-06 -3.9933E-05 2.7493E-05
3.3628E-06 -3.9970E-05 2.7667E-05 3.6513E-06 -4.3317E-05 2.9665E-05
3.4395E-06 -3.9465E-05 2.7112E-05 3.2135E-06 -3.9872E-05 2.7289E-05
3.5382E-06 -3.9684E-05 2.7591E-05 3.6011E-06 -3.9434E-05 2.7361E-05
13 1.2939E-06 -5.5451E-06 3.5483E-06 1.2778E-06 -5.5833E-06 3.5648E-06
1.3045E-06 -5.5989E-06 3.6341E-06 1.2968E-06 -5.4652E-06 3.4395E-06
1.4844E-06 -5.9697E-06 3.7706E-06 1.2451E-06 -5.5583E-06 3.4834E-06
1.3742E-06 -5.4850E-06 3.6042E-06 1.3990E-06 -5.3847E-06 3.5122E-06
14 -5.2142E-06 6.4026E-05 -3.9902E-05 -5.1471E-06 6.4254E-05 -4.0010E-05
-5.2635E-06 6.4320E-05 -4.0311E-05 -5.2305E-06 6.3743E-05 -3.9465E-05 -
5.9697E-06 6.9399E-05 -4.2950E-05 -5.0048E-06 6.4148E-05 -3.9656E-05 -
5.5677E-06 6.3824E-05 -4.0181E-05 -5.6761E-06 6.3390E-05 -3.9781E-05
15 3.3220E-06 -3.9629E-05 2.7320E-05 3.2895E-06 -3.9751E-05 2.7382E-05
3.3471E-06 -3.9783E-05 2.7531E-05 3.3310E-06 -3.9499E-05 2.7112E-05
3.7706E-06 -4.2950E-05 2.9517E-05 3.2192E-06 -3.9698E-05 2.7207E-05
3.4978E-06 -3.9537E-05 2.7466E-05 3.5517E-06 -3.9323E-05 2.7269E-05
16 1.2521E-06 -4.9611E-06 3.1835E-06 1.2571E-06 -4.9643E-06 3.1866E-06
1.2514E-06 -4.9605E-06 3.1715E-06 1.2531E-06 -4.9901E-06 3.2135E-06
1.2451E-06 -5.0048E-06 3.2192E-06 1.3799E-06 -5.3665E-06 3.4463E-06
1.2365E-06 -4.9848E-06 3.1778E-06 1.2313E-06 -5.0066E-06 3.1976E-06
17 -5.2896E-06 6.5080E-05 -4.0560E-05 -5.1843E-06 6.5372E-05 -4.0693E-05
-5.3596E-06 6.5473E-05 -4.1147E-05 -5.3093E-06 6.4600E-05 -3.9872E-05 -
5.5583E-06 6.4148E-05 -3.9698E-05 -5.3665E-06 7.1640E-05 -4.3979E-05 -
5.8169E-06 6.4726E-05 -4.0951E-05 -5.9794E-06 6.4069E-05 -4.0347E-05
18 3.3547E-06 -4.0086E-05 2.7606E-05 3.3057E-06 -4.0235E-05 2.7678E-05
3.3888E-06 -4.0282E-05 2.7893E-05 3.3652E-06 -3.9870E-05 2.7289E-05
3.4834E-06 -3.9656E-05 2.7207E-05 3.4463E-06 -4.3979E-05 2.9977E-05
3.6057E-06 -3.9928E-05 2.7800E-05 3.6831E-06 -3.9618E-05 2.7514E-05
19 1.3123E-06 -5.8023E-06 3.7089E-06 1.2868E-06 -5.8560E-06 3.7313E-06
1.3280E-06 -5.8808E-06 3.8384E-06 1.3159E-06 -5.6736E-06 3.5382E-06
1.3742E-06 -5.5677E-06 3.4978E-06 1.2365E-06 -5.8169E-06 3.6057E-06
1.6021E-06 -6.3903E-06 4.2540E-06 1.4731E-06 -5.5513E-06 3.6509E-06
20 -5.2555E-06 6.4605E-05 -4.0263E-05 -5.1673E-06 6.4868E-05 -4.0384E-05
-5.3167E-06 6.4958E-05 -4.0774E-05 -5.2732E-06 6.4208E-05 -3.9684E-05 -

5.4850E-06 6.3824E-05 -3.9537E-05 -4.9848E-06 6.4726E-05 -3.9928E-05 -
6.3903E-06 7.0711E-05 -4.4770E-05 -5.8441E-06 6.3765E-05 -4.0095E-05
  21   3.4111E-06 -4.0875E-05 2.8099E-05 3.3334E-06 -4.1072E-05 2.8189E-05
3.4609E-06 -4.1149E-05 2.8521E-05 3.4237E-06 -4.0508E-05 2.7591E-05
3.6042E-06 -4.0181E-05 2.7466E-05 3.1778E-06 -4.0951E-05 2.7800E-05
4.2540E-06 -4.4770E-05 3.1386E-05 3.9104E-06 -4.0131E-05 2.7942E-05
  22   1.3238E-06 -5.9636E-06 3.8097E-06 1.2925E-06 -6.0269E-06 3.8358E-06
1.3426E-06 -6.0569E-06 3.9661E-06 1.3280E-06 -5.8051E-06 3.6011E-06
1.3990E-06 -5.6761E-06 3.5517E-06 1.2313E-06 -5.9794E-06 3.6831E-06
1.4731E-06 -5.8441E-06 3.9104E-06 1.7010E-06 -6.3777E-06 4.2178E-06
  23 -5.2088E-06 6.3952E-05 -3.9855E-05 -5.1443E-06 6.4175E-05 -3.9961E-05
-5.2571E-06 6.4242E-05 -4.0255E-05 -5.2246E-06 6.3679E-05 -3.9434E-05 -
5.3847E-06 6.3390E-05 -3.9323E-05 -5.0066E-06 6.4069E-05 -3.9618E-05 -
5.5513E-06 6.3765E-05 -4.0131E-05 -6.3777E-06 6.9393E-05 -4.3631E-05
  24   3.3682E-06 -4.0275E-05 2.7724E-05 3.3123E-06 -4.0436E-05 2.7800E-05
3.4062E-06 -4.0492E-05 2.8045E-05 3.3790E-06 -4.0022E-05 2.7361E-05
3.5122E-06 -3.9781E-05 2.7269E-05 3.1976E-06 -4.0347E-05 2.7514E-05
3.6509E-06 -4.0095E-05 2.7942E-05 4.2178E-06 -4.3631E-05 3.0410E-05

Correlation matrix of the 8 vectors
   1   1.0000E+00 -5.7741E-01 5.6488E-01 9.0659E-01 -5.2650E-01 5.1555E-01
9.0533E-01 -5.2599E-01 5.1328E-01 9.0582E-01 -5.2789E-01 5.1631E-01
8.9567E-01 -5.2788E-01 5.1569E-01 8.9899E-01 -5.2707E-01 5.1676E-01
8.7440E-01 -5.2711E-01 5.1351E-01 8.5606E-01 -5.2736E-01 5.1513E-01
   2 -5.7741E-01 1.0000E+00 -9.5132E-01 -5.1927E-01 9.0914E-01 -8.6596E-01
-5.3080E-01 9.0841E-01 -8.6352E-01 -5.2757E-01 9.1022E-01 -8.6468E-01 -
5.3854E-01 9.0944E-01 -8.6311E-01 -4.9974E-01 9.0984E-01 -8.6634E-01 -
5.4244E-01 9.0910E-01 -8.6334E-01 -5.4107E-01 9.0842E-01 -8.6422E-01
   3   5.6488E-01 -9.5132E-01 1.0000E+00 5.0835E-01 -8.6536E-01 9.0970E-01
5.1920E-01 -8.6468E-01 9.0622E-01 5.1618E-01 -8.6638E-01 9.1007E-01
5.2632E-01 -8.6562E-01 9.0879E-01 4.8977E-01 -8.6603E-01 9.1121E-01
5.2955E-01 -8.6531E-01 9.0642E-01 5.2790E-01 -8.6465E-01 9.0858E-01
   4   9.0659E-01 -5.1927E-01 5.0835E-01 1.0000E+00 -5.6561E-01 5.5401E-01
9.0403E-01 -5.1750E-01 5.0342E-01 9.0582E-01 -5.2245E-01 5.1320E-01
8.8950E-01 -5.2404E-01 5.1354E-01 9.0767E-01 -5.1951E-01 5.1209E-01
8.6229E-01 -5.2119E-01 5.0466E-01 8.4056E-01 -5.2378E-01 5.0945E-01
   5 -5.2650E-01 9.0914E-01 -8.6536E-01 -5.6561E-01 1.0000E+00 -9.5154E-01
-5.3086E-01 9.0831E-01 -8.6374E-01 -5.2735E-01 9.0943E-01 -8.6338E-01 -
5.3965E-01 9.0829E-01 -8.6160E-01 -4.9765E-01 9.0953E-01 -8.6540E-01 -
5.4483E-01 9.0842E-01 -8.6333E-01 -5.4419E-01 9.0721E-01 -8.6350E-01
   6   5.1555E-01 -8.6596E-01 9.0970E-01 5.5401E-01 -9.5154E-01 1.0000E+00
5.1945E-01 -8.6501E-01 9.0652E-01 5.1626E-01 -8.6632E-01 9.0949E-01
5.2718E-01 -8.6535E-01 9.0808E-01 4.8876E-01 -8.6625E-01 9.1084E-01
5.3115E-01 -8.6531E-01 9.0659E-01 5.2992E-01 -8.6434E-01 9.0834E-01
   7   9.0533E-01 -5.3080E-01 5.1920E-01 9.0403E-01 -5.3086E-01 5.1945E-01
1.0000E+00 -5.8359E-01 5.7121E-01 9.0493E-01 -5.3080E-01 5.1785E-01
8.9804E-01 -5.2994E-01 5.1673E-01 8.9350E-01 -5.3111E-01 5.1914E-01
8.8001E-01 -5.3031E-01 5.1815E-01 8.6346E-01 -5.2932E-01 5.1808E-01
   8 -5.2599E-01 9.0841E-01 -8.6468E-01 -5.1750E-01 9.0831E-01 -8.6501E-01
-5.8359E-01 1.0000E+00 -9.5222E-01 -5.2684E-01 9.0842E-01 -8.6216E-01 -
5.3988E-01 9.0708E-01 -8.6027E-01 -4.9611E-01 9.0879E-01 -8.6437E-01 -
5.4585E-01 9.0754E-01 -8.6291E-01 -5.4561E-01 9.0602E-01 -8.6266E-01
   9   5.1328E-01 -8.6352E-01 9.0622E-01 5.0342E-01 -8.6374E-01 9.0652E-01
5.7121E-01 -9.5222E-01 1.0000E+00 5.1416E-01 -8.6213E-01 9.0260E-01

5.3002E-01 -8.5984E-01 9.0042E-01 4.7974E-01 -8.6383E-01 9.0525E-01
5.3886E-01 -8.6160E-01 9.0460E-01 5.4036E-01 -8.5867E-01 9.0367E-01
  10 9.0582E-01 -5.2757E-01 5.1618E-01 9.0582E-01 -5.2735E-01 5.1626E-01
9.0493E-01 -5.2684E-01 5.1416E-01 1.0000E+00 -5.7861E-01 5.6418E-01
8.9574E-01 -5.2840E-01 5.1598E-01 8.9776E-01 -5.2790E-01 5.1726E-01
8.7494E-01 -5.2774E-01 5.1430E-01 8.5692E-01 -5.2782E-01 5.1567E-01
  11 -5.2789E-01 9.1022E-01 -8.6638E-01 -5.2245E-01 9.0943E-01 -8.6632E-01
-5.3080E-01 9.0842E-01 -8.6213E-01 -5.7861E-01 1.0000E+00 -9.4886E-01 -
5.3517E-01 9.1290E-01 -8.6738E-01 -5.0681E-01 9.1058E-01 -8.6881E-01 -
5.3479E-01 9.1098E-01 -8.6266E-01 -5.3104E-01 9.1202E-01 -8.6588E-01
  12 5.1631E-01 -8.6468E-01 9.1007E-01 5.1320E-01 -8.6338E-01 9.0949E-01
5.1785E-01 -8.6216E-01 9.0260E-01 5.6418E-01 -9.4886E-01 1.0000E+00
5.1832E-01 -8.6979E-01 9.1624E-01 5.0226E-01 -8.6489E-01 9.1510E-01
5.1324E-01 -8.6646E-01 9.0423E-01 5.0694E-01 -8.6912E-01 9.1095E-01
  13 8.9567E-01 -5.3854E-01 5.2632E-01 8.8950E-01 -5.3965E-01 5.2718E-01
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1.0000E+00 -5.8816E-01 5.6962E-01 8.6993E-01 -5.3900E-01 5.2220E-01
8.9111E-01 -5.3537E-01 5.2803E-01 8.8041E-01 -5.3055E-01 5.2274E-01
  14 -5.2788E-01 9.0944E-01 -8.6562E-01 -5.2404E-01 9.0829E-01 -8.6535E-01
-5.2994E-01 9.0708E-01 -8.5984E-01 -5.2840E-01 9.1290E-01 -8.6979E-01 -
5.8816E-01 1.0000E+00 -9.4897E-01 -5.1143E-01 9.0976E-01 -8.6944E-01 -
5.2802E-01 9.1110E-01 -8.6095E-01 -5.2242E-01 9.1345E-01 -8.6595E-01
  15 5.1569E-01 -8.6311E-01 9.0879E-01 5.1354E-01 -8.6160E-01 9.0808E-01
5.1673E-01 -8.6027E-01 9.0042E-01 5.1598E-01 -8.6738E-01 9.1624E-01
5.6962E-01 -9.4897E-01 1.0000E+00 5.0440E-01 -8.6329E-01 9.1464E-01
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  16 8.9899E-01 -4.9974E-01 4.8977E-01 9.0767E-01 -4.9765E-01 4.8876E-01
8.9350E-01 -4.9611E-01 4.7974E-01 8.9776E-01 -5.0681E-01 5.0226E-01
8.6993E-01 -5.1143E-01 5.0440E-01 1.0000E+00 -5.3973E-01 5.3583E-01
8.3162E-01 -5.0463E-01 4.8287E-01 8.0369E-01 -5.1163E-01 4.9362E-01
  17 -5.2707E-01 9.0984E-01 -8.6603E-01 -5.1951E-01 9.0953E-01 -8.6625E-01
-5.3111E-01 9.0879E-01 -8.6383E-01 -5.2790E-01 9.1058E-01 -8.6489E-01 -
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5.2220E-01 -8.6944E-01 9.1464E-01 5.3583E-01 -9.4901E-01 1.0000E+00
5.2030E-01 -8.6724E-01 9.0631E-01 5.1579E-01 -8.6863E-01 9.1128E-01
  19 8.7440E-01 -5.4244E-01 5.2955E-01 8.6229E-01 -5.4483E-01 5.3115E-01
8.8001E-01 -5.4585E-01 5.3886E-01 8.7494E-01 -5.3479E-01 5.1324E-01
8.9111E-01 -5.2802E-01 5.0864E-01 8.3162E-01 -5.4296E-01 5.2030E-01
1.0000E+00 -6.0039E-01 5.9991E-01 8.9235E-01 -5.2649E-01 5.2306E-01
  20 -5.2711E-01 9.0910E-01 -8.6531E-01 -5.2119E-01 9.0842E-01 -8.6531E-01
-5.3031E-01 9.0754E-01 -8.6160E-01 -5.2774E-01 9.1098E-01 -8.6646E-01 -
5.3537E-01 9.1110E-01 -8.6542E-01 -5.0463E-01 9.0940E-01 -8.6724E-01 -
6.0039E-01 1.0000E+00 -9.5033E-01 -5.3287E-01 9.1030E-01 -8.6464E-01
  21 5.1351E-01 -8.6334E-01 9.0642E-01 5.0466E-01 -8.6333E-01 9.0659E-01
5.1815E-01 -8.6291E-01 9.0460E-01 5.1430E-01 -8.6266E-01 9.0423E-01
5.2803E-01 -8.6095E-01 9.0239E-01 4.8287E-01 -8.6360E-01 9.0631E-01
5.9991E-01 -9.5033E-01 1.0000E+00 5.3518E-01 -8.5991E-01 9.0442E-01
  22 8.5606E-01 -5.4107E-01 5.2790E-01 8.4056E-01 -5.4419E-01 5.2992E-01
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8.9235E-01 -5.3287E-01 5.3518E-01 1.0000E+00 -5.8702E-01 5.8644E-01

23 -5.2736E-01 9.0842E-01 -8.6465E-01 -5.2378E-01 9.0721E-01 -8.6434E-01
-5.2932E-01 9.0602E-01 -8.5867E-01 -5.2782E-01 9.1202E-01 -8.6912E-01 -
5.3055E-01 9.1345E-01 -8.6886E-01 -5.1163E-01 9.0868E-01 -8.6863E-01 -
5.2649E-01 9.1030E-01 -8.5991E-01 -5.8702E-01 1.0000E+00 -9.4979E-01
24 5.1513E-01 -8.6422E-01 9.0858E-01 5.0945E-01 -8.6350E-01 9.0834E-01
5.1808E-01 -8.6266E-01 9.0367E-01 5.1567E-01 -8.6588E-01 9.1095E-01
5.2274E-01 -8.6595E-01 9.1016E-01 4.9362E-01 -8.6443E-01 9.1128E-01
5.2306E-01 -8.6464E-01 9.0442E-01 5.8644E-01 -9.4979E-01 1.0000E+00

G-FILE for the vectors

Axx2012 3 82012 3 8
B20120308160020120308170 0 8 rsgps 1.37IGS
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C00090002 -321329038 11 -42006118 84 -74479980 55
C00090003 -75608625 11 277769813 85 477070627 56
C00090004 57629979 11 -390416315 83 -686431278 54
C00090005 592634508 12 -348791428 83 -617525938 54
C00090006 -626626869 11 -392445565 84 -696628243 54
C00090007 836147786 12 454822509 84 766464810 56
C00090008 1318057886 13 247440272 83 399311147 55
D 1 2 -5774095 1 3 5648789 1 4 9065932 1 5 -5265038 1 6 5155479 D
1 7 9053333 1 8 -5259853 1 9 5132774 1 10 9058243 1 11 -5278900 D 1
12 5163060 1 13 8956669 1 14 -5278828 1 15 5156949 1 16 8989907 D 1
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22 8560616 1 23 -5273614 1 24 5151319 2 3 -9513206 2 4 -5192716 D 2
5 9091356 2 6 -8659568 2 7 -5307973 2 8 9084142 2 9 -8635188 D 2 10
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8631062 2 16 -4997394 2 17 9098409 2 18 -8663438 2 19 -5424397 D 2 20
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9162350 12 16 5022598 12 17 -8648909 12 18 9151024 12 19 5132377 D 12 20 -
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5881588 13 15 5696232 13 16 8699327 13 17 -5389963 13 18 5221951 D 13 19
8911132 13 20 -5353687 13 21 5280331 13 22 8804072 13 23 -5305455 D 13 24
5227441 14 15 -9489689 14 16 -5114268 14 17 9097581 14 18 -8694408 D 14 19 -
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8659488 15 16 5043997 15 17 -8632930 15 18 9146368 15 19 5086409 D 15 20 -
8654221 15 21 9023914 15 22 5012424 15 23 -8688647 15 24 9101618 D 16 17 -
5397340 16 18 5358296 16 19 8316225 16 20 -5046287 16 21 4828710 D 16 22
8036884 16 23 -5116262 16 24 4936181 17 18 -9490149 17 19 -5429584 D 17 20
9094009 17 21 -8635994 17 22 -5416687 17 23 9086843 17 24 -8644290 D 18 19
5203011 18 20 -8672447 18 21 9063096 18 22 5157869 18 23 -8686339 D 18 24
9112818 19 20 -6003869 19 21 5999098 19 22 8923492 19 23 -5264917 D 19 24
5230600 20 21 -9503284 20 22 -5328717 20 23 9102957 20 24 -8646423 D 21 22
5351811 21 23 -8599086 21 24 9044244 22 23 -5870243 22 24 5864433 D 23 24 -
9497889

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
nola	-1613.300	-5529452.329	3168243.443
lwes	-1613.314	-5529452.306	3168243.425
covg	-1613.300	-5529452.338	3168243.447
gris	-1613.308	-5529452.307	3168243.434
bvhs	-1613.308	-5529452.317	3168243.430
lmcn	-1613.305	-5529452.301	3168243.431
mspk	-1613.307	-5529452.300	3168243.418
msga	-1613.299	-5529452.318	3168243.435

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
nola	0.006	-0.010	0.008	0.006	0.002	0.012
lwes	-0.009	0.014	-0.011	-0.009	-0.002	-0.018
covg	0.006	-0.018	0.011	0.006	0.001	0.021
gris	-0.003	0.013	-0.002	-0.003	0.005	-0.012
bvhs	-0.002	0.003	-0.006	-0.002	-0.004	-0.005
lmcn	0.001	0.019	-0.004	0.001	0.005	-0.019
mspk	-0.001	0.020	-0.018	-0.001	-	

0.005 -0.026
msga 0.006 0.002 -0.001 0.006
0.000 -0.002

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 539871.257
Easting (X) [feet] 3697669.750
Convergence [degrees] 0.65832870
Point Scale 0.99992582
Combined Factor 0.99993016

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -1.610 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.391
scatter (mean square distance from rover) is 7996.688
average edop for rover is 0.640
average ndop for rover is 0.920
average hdop for rover is 1.121
average vdop for rover is 1.980
average gdop for rover is 2.620

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:15 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA39.O00 OP1335489023199

FILE: QCFVA39.O00 OP1335489023199

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068r.12o TIME: 01:15:02 UTC

SOFTWARE: rsgps 1.37 RS40.prl 1.73 START: 2012/03/08 17:30:37
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 17:50:37
NAV FILE: brdc0680.12n OBS USED: 1584 / 1971 : 80%
ANT NAME: LEIAT502 NONE QUALITY IND. 13.73/ 7.76
ARP HEIGHT: 1.540 NORMALIZED RMS: 0.322

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18507)

X:	2680.153(m) 0.004(m)	2679.421(m) 0.004(m)
Y:	-5526970.749(m) 0.030(m)	-5526969.258(m) 0.030(m)
Z:	3172541.950(m) 0.019(m)	3172541.742(m) 0.019(m)

LAT:	30 1 21.85009 0.004(m)	30 1 21.86848 0.004(m)
E LON:	270 1 40.02246 0.004(m)	270 1 39.99517 0.004(m)
W LON:	89 58 19.97754 0.004(m)	89 58 20.00483 0.004(m)
EL HGT:	-28.443(m) 0.035(m)	-29.839(m) 0.035(m)
ORTHO HGT:	-2.264(m) 0.037(m) [NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3325027.021	169566.324
Easting (X) [meters]	213337.356	1131286.375
Convergence [degrees]	-1.48814519	0.68057595
Point Scale	1.00061398	0.99992582
Combined Factor	1.00061845	0.99993028

US NATIONAL GRID DESIGNATOR: 16RBU1333725027(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	16177.2

DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 38852.0
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 83945.9
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 86909.2
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 93704.0
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 97838.8
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 108141.0
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 115651.1
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 134256.6

NEAREST NGS PUBLISHED CONTROL POINT
BH1821 H 375 N300141.858 W0895914.363 1582.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.596	-5534921.918	3158759.199
lwes	-33746.212	-5533652.922	3160795.427
gris	4149.692	-5568493.953	3099600.311
houm	-70100.644	-5550262.334	3131144.916
bvhs	57650.144	-5564331.472	3106490.850
awes	-94742.050	-5521868.765	3179990.023
lmcn	-64275.994	-5568696.877	3098580.614
mspk	82001.472	-5483970.046	3244889.898
msga	130192.486	-5504708.318	3208174.564
qcfv	2679.421	-5526969.258	3172541.742

Covariance matrix of the stations:
1 1.9970E-07 2.7870E-07 -2.0060E-07 -1.1520E-08 -4.6510E-08 3.2150E-08
-1.0950E-08 -3.4760E-08 2.4680E-08 -1.2700E-08 -5.6120E-08 3.7560E-08 -
9.9430E-09 -1.9170E-08 1.5580E-08 -1.3260E-08 -6.4490E-08 4.3130E-08 -
1.2680E-08 -5.3630E-08 3.5750E-08 -8.8580E-09 -9.7380E-09 1.0630E-08 -
8.7180E-09 5.6820E-09 1.1730E-09 1.4430E-08 1.1110E-08 -7.3980E-09
2 2.7870E-07 1.1710E-05 -7.2100E-06 -4.0500E-08 -1.4520E-06 9.0230E-07
-3.4960E-08 -1.4150E-06 8.7720E-07 -4.5200E-08 -1.4290E-06 8.8710E-07 -
2.7520E-08 -1.4260E-06 8.8320E-07 -4.9330E-08 -1.4600E-06 9.0840E-07 -
4.4010E-08 -1.4080E-06 8.7320E-07 -2.2310E-08 -1.5170E-06 9.4690E-07 -
1.4980E-08 -1.4970E-06 9.3150E-07 -1.1460E-08 -2.5770E-07 1.6540E-07
3 -2.0060E-07 -7.2100E-06 4.8770E-06 2.8090E-08 9.0290E-07 -5.9640E-07
2.5170E-08 8.7020E-07 -5.7640E-07 3.0360E-08 8.8470E-07 -5.8530E-07
2.1520E-08 8.7640E-07 -5.8010E-07 3.2780E-08 9.1210E-07 -6.0230E-07
2.9610E-08 8.6710E-07 -5.7470E-07 1.8470E-08 9.5830E-07 -6.3180E-07
1.4680E-08 9.3790E-07 -6.1850E-07 6.6450E-09 1.9170E-07 -9.8810E-08
4 -1.1520E-08 -4.0500E-08 2.8090E-08 2.1170E-07 3.6500E-07 -2.5310E-07
-1.1170E-08 -6.1010E-08 5.0660E-08 1.7900E-09 -8.2480E-08 5.7470E-08 -
2.1290E-08 -3.8020E-08 3.6250E-08 6.1670E-09 -7.7340E-08 4.5930E-08
6.3100E-10 -9.1050E-08 6.7980E-08 -2.7630E-08 1.1160E-08 -1.9330E-08 -
3.7540E-08 1.4180E-08 -1.3880E-08 1.9500E-09 -4.0950E-07 2.4320E-07
5 -4.6510E-08 -1.4520E-06 9.0290E-07 3.6500E-07 1.1720E-05 -7.2180E-06
-4.7070E-08 -1.4090E-06 8.6920E-07 -6.4350E-08 -1.4210E-06 8.8130E-07 -

3.4300E-08 -1.4240E-06 8.7840E-07 -7.0870E-08 -1.4590E-06 9.1090E-07 -
6.2570E-08 -1.3950E-06 8.6130E-07 -2.5590E-08 -1.5380E-06 9.6820E-07 -
1.3340E-08 -1.5120E-06 9.4600E-07 -1.3660E-08 -1.0170E-07 6.7880E-08
   6 3.2150E-08 9.0230E-07 -5.9640E-07 -2.5310E-07 -7.2180E-06 4.8840E-06
3.2370E-08 8.6810E-07 -5.7320E-07 4.0800E-08 8.8190E-07 -5.8310E-07
2.6270E-08 8.7670E-07 -5.7850E-07 4.4320E-08 9.1240E-07 -6.0390E-07
3.9780E-08 8.6170E-07 -5.6970E-07 2.1600E-08 9.6910E-07 -6.4250E-07
1.5550E-08 9.4630E-07 -6.2610E-07 9.6050E-09 1.1950E-07 -5.9120E-08
   7 -1.0950E-08 -3.4960E-08 2.5170E-08 -1.1170E-08 -4.7070E-08 3.2370E-08
2.0230E-07 2.8400E-07 -2.0310E-07 -1.1700E-08 -5.8100E-08 3.9100E-08 -
1.1240E-08 -2.0610E-08 1.7230E-08 -1.1830E-08 -6.5280E-08 4.3160E-08 -
1.1780E-08 -5.6580E-08 3.8370E-08 -1.0840E-08 -7.8170E-09 7.8820E-09 -
1.1580E-08 6.4650E-09 -2.4250E-10 1.1790E-08 -1.9790E-08 1.1860E-08
   8 -3.4760E-08 -1.4150E-06 8.7020E-07 -6.1010E-08 -1.4090E-06 8.6810E-07
2.8400E-07 1.1400E-05 -6.9630E-06 -8.4010E-08 -1.3420E-06 8.1360E-07 -
1.3810E-09 -1.3600E-06 8.0910E-07 -1.0060E-07 -1.4080E-06 8.7870E-07 -
7.9830E-08 -1.2920E-06 7.6820E-07 2.2450E-08 -1.5580E-06 1.0040E-06
5.5180E-08 -1.5060E-06 9.5120E-07 1.8510E-08 7.8710E-07 -4.7130E-07
   9 2.4680E-08 8.7720E-07 -5.7640E-07 5.0660E-08 8.6920E-07 -5.7320E-07
-2.0310E-07 -6.9630E-06 4.7120E-06 7.3510E-08 8.0270E-07 -5.1870E-07 -
8.2930E-09 8.1690E-07 -5.1210E-07 8.9930E-08 8.6900E-07 -5.8440E-07
6.9420E-08 7.5330E-07 -4.7290E-07 -3.2280E-08 1.0150E-06 -7.0940E-07 -
6.4540E-08 9.5970E-07 -6.5390E-07 -2.4170E-08 -1.0010E-06 6.1190E-07
  10 -1.2700E-08 -4.5200E-08 3.0360E-08 1.7900E-09 -6.4350E-08 4.0800E-08
-1.1700E-08 -8.4010E-08 7.3510E-08 2.3860E-07 4.0780E-07 -2.6910E-07 -
3.1790E-08 -5.4460E-08 5.4370E-08 2.3280E-08 -8.8290E-08 4.8000E-08
1.2260E-08 -1.2400E-07 9.6420E-08 -4.4800E-08 3.0200E-08 -4.6500E-08 -
6.3730E-08 2.2080E-08 -2.7690E-08 -8.2700E-09 -7.9040E-07 4.6910E-07
  11 -5.6120E-08 -1.4290E-06 8.8470E-07 -8.2480E-08 -1.4210E-06 8.8190E-07
-5.8100E-08 -1.3420E-06 8.0270E-07 4.0780E-07 1.1500E-05 -7.0550E-06 -
2.2520E-08 -1.3740E-06 8.2390E-07 -1.2220E-07 -1.4180E-06 8.9160E-07 -
1.0130E-07 -1.3030E-06 7.8080E-07 1.3510E-09 -1.5750E-06 1.0210E-06
3.4340E-08 -1.5240E-06 9.6860E-07 -2.0630E-09 7.9760E-07 -4.7090E-07
  12 3.7560E-08 8.8710E-07 -5.8530E-07 5.7470E-08 8.8130E-07 -5.8310E-07
3.9100E-08 8.1360E-07 -5.1870E-07 -2.6910E-07 -7.0550E-06 4.7730E-06
1.2310E-08 8.3710E-07 -5.3450E-07 8.7590E-08 8.8260E-07 -5.9220E-07
7.1640E-08 7.8530E-07 -5.0280E-07 -6.1380E-09 1.0070E-06 -6.9490E-07 -
3.0950E-08 9.6130E-07 -6.5080E-07 -4.0810E-09 -6.8580E-07 4.2160E-07
  13 -9.9430E-09 -2.7520E-08 2.1520E-08 -2.1290E-08 -3.4300E-08 2.6270E-08
-1.1240E-08 -1.3810E-09 -8.2930E-09 -3.1790E-08 -2.2520E-08 1.2310E-08
2.1230E-07 1.8240E-07 -1.5650E-07 -3.8690E-08 -4.8150E-08 3.9750E-08 -
3.0270E-08 -5.8880E-09 -5.2510E-09 1.4520E-08 -3.6860E-08 4.9270E-08
2.7520E-08 -5.6500E-09 2.0790E-08 2.6610E-08 5.6210E-07 -3.3330E-07
  14 -1.9170E-08 -1.4260E-06 8.7640E-07 -3.8020E-08 -1.4240E-06 8.7670E-07
-2.0610E-08 -1.3600E-06 8.1690E-07 -5.4460E-08 -1.3740E-06 8.3710E-07
1.8240E-07 1.1490E-05 -7.0110E-06 -6.6530E-08 -1.4280E-06 8.8640E-07 -
5.1380E-08 -1.3350E-06 8.0310E-07 2.1850E-08 -1.5390E-06 9.7730E-07
4.5290E-08 -1.4970E-06 9.3740E-07 2.4320E-08 3.7700E-07 -2.2740E-07
  15 1.5580E-08 8.8320E-07 -5.8010E-07 3.6250E-08 8.7840E-07 -5.7850E-07
1.7230E-08 8.0910E-07 -5.1210E-07 5.4370E-08 8.2390E-07 -5.3450E-07 -
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5.1060E-08 7.8200E-07 -4.9690E-07 -2.9740E-08 1.0010E-06 -6.8960E-07 -
5.5360E-08 9.5280E-07 -6.4360E-07 -2.6330E-08 -7.1050E-07 4.3930E-07
  16 -1.3260E-08 -4.9330E-08 3.2780E-08 6.1670E-09 -7.0870E-08 4.4320E-08

-1.1830E-08 -1.0060E-07 8.9930E-08 2.3280E-08 -1.2220E-07 8.7590E-08 -
3.8690E-08 -6.6530E-08 6.7540E-08 2.6250E-07 4.8760E-07 -3.3800E-07
2.0350E-08 -1.4750E-07 1.1670E-07 -5.6180E-08 4.2450E-08 -6.4200E-08 -
8.1230E-08 2.6810E-08 -3.6330E-08 -1.5020E-08 -1.0510E-06 6.2400E-07
  17 -6.4490E-08 -1.4600E-06 9.1210E-07 -7.7340E-08 -1.4590E-06 9.1240E-07
-6.5280E-08 -1.4080E-06 8.6900E-07 -8.8290E-08 -1.4180E-06 8.8260E-07 -
4.8150E-08 -1.4280E-06 8.8120E-07 4.8760E-07 1.1760E-05 -7.2720E-06 -
8.6030E-08 -1.3870E-06 8.5770E-07 -3.6600E-08 -1.5590E-06 9.9240E-07 -
2.0330E-08 -1.5290E-06 9.6480E-07 -2.7120E-08 7.0280E-08 -2.9740E-08
  18   4.3130E-08 9.0840E-07 -6.0230E-07 4.5930E-08 9.1090E-07 -6.0390E-07
4.3160E-08 8.7870E-07 -5.8440E-07 4.8000E-08 8.9160E-07 -5.9220E-07
3.9750E-08 8.8640E-07 -5.8890E-07 -3.3800E-07 -7.2720E-06 4.9350E-06
4.7260E-08 8.7400E-07 -5.8180E-07 3.6880E-08 9.7080E-07 -6.4160E-07
3.3230E-08 9.5150E-07 -6.2910E-07 2.2740E-08 2.1990E-07 -1.2110E-07
  19 -1.2680E-08 -4.4010E-08 2.9610E-08 6.3100E-10 -6.2570E-08 3.9780E-08
-1.1780E-08 -7.9830E-08 6.9420E-08 1.2260E-08 -1.0130E-07 7.1640E-08 -
3.0270E-08 -5.1380E-08 5.1060E-08 2.0350E-08 -8.6030E-08 4.7260E-08
2.3460E-07 3.7650E-07 -2.4050E-07 -4.2210E-08 2.7400E-08 -4.2420E-08 -
5.9680E-08 2.1060E-08 -2.5760E-08 -6.7660E-09 -7.2780E-07 4.3190E-07
  20 -5.3630E-08 -1.4080E-06 8.6710E-07 -9.1050E-08 -1.3950E-06 8.6170E-07
-5.6580E-08 -1.2920E-06 7.5330E-07 -1.2400E-07 -1.3030E-06 7.8530E-07 -
5.8880E-09 -1.3350E-06 7.8200E-07 -1.4750E-07 -1.3870E-06 8.7400E-07
3.7650E-07 1.1350E-05 -6.9500E-06 2.8060E-08 -1.5930E-06 1.0500E-06
7.4760E-08 -1.5240E-06 9.7680E-07 1.4210E-08 1.3920E-06 -8.2910E-07
  21   3.5750E-08 8.7320E-07 -5.7470E-07 6.7980E-08 8.6130E-07 -5.6970E-07
3.8370E-08 7.6820E-07 -4.7290E-07 9.6420E-08 7.8080E-07 -5.0280E-07 -
5.2510E-09 8.0310E-07 -4.9690E-07 1.1670E-07 8.5770E-07 -5.8180E-07 -
2.4050E-07 -6.9500E-06 4.7130E-06 -3.4940E-08 1.0350E-06 -7.3510E-07 -
7.5000E-08 9.7040E-07 -6.6840E-07 -2.1260E-08 -1.3380E-06 8.1190E-07
  22 -8.8580E-09 -2.2310E-08 1.8470E-08 -2.7630E-08 -2.5590E-08 2.1600E-08
-1.0840E-08 2.2450E-08 -3.2280E-08 -4.4800E-08 1.3510E-09 -6.1380E-09
1.4520E-08 2.1850E-08 -2.9740E-08 -5.6180E-08 -3.6600E-08 3.6880E-08 -
4.2210E-08 2.8060E-08 -3.4940E-08 2.3290E-07 2.4270E-08 -8.1680E-09
5.4020E-08 -1.3260E-08 3.4130E-08 3.6820E-08 9.4800E-07 -5.6260E-07
  23 -9.7380E-09 -1.5170E-06 9.5830E-07 1.1160E-08 -1.5380E-06 9.6910E-07
-7.8170E-09 -1.5580E-06 1.0150E-06 3.0200E-08 -1.5750E-06 1.0070E-06 -
3.6860E-08 -1.5390E-06 1.0010E-06 4.2450E-08 -1.5590E-06 9.7080E-07
2.7400E-08 -1.5930E-06 1.0350E-06 2.4270E-08 1.2490E-05 -7.8760E-06 -
8.1870E-08 -1.5010E-06 9.2020E-07 -1.6560E-08 -1.8010E-06 1.0950E-06
  24   1.0630E-08 9.4690E-07 -6.3180E-07 -1.9330E-08 9.6820E-07 -6.4250E-07
7.8820E-09 1.0040E-06 -7.0940E-07 -4.6500E-08 1.0210E-06 -6.9490E-07
4.9270E-08 9.7730E-07 -6.8960E-07 -6.4200E-08 9.9240E-07 -6.4160E-07 -
4.2420E-08 1.0500E-06 -7.3510E-07 -8.1680E-09 -7.8760E-06 5.4320E-06
1.1340E-07 9.1630E-07 -5.7600E-07 3.2320E-08 1.9920E-06 -1.1810E-06
  25 -8.7180E-09 -1.4980E-08 1.4680E-08 -3.7540E-08 -1.3340E-08 1.5550E-08
-1.1580E-08 5.5180E-08 -6.4540E-08 -6.3730E-08 3.4340E-08 -3.0950E-08
2.7520E-08 4.5290E-08 -5.5360E-08 -8.1230E-08 -2.0330E-08 3.3230E-08 -
5.9680E-08 7.4760E-08 -7.5000E-08 5.4020E-08 -8.1870E-08 1.1340E-07
2.9190E-07 -7.8730E-08 4.8690E-08 4.9520E-08 1.4760E-06 -8.7630E-07
  26   5.6820E-09 -1.4970E-06 9.3790E-07 1.4180E-08 -1.5120E-06 9.4630E-07
6.4650E-09 -1.5060E-06 9.5970E-07 2.2080E-08 -1.5240E-06 9.6130E-07 -
5.6500E-09 -1.4970E-06 9.5280E-07 2.6810E-08 -1.5290E-06 9.5150E-07
2.1060E-08 -1.5240E-06 9.7040E-07 -1.3260E-08 -1.5010E-06 9.1630E-07 -
7.8730E-08 1.2200E-05 -7.5960E-06 1.3860E-08 -1.1510E-06 7.0030E-07

27 1.1730E-09 9.3150E-07 -6.1850E-07 -1.3880E-08 9.4600E-07 -6.2610E-07
-2.4250E-10 9.5120E-07 -6.5390E-07 -2.7690E-08 9.6860E-07 -6.5080E-07
2.0790E-08 9.3740E-07 -6.4360E-07 -3.6330E-08 9.6480E-07 -6.2910E-07 -
2.5760E-08 9.7680E-07 -6.6840E-07 3.4130E-08 9.2020E-07 -5.7600E-07
4.8690E-08 -7.5960E-06 5.1770E-06 4.5350E-09 1.2120E-06 -7.1320E-07
28 1.4430E-08 -1.1460E-08 6.6450E-09 1.9500E-09 -1.3660E-08 9.6050E-09
1.1790E-08 1.8510E-08 -2.4170E-08 -8.2700E-09 -2.0630E-09 -4.0810E-09
2.6610E-08 2.4320E-08 -2.6330E-08 -1.5020E-08 -2.7120E-08 2.2740E-08 -
6.7660E-09 1.4210E-08 -2.1260E-08 3.6820E-08 -1.6560E-08 3.2320E-08
4.9520E-08 1.3860E-08 4.5350E-09 2.0060E-06 4.7820E-06 -3.1990E-06
29 1.1110E-08 -2.5770E-07 1.9170E-07 -4.0950E-07 -1.0170E-07 1.1950E-07
-1.9790E-08 7.8710E-07 -1.0010E-06 -7.9040E-07 7.9760E-07 -6.8580E-07
5.6210E-07 3.7700E-07 -7.1050E-07 -1.0510E-06 7.0280E-08 2.1990E-07 -
7.2780E-07 1.3920E-06 -1.3380E-06 9.4800E-07 -1.8010E-06 1.9920E-06
1.4760E-06 -1.1510E-06 1.2120E-06 4.7820E-06 1.8970E-04 -1.1610E-04
30 -7.3980E-09 1.6540E-07 -9.8810E-08 2.4320E-07 6.7880E-08 -5.9120E-08
1.1860E-08 -4.7130E-07 6.1190E-07 4.6910E-07 -4.7090E-07 4.2160E-07 -
3.3330E-07 -2.2740E-07 4.3930E-07 6.2400E-07 -2.9740E-08 -1.2110E-07
4.3190E-07 -8.2910E-07 8.1190E-07 -5.6260E-07 1.0950E-06 -1.1810E-06 -
8.7630E-07 7.0030E-07 -7.1320E-07 -3.1990E-06 -1.1610E-04 7.5420E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000020060 0.0000047820 -0.0000031990
0.0000047820 0.0001897000 -0.0001161000
-0.0000031990 -0.0001161000 0.0000754200

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000020107 -0.0000003973 -0.0000058468
-0.0000003973 0.0000034892 0.0000092141
-0.0000058468 0.0000092141 0.0002616261

Horizontal network accuracy = 0.00411 meters.
Vertical network accuracy = 0.03172 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	2915.174	-7952.660	-13782.543
lwes	qcfv	-36425.633	-6683.664	-11746.315
gris	qcfv	1470.271	-41524.695	-72941.431
houm	qcfv	-72780.065	-23293.076	-41396.826
bvhs	qcfv	54970.722	-37362.214	-66050.892
awes	qcfv	-97421.471	5100.493	7448.281
lmcn	qcfv	-66955.416	-41727.619	-73961.128
mspk	qcfv	79322.051	42999.212	72348.156
msga	qcfv	127513.065	22260.940	35632.822

Covariance matrix of the 9 vectors
1 2.1768E-06 5.0611E-06 -3.3988E-06 1.9781E-06 4.7380E-06 -3.1691E-06
1.9688E-06 4.7176E-06 -3.1428E-06 1.9871E-06 4.7168E-06 -3.1500E-06
1.9550E-06 4.7274E-06 -3.1497E-06 1.9933E-06 4.7335E-06 -3.1712E-06
1.9857E-06 4.7030E-06 -3.1346E-06 1.9459E-06 4.7777E-06 -3.2133E-06
1.9333E-06 4.7627E-06 -3.1950E-06
2 5.0611E-06 2.0193E-04 -1.2367E-04 5.1625E-06 1.8861E-04 -1.1548E-04

4.7783E-06 1.8776E-04 -1.1439E-04 5.5387E-06 1.8773E-04 -1.1469E-04
4.2038E-06 1.8815E-04 -1.1467E-04 5.7951E-06 1.8843E-04 -1.1558E-04
5.4772E-06 1.8716E-04 -1.1405E-04 3.8231E-06 1.9024E-04 -1.1731E-04
3.3025E-06 1.8961E-04 -1.1655E-04
  3 -3.3988E-06 -1.2367E-04 8.0495E-05 -3.4208E-06 -1.1546E-04 7.4982E-05
-3.1923E-06 -1.1495E-04 7.4331E-05 -3.6444E-06 -1.1494E-04 7.4512E-05 -
2.8508E-06 -1.1519E-04 7.4499E-05 -3.7969E-06 -1.1535E-04 7.5038E-05 -
3.6079E-06 -1.1460E-04 7.4132E-05 -2.6246E-06 -1.1643E-04 7.6068E-05 -
2.3147E-06 -1.1605E-04 7.5614E-05
  4 1.9781E-06 5.1625E-06 -3.4208E-06 2.2138E-06 5.5702E-06 -3.7049E-06
1.9811E-06 5.1120E-06 -3.3674E-06 2.0141E-06 5.1111E-06 -3.3806E-06
1.9561E-06 5.1292E-06 -3.3796E-06 2.0252E-06 5.1413E-06 -3.4190E-06
2.0114E-06 5.0862E-06 -3.3530E-06 1.9396E-06 5.2192E-06 -3.4939E-06
1.9170E-06 5.1918E-06 -3.4606E-06
  5 4.7380E-06 1.8861E-04 -1.1546E-04 5.5702E-06 2.0162E-04 -1.2351E-04
4.7684E-06 1.8761E-04 -1.1430E-04 5.5217E-06 1.8758E-04 -1.1460E-04
4.1993E-06 1.8800E-04 -1.1458E-04 5.7758E-06 1.8827E-04 -1.1548E-04
5.4609E-06 1.8701E-04 -1.1397E-04 3.8221E-06 1.9006E-04 -1.1719E-04
3.3063E-06 1.8944E-04 -1.1643E-04
  6 -3.1691E-06 -1.1548E-04 7.4982E-05 -3.7049E-06 -1.2351E-04 8.0422E-05
-3.1881E-06 -1.1488E-04 7.4294E-05 -3.6369E-06 -1.1487E-04 7.4474E-05 -
2.8490E-06 -1.1512E-04 7.4461E-05 -3.7883E-06 -1.1528E-04 7.4996E-05 -
3.6007E-06 -1.1453E-04 7.4098E-05 -2.6244E-06 -1.1635E-04 7.6018E-05 -
2.3168E-06 -1.1597E-04 7.5566E-05
  7 1.9688E-06 4.7783E-06 -3.1923E-06 1.9811E-06 4.7684E-06 -3.1881E-06
2.1847E-06 5.0673E-06 -3.3898E-06 1.9908E-06 4.7458E-06 -3.1677E-06
1.9564E-06 4.7569E-06 -3.1673E-06 1.9974E-06 4.7636E-06 -3.1904E-06
1.9892E-06 4.7310E-06 -3.1512E-06 1.9466E-06 4.8105E-06 -3.2353E-06
1.9331E-06 4.7944E-06 -3.2156E-06
  8 4.7176E-06 1.8776E-04 -1.1495E-04 5.1120E-06 1.8761E-04 -1.1488E-04
5.0673E-06 1.9953E-04 -1.2159E-04 5.4699E-06 1.8677E-04 -1.1413E-04
4.2000E-06 1.8718E-04 -1.1411E-04 5.7139E-06 1.8743E-04 -1.1497E-04
5.4115E-06 1.8623E-04 -1.1352E-04 3.8379E-06 1.8916E-04 -1.1662E-04
3.3427E-06 1.8856E-04 -1.1589E-04
  9 -3.1428E-06 -1.1439E-04 7.4331E-05 -3.3674E-06 -1.1430E-04 7.4294E-05
-3.3898E-06 -1.2159E-04 7.8908E-05 -3.5704E-06 -1.1383E-04 7.3868E-05 -
2.8498E-06 -1.1405E-04 7.3857E-05 -3.7089E-06 -1.1420E-04 7.4345E-05 -
3.5373E-06 -1.1352E-04 7.3523E-05 -2.6445E-06 -1.1518E-04 7.5280E-05 -
2.3631E-06 -1.1484E-04 7.4867E-05
  10 1.9871E-06 5.5387E-06 -3.6444E-06 2.0141E-06 5.5217E-06 -3.6369E-06
1.9908E-06 5.4699E-06 -3.5704E-06 2.2611E-06 5.9823E-06 -3.9331E-06
1.9559E-06 5.4936E-06 -3.5874E-06 2.0526E-06 5.5112E-06 -3.6428E-06
2.0333E-06 5.4342E-06 -3.5504E-06 1.9327E-06 5.6192E-06 -3.7469E-06
1.9010E-06 5.5806E-06 -3.7003E-06
  11 4.7168E-06 1.8773E-04 -1.1494E-04 5.1111E-06 1.8758E-04 -1.1487E-04
4.7458E-06 1.8677E-04 -1.1383E-04 5.9823E-06 1.9960E-04 -1.2200E-04
4.1994E-06 1.8715E-04 -1.1409E-04 5.7129E-06 1.8741E-04 -1.1496E-04
5.4106E-06 1.8621E-04 -1.1351E-04 3.8374E-06 1.8913E-04 -1.1660E-04
3.3424E-06 1.8853E-04 -1.1587E-04
  12 -3.1500E-06 -1.1469E-04 7.4512E-05 -3.3806E-06 -1.1460E-04 7.4474E-05
-3.1677E-06 -1.1413E-04 7.3868E-05 -3.9331E-06 -1.2200E-04 7.9350E-05 -
2.8493E-06 -1.1435E-04 7.4025E-05 -3.7313E-06 -1.1450E-04 7.4527E-05 -
3.5552E-06 -1.1380E-04 7.3684E-05 -2.6385E-06 -1.1550E-04 7.5485E-05 -
2.3496E-06 -1.1515E-04 7.5061E-05

13 1.9550E-06 4.2038E-06 -2.8508E-06 1.9561E-06 4.1993E-06 -2.8490E-06
1.9564E-06 4.2000E-06 -2.8498E-06 1.9559E-06 4.1994E-06 -2.8493E-06
2.1651E-06 4.3780E-06 -2.9959E-06 1.9557E-06 4.1989E-06 -2.8487E-06
1.9559E-06 4.1998E-06 -2.8497E-06 1.9571E-06 4.1996E-06 -2.8488E-06
1.9574E-06 4.2004E-06 -2.8494E-06
14 4.7274E-06 1.8815E-04 -1.1519E-04 5.1292E-06 1.8800E-04 -1.1512E-04
4.7569E-06 1.8718E-04 -1.1405E-04 5.4936E-06 1.8715E-04 -1.1435E-04
4.3780E-06 2.0044E-04 -1.2217E-04 5.7422E-06 1.8782E-04 -1.1521E-04
5.4341E-06 1.8660E-04 -1.1373E-04 3.8315E-06 1.8959E-04 -1.1689E-04
3.3270E-06 1.8898E-04 -1.1615E-04
15 -3.1497E-06 -1.1467E-04 7.4499E-05 -3.3796E-06 -1.1458E-04 7.4461E-05
-3.1673E-06 -1.1411E-04 7.3857E-05 -3.5874E-06 -1.1409E-04 7.4025E-05 -
2.9959E-06 -1.2217E-04 7.9277E-05 -3.7291E-06 -1.1448E-04 7.4513E-05 -
3.5535E-06 -1.1378E-04 7.3672E-05 -2.6398E-06 -1.1548E-04 7.5472E-05 -
2.3517E-06 -1.1514E-04 7.5050E-05
16 1.9933E-06 5.7951E-06 -3.7969E-06 2.0252E-06 5.7758E-06 -3.7883E-06
1.9974E-06 5.7139E-06 -3.7089E-06 2.0526E-06 5.7129E-06 -3.7313E-06
1.9557E-06 5.7422E-06 -3.7291E-06 2.2985E-06 6.3477E-06 -4.1837E-06
2.0481E-06 5.6713E-06 -3.6850E-06 1.9280E-06 5.8920E-06 -3.9195E-06
1.8903E-06 5.8460E-06 -3.8639E-06
17 4.7335E-06 1.8843E-04 -1.1535E-04 5.1413E-06 1.8827E-04 -1.1528E-04
4.7636E-06 1.8743E-04 -1.1420E-04 5.5112E-06 1.8741E-04 -1.1450E-04
4.1989E-06 1.8782E-04 -1.1448E-04 6.3477E-06 2.0132E-04 -1.2356E-04
5.4509E-06 1.8685E-04 -1.1387E-04 3.8245E-06 1.8987E-04 -1.1707E-04
3.3128E-06 1.8925E-04 -1.1632E-04
18 -3.1712E-06 -1.1558E-04 7.5038E-05 -3.4190E-06 -1.1548E-04 7.4996E-05
-3.1904E-06 -1.1497E-04 7.4345E-05 -3.6428E-06 -1.1496E-04 7.4527E-05 -
2.8487E-06 -1.1521E-04 7.4513E-05 -4.1837E-06 -1.2356E-04 8.0597E-05 -
3.6064E-06 -1.1462E-04 7.4147E-05 -2.6223E-06 -1.1644E-04 7.6081E-05 -
2.3122E-06 -1.1607E-04 7.5625E-05
19 1.9857E-06 5.4772E-06 -3.6079E-06 2.0114E-06 5.4609E-06 -3.6007E-06
1.9892E-06 5.4115E-06 -3.5373E-06 2.0333E-06 5.4106E-06 -3.5552E-06
1.9559E-06 5.4341E-06 -3.5535E-06 2.0481E-06 5.4509E-06 -3.6064E-06
2.2541E-06 5.8721E-06 -3.8501E-06 1.9337E-06 5.5538E-06 -3.7056E-06
1.9036E-06 5.5170E-06 -3.6612E-06
20 4.7030E-06 1.8716E-04 -1.1460E-04 5.0862E-06 1.8701E-04 -1.1453E-04
4.7310E-06 1.8623E-04 -1.1352E-04 5.4342E-06 1.8621E-04 -1.1380E-04
4.1998E-06 1.8660E-04 -1.1378E-04 5.6713E-06 1.8685E-04 -1.1462E-04
5.8721E-06 1.9827E-04 -1.2088E-04 3.8478E-06 1.8852E-04 -1.1621E-04
3.3665E-06 1.8793E-04 -1.1551E-04
21 -3.1346E-06 -1.1405E-04 7.4132E-05 -3.3530E-06 -1.1397E-04 7.4098E-05
-3.1512E-06 -1.1352E-04 7.3523E-05 -3.5504E-06 -1.1351E-04 7.3684E-05 -
2.8497E-06 -1.1373E-04 7.3672E-05 -3.6850E-06 -1.1387E-04 7.4147E-05 -
3.8501E-06 -1.2088E-04 7.8509E-05 -2.6501E-06 -1.1482E-04 7.5054E-05 -
2.3764E-06 -1.1449E-04 7.4653E-05
22 1.9459E-06 3.8231E-06 -2.6246E-06 1.9396E-06 3.8221E-06 -2.6244E-06
1.9466E-06 3.8379E-06 -2.6445E-06 1.9327E-06 3.8374E-06 -2.6385E-06
1.9571E-06 3.8315E-06 -2.6398E-06 1.9280E-06 3.8245E-06 -2.6223E-06
1.9337E-06 3.8478E-06 -2.6501E-06 2.1653E-06 3.8748E-06 -2.6769E-06
1.9737E-06 3.8069E-06 -2.6068E-06
23 4.7777E-06 1.9024E-04 -1.1643E-04 5.2192E-06 1.9006E-04 -1.1635E-04
4.8105E-06 1.8916E-04 -1.1518E-04 5.6192E-06 1.8913E-04 -1.1550E-04
4.1996E-06 1.8959E-04 -1.1548E-04 5.8920E-06 1.8987E-04 -1.1644E-04
5.5538E-06 1.8852E-04 -1.1482E-04 3.8748E-06 2.0579E-04 -1.2706E-04

3.2407E-06 1.9115E-04 -1.1749E-04
  24 -3.2133E-06 -1.1731E-04 7.6068E-05 -3.4939E-06 -1.1719E-04 7.6018E-05
-3.2353E-06 -1.1662E-04 7.5280E-05 -3.7469E-06 -1.1660E-04 7.5485E-05 -
2.8488E-06 -1.1689E-04 7.5472E-05 -3.9195E-06 -1.1707E-04 7.6081E-05 -
3.7056E-06 -1.1621E-04 7.5054E-05 -2.6769E-06 -1.2706E-04 8.3214E-05 -
2.2416E-06 -1.1788E-04 7.6738E-05
  25   1.9333E-06 3.3025E-06 -2.3147E-06 1.9170E-06 3.3063E-06 -2.3168E-06
1.9331E-06 3.3427E-06 -2.3631E-06 1.9010E-06 3.3424E-06 -2.3496E-06
1.9574E-06 3.3270E-06 -2.3517E-06 1.8903E-06 3.3128E-06 -2.3122E-06
1.9036E-06 3.3665E-06 -2.3764E-06 1.9737E-06 3.2407E-06 -2.2416E-06
2.1989E-06 3.2134E-06 -2.2785E-06
  26   4.7627E-06 1.8961E-04 -1.1605E-04 5.1918E-06 1.8944E-04 -1.1597E-04
4.7944E-06 1.8856E-04 -1.1484E-04 5.5806E-06 1.8853E-04 -1.1515E-04
4.2004E-06 1.8898E-04 -1.1514E-04 5.8460E-06 1.8925E-04 -1.1607E-04
5.5170E-06 1.8793E-04 -1.1449E-04 3.8069E-06 1.9115E-04 -1.1788E-04
3.2134E-06 2.0420E-04 -1.2561E-04
  27 -3.1950E-06 -1.1655E-04 7.5614E-05 -3.4606E-06 -1.1643E-04 7.5566E-05
-3.2156E-06 -1.1589E-04 7.4867E-05 -3.7003E-06 -1.1587E-04 7.5061E-05 -
2.8494E-06 -1.1615E-04 7.5050E-05 -3.8639E-06 -1.1632E-04 7.5625E-05 -
3.6612E-06 -1.1551E-04 7.4653E-05 -2.6068E-06 -1.1749E-04 7.6738E-05 -
2.2785E-06 -1.2561E-04 8.2023E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 2.4140E-01 -2.5676E-01 9.0109E-01 2.2616E-01 -2.3951E-01
9.0281E-01 2.2637E-01 -2.3979E-01 8.9568E-01 2.2628E-01 -2.3967E-01
9.0053E-01 2.2632E-01 -2.3976E-01 8.9113E-01 2.2611E-01 -2.3942E-01
8.9640E-01 2.2638E-01 -2.3978E-01 8.9629E-01 2.2573E-01 -2.3875E-01
8.8368E-01 2.2590E-01 -2.3910E-01
   2   2.4140E-01 1.0000E+00 -9.7001E-01 2.4417E-01 9.3474E-01 -9.0622E-01
2.2750E-01 9.3540E-01 -9.0619E-01 2.5921E-01 9.3509E-01 -9.0608E-01
2.0105E-01 9.3526E-01 -9.0633E-01 2.6899E-01 9.3456E-01 -9.0597E-01
2.5673E-01 9.3538E-01 -9.0585E-01 1.8284E-01 9.3325E-01 -9.0499E-01
1.5673E-01 9.3377E-01 -9.0559E-01
   3 -2.5676E-01 -9.7001E-01 1.0000E+00 -2.5625E-01 -9.0629E-01 9.3193E-01
-2.4073E-01 -9.0704E-01 9.3266E-01 -2.7013E-01 -9.0675E-01 9.3233E-01 -
2.1595E-01 -9.0685E-01 9.3260E-01 -2.7914E-01 -9.0613E-01 9.3161E-01 -
2.6785E-01 -9.0711E-01 9.3253E-01 -1.9880E-01 -9.0461E-01 9.2944E-01 -
1.7398E-01 -9.0521E-01 9.3057E-01
   4   9.0109E-01 2.4417E-01 -2.5625E-01 1.0000E+00 2.6365E-01 -2.7766E-01
9.0082E-01 2.4323E-01 -2.5478E-01 9.0022E-01 2.4314E-01 -2.5507E-01
8.9350E-01 2.4349E-01 -2.5511E-01 8.9780E-01 2.4353E-01 -2.5596E-01
9.0043E-01 2.4277E-01 -2.5433E-01 8.8591E-01 2.4452E-01 -2.5742E-01
8.6886E-01 2.4419E-01 -2.5681E-01
   5   2.2616E-01 9.3474E-01 -9.0629E-01 2.6365E-01 1.0000E+00 -9.6990E-01
2.2720E-01 9.3535E-01 -9.0616E-01 2.5861E-01 9.3506E-01 -9.0603E-01
2.0099E-01 9.3519E-01 -9.0627E-01 2.6830E-01 9.3449E-01 -9.0587E-01
2.5616E-01 9.3537E-01 -9.0585E-01 1.8293E-01 9.3308E-01 -9.0475E-01
1.5703E-01 9.3363E-01 -9.0540E-01
   6 -2.3951E-01 -9.0622E-01 9.3193E-01 -2.7766E-01 -9.6990E-01 1.0000E+00
-2.4052E-01 -9.0690E-01 9.3262E-01 -2.6970E-01 -9.0661E-01 9.3228E-01 -
2.1591E-01 -9.0669E-01 9.3254E-01 -2.7863E-01 -9.0597E-01 9.3152E-01 -
2.6743E-01 -9.0699E-01 9.3251E-01 -1.9888E-01 -9.0437E-01 9.2924E-01 -
1.7422E-01 -9.0498E-01 9.3040E-01
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G-FILE for the vectors

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C00100009 1275130646 14 222609404 142 356328221 90
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1657162 24 26 -9042680 24 27 9288477 25 26 1516482 25 27 -1696640 D 26 27 -
9705534

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	2679.425	-5526969.260	3172541.737
lwes	2679.416	-5526969.324	3172541.786
gris	2679.419	-5526969.254	3172541.742
houm	2679.424	-5526969.277	3172541.751
bvhs	2679.421	-5526969.274	3172541.746
awes	2679.418	-5526969.290	3172541.767
lmcn	2679.423	-5526969.285	3172541.758
mspk	2679.421	-5526969.269	3172541.745
msga	2679.426	-5526969.247	3172541.740

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.004	-0.002	-0.005	0.004	-0.005	-0.001
lwes	-0.006	-0.066	0.044	-0.006	0.005	0.079
gris	-0.003	0.004	0.000	-0.003	0.002	-0.004
houm	0.003	-0.019	0.009	0.003	-0.001	0.021

bvhs	-0.001	-0.016	0.004	-0.001	-
0.004	0.015				
awes	-0.003	-0.032	0.025	-0.003	
0.005	0.040				
lmcn	0.002	-0.027	0.016	0.002	
0.000	0.032				
mspk	-0.000	-0.011	0.003	-0.000	-
0.003	0.011				
msga	0.005	0.011	-0.002	0.005	
0.004	-0.010				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 556318.848
Easting (X) [feet] 3711562.050
Convergence [degrees] 0.68057595
Point Scale 0.99992582
Combined Factor 0.99993028

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -2.359 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.361
scatter (mean square distance from rover) is 8645.923
average edop for rover is 0.920
average ndop for rover is 1.670
average hdop for rover is 1.907
average vdop for rover is 3.120
average gdop for rover is 4.480

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:15 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA40.O00 OP1335489062386

FILE: QCFVA40.O00 OP1335489062386

6011 Warning - OPUS-RS was able to find a set of reference stations
6011 with data suitable for use with your dataset. However, your
6011 position does not fall within the polygon enclosing these reference
6011 stations. This means that the geographic interpolation algorithms
6011 performed within OPUS-RS must instead perform extrapolation.
6011 Extrapolation, especially if your position is far from the
6011 reference stations, is prone to error. Use this solution with
6011 caution.
Your station is 0.5 KM outside the polygon enclosing the reference stations.

NGS OPUS-RS SOLUTION REPORT
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All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068s.12o TIME: 01:14:24 UTC

SOFTWARE: rsgps 1.37 RS41.prl 1.73 START: 2012/03/08 18:00:53
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 18:31:19
NAV FILE: brdc0680.12n OBS USED: 2196 / 2862 : 77%
ANT NAME: LEIAT502 NONE QUALITY IND. 9.30/ 32.98
ARP HEIGHT: 1.600 NORMALIZED RMS: 0.318

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18514)

X:	4285.347(m)	0.004(m)	4284.615(m)	0.004(m)
Y:	-5530813.642(m)	0.020(m)	-5530812.150(m)	0.020(m)
Z:	3165885.096(m)	0.014(m)	3165884.888(m)	0.014(m)

LAT:	29 57 12.21001	0.004(m)	29 57 12.22836	0.004(m)
E LON:	270 2 39.81665	0.004(m)	270 2 39.78939	0.004(m)
W LON:	89 57 20.18335	0.004(m)	89 57 20.21061	0.004(m)
EL HGT:	-26.351(m)	0.024(m)	-27.748(m)	0.024(m)
ORTHO HGT:	-0.351(m)	0.027(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3317296.435	161899.606
Easting (X) [meters]	214741.589	1132980.779

Convergence [degrees] -1.47671885 0.68888091
Point Scale 1.00060409 0.99992609
Combined Factor 1.00060823 0.99993022

US NATIONAL GRID DESIGNATOR: 16RBU1474117296(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	8329.6
DH9599	NOLA LOYOLA UNIVERSITY CORS ARP	N295603.732	W0900712.646	16027.3
DJ9603	LWES LAKEWOOD ELMENTRY CORS ARP	N295401.295	W0902057.833	38474.9
DG6568	COVG COVINGTON CORS ARP	N302833.269	W0900543.923	59469.8
DH7121	GRIS GRAND ISLE CORS ARP	N291555.883	W0895726.262	76246.8
AJ7833	HAMM HAMMOND CORS ARP	N303047.051	W0902803.428	79236.6
DG5315	HOUM HOUMA CORS ARP	N293532.109	W0904324.988	84370.3
DL8635	GVMS GALVEZ MIDDLE SCH CORS ARP	N301851.796	W0905413.030	99726.6
DF5771	LMCN LUMCON CORS ARP	N291517.904	W0903940.653	103274.7

NEAREST NGS PUBLISHED CONTROL POINT

AT0478	K 152 RESET	N295717.137	W0895726.056	219.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.597	-5534921.918	3158759.199
nola	-11604.039	-5531876.837	3164070.911
lwes	-33746.214	-5533652.960	3160795.449
covg	-9174.163	-5501675.355	3215950.510
gris	4149.693	-5568493.944	3099600.307
hamm	-44885.214	-5499419.425	3219506.420
houm	-70100.641	-5550262.323	3131144.907
gvms	-86907.672	-5510048.254	3200500.238
lmcn	-64275.993	-5568696.858	3098580.603
qcfv	4284.615	-5530812.150	3165884.888

Covariance matrix of the stations:
1 1.4780E-07 7.4030E-07 -4.3420E-07 4.0360E-09 -8.2460E-08 4.9360E-08
-2.7900E-09 -9.0910E-08 5.2520E-08 4.6230E-09 -1.2560E-07 9.5350E-08
8.9810E-09 -1.6390E-08 -1.2000E-08 -6.9290E-09 -1.5090E-07 1.1080E-07 -
1.3420E-08 -7.7270E-08 3.2830E-08 -2.0060E-08 -1.5430E-07 1.0390E-07 -
1.1110E-08 -4.2380E-08 1.3150E-09 4.4100E-08 1.2940E-06 -7.3210E-07
2 7.4030E-07 5.9740E-05 -3.3760E-05 -7.8150E-08 -7.5360E-06 4.2660E-06
-8.9920E-08 -7.4600E-06 4.2200E-06 -7.9930E-08 -7.8440E-06 4.4870E-06 -
6.6310E-08 -7.2210E-06 4.0430E-06 -1.0160E-07 -7.7700E-06 4.4450E-06 -
1.0450E-07 -7.2040E-06 4.0530E-06 -1.2180E-07 -7.5510E-06 4.3000E-06 -
9.8200E-08 -7.0450E-06 3.9440E-06 -1.8510E-08 -2.5130E-06 1.4190E-06
3 -4.3420E-07 -3.3760E-05 1.9270E-05 4.5570E-08 4.2690E-06 -2.4220E-06

5.2580E-08 4.2180E-06 -2.3910E-06 4.7990E-08 4.5340E-06 -2.6010E-06
3.7100E-08 3.9970E-06 -2.2410E-06 6.1660E-08 4.4920E-06 -2.5770E-06
6.0330E-08 4.0260E-06 -2.2690E-06 7.3470E-08 4.3270E-06 -2.4710E-06
5.5530E-08 3.8930E-06 -2.1830E-06 8.4070E-09 1.3160E-06 -7.2470E-07
   4   4.0360E-09 -7.8150E-08 4.5570E-08 1.4480E-07 8.9310E-07 -5.1990E-07
-3.4350E-09 -1.1050E-07 6.3950E-08 1.1680E-09 -1.1970E-07 8.2800E-08
3.7400E-09 -4.9220E-08 1.6290E-08 -5.9870E-09 -1.5230E-07 1.0210E-07 -
1.0140E-08 -1.1730E-07 6.0580E-08 -1.4350E-08 -1.7270E-07 1.0860E-07 -
8.6920E-09 -9.3280E-08 3.9980E-08 2.9010E-08 7.2420E-07 -4.0980E-07
   5 -8.2460E-08 -7.5360E-06 4.2690E-06 8.9310E-07 5.9780E-05 -3.3830E-05
-1.0990E-07 -7.4680E-06 4.2310E-06 -9.6810E-08 -7.8810E-06 4.5250E-06 -
8.1230E-08 -7.2150E-06 4.0360E-06 -1.2340E-07 -7.7980E-06 4.4780E-06 -
1.2890E-07 -7.1890E-06 4.0460E-06 -1.4890E-07 -7.5590E-06 4.3180E-06 -
1.2160E-07 -7.0180E-06 3.9250E-06 -1.9000E-08 -2.0300E-06 1.1580E-06
   6   4.9360E-08 4.2660E-06 -2.4220E-06 -5.1990E-07 -3.3830E-05 1.9340E-05
6.4000E-08 4.2300E-06 -2.4010E-06 5.8690E-08 4.5520E-06 -2.6170E-06
4.7350E-08 4.0050E-06 -2.2480E-06 7.3480E-08 4.5080E-06 -2.5930E-06
7.2770E-08 4.0320E-06 -2.2750E-06 8.6530E-08 4.3380E-06 -2.4820E-06
6.7750E-08 3.8960E-06 -2.1860E-06 1.3030E-08 1.2590E-06 -7.0120E-07
   7 -2.7900E-09 -8.9920E-08 5.2580E-08 -3.4350E-09 -1.0990E-07 6.4000E-08
1.4790E-07 1.0680E-06 -6.1830E-07 -3.2910E-09 -1.1100E-07 6.6170E-08 -
2.9480E-09 -8.8820E-08 5.0560E-08 -4.9590E-09 -1.5270E-07 9.0310E-08 -
6.1850E-09 -1.6580E-07 9.4170E-08 -7.3650E-09 -1.9440E-07 1.1340E-07 -
5.8220E-09 -1.5540E-07 8.7170E-08 1.2450E-08 6.4840E-09 -3.8000E-09
   8 -9.0910E-08 -7.4600E-06 4.2180E-06 -1.1050E-07 -7.4680E-06 4.2300E-06
1.0680E-06 5.8980E-05 -3.3330E-05 -1.1140E-07 -7.8610E-06 4.5370E-06 -
9.0000E-08 -7.0630E-06 3.9120E-06 -1.5220E-07 -7.7530E-06 4.4770E-06 -
1.6510E-07 -7.0110E-06 3.9220E-06 -1.9290E-07 -7.4540E-06 4.2710E-06 -
1.5500E-07 -6.8030E-06 3.7650E-06 -2.3630E-09 -1.3460E-07 7.9350E-08
   9   5.2520E-08 4.2200E-06 -2.3910E-06 6.3950E-08 4.2310E-06 -2.4010E-06
-6.1830E-07 -3.3330E-05 1.9030E-05 6.5940E-08 4.5430E-06 -2.6280E-06
5.0720E-08 3.9080E-06 -2.1690E-06 9.0130E-08 4.4820E-06 -2.5940E-06
9.4330E-08 3.9180E-06 -2.1960E-06 1.1330E-07 4.2730E-06 -2.4540E-06
8.7440E-08 3.7590E-06 -2.0840E-06 -4.4770E-10 6.0450E-09 1.1460E-08
  10   4.6230E-09 -7.9930E-08 4.7990E-08 1.1680E-09 -9.6810E-08 5.8690E-08
-3.2910E-09 -1.1140E-07 6.5940E-08 1.4430E-07 8.7390E-07 -5.0720E-07
4.3100E-09 -4.9190E-08 1.6830E-08 -5.9840E-09 -1.5460E-07 1.0580E-07 -
1.0370E-08 -1.1650E-07 6.1150E-08 -1.4800E-08 -1.7370E-07 1.1110E-07 -
8.8460E-09 -9.1650E-08 3.9600E-08 3.0320E-08 7.7580E-07 -4.3750E-07
  11 -1.2560E-07 -7.8440E-06 4.5340E-06 -1.1970E-07 -7.8810E-06 4.5520E-06
-1.1100E-07 -7.8610E-06 4.5430E-06 8.7390E-07 6.2870E-05 -3.6310E-05 -
1.2370E-07 -7.7410E-06 4.5070E-06 -1.0990E-07 -8.0100E-06 4.5990E-06 -
9.5190E-08 -7.7780E-06 4.5110E-06 -9.2910E-08 -7.9370E-06 4.5660E-06 -
9.5900E-08 -7.7130E-06 4.4920E-06 -1.3140E-07 -7.3580E-06 4.2600E-06
  12   9.5350E-08 4.4870E-06 -2.6010E-06 8.2800E-08 4.5250E-06 -2.6170E-06
6.6170E-08 4.5370E-06 -2.6280E-06 -5.0720E-07 -3.6310E-05 2.1200E-05
9.2470E-08 4.4440E-06 -2.6360E-06 6.0630E-08 4.6350E-06 -2.6260E-06
3.8550E-08 4.5380E-06 -2.6590E-06 2.9380E-08 4.6320E-06 -2.6440E-06
4.1750E-08 4.5080E-06 -2.6740E-06 1.3140E-07 6.7250E-06 -3.8450E-06
  13   8.9810E-09 -6.6310E-08 3.7100E-08 3.7400E-09 -8.1230E-08 4.7350E-08
-2.9480E-09 -9.0000E-08 5.0720E-08 4.3100E-09 -1.2370E-07 9.2470E-08
1.4850E-07 7.8420E-07 -4.7020E-07 -7.0100E-09 -1.4930E-07 1.0810E-07 -
1.3370E-08 -7.7270E-08 3.1800E-08 -1.9880E-08 -1.5340E-07 1.0180E-07 -
1.1090E-08 -4.2830E-08 7.9450E-10 4.1330E-08 1.2710E-06 -7.2080E-07

14 -1.6390E-08 -7.2210E-06 3.9970E-06 -4.9220E-08 -7.2150E-06 4.0050E-06
-8.8820E-08 -7.0630E-06 3.9080E-06 -4.9190E-08 -7.7410E-06 4.4440E-06
7.8420E-07 5.6980E-05 -3.1670E-05 -1.1780E-07 -7.5850E-06 4.3590E-06 -
1.4500E-07 -6.5760E-06 3.5610E-06 -1.8870E-07 -7.1720E-06 4.0650E-06 -
1.2920E-07 -6.2940E-06 3.3310E-06 1.2100E-07 3.6490E-06 -2.1450E-06
15 -1.2000E-08 4.0430E-06 -2.2410E-06 1.6290E-08 4.0360E-06 -2.2480E-06
5.0560E-08 3.9120E-06 -2.1690E-06 1.6830E-08 4.5070E-06 -2.6360E-06 -
4.7020E-07 -3.1670E-05 1.7840E-05 7.6420E-08 4.3860E-06 -2.5700E-06
9.9160E-08 3.5000E-06 -1.8720E-06 1.3790E-07 4.0360E-06 -2.3210E-06
8.5190E-08 3.2490E-06 -1.6700E-06 -1.2740E-07 -4.7010E-06 2.7210E-06
16 -6.9290E-09 -1.0160E-07 6.1660E-08 -5.9870E-09 -1.2340E-07 7.3480E-08
-4.9590E-09 -1.5220E-07 9.0130E-08 -5.9840E-09 -1.0990E-07 6.0630E-08 -
7.0100E-09 -1.1780E-07 7.6420E-08 1.5290E-07 1.2150E-06 -7.2390E-07 -
3.7930E-09 -2.0020E-07 1.1960E-07 -3.1210E-09 -2.1200E-07 1.2100E-07 -
4.0940E-09 -1.9820E-07 1.2090E-07 2.4160E-09 -4.3290E-07 2.4700E-07
17 -1.5090E-07 -7.7700E-06 4.4920E-06 -1.5230E-07 -7.7980E-06 4.5080E-06
-1.5270E-07 -7.7530E-06 4.4820E-06 -1.5460E-07 -8.0100E-06 4.6350E-06 -
1.4930E-07 -7.5850E-06 4.3860E-06 1.2150E-06 6.1940E-05 -3.5750E-05 -
1.5050E-07 -7.5930E-06 4.3900E-06 -1.5670E-07 -7.8300E-06 4.5280E-06 -
1.4810E-07 -7.4890E-06 4.3320E-06 -1.2950E-07 -5.3120E-06 3.1030E-06
18 1.1080E-07 4.4450E-06 -2.5770E-06 1.0210E-07 4.4780E-06 -2.5930E-06
9.0310E-08 4.4770E-06 -2.5940E-06 1.0580E-07 4.5990E-06 -2.6260E-06
1.0810E-07 4.3590E-06 -2.5700E-06 -7.2390E-07 -3.5750E-05 2.0870E-05
6.9930E-08 4.4360E-06 -2.5930E-06 6.5290E-08 4.5730E-06 -2.6220E-06
7.1500E-08 4.3860E-06 -2.5870E-06 1.3230E-07 5.6360E-06 -3.2290E-06
19 -1.3420E-08 -1.0450E-07 6.0330E-08 -1.0140E-08 -1.2890E-07 7.2770E-08
-6.1850E-09 -1.6510E-07 9.4330E-08 -1.0370E-08 -9.5190E-08 3.8550E-08 -
1.3370E-08 -1.4500E-07 9.9160E-08 -3.7930E-09 -1.5050E-07 6.9930E-08
1.6750E-07 1.2580E-06 -7.0790E-07 2.7530E-09 -2.2390E-07 1.1780E-07 -
1.8740E-09 -2.4530E-07 1.5510E-07 -1.2800E-08 -1.0690E-06 6.0370E-07
20 -7.7270E-08 -7.2040E-06 4.0260E-06 -1.1730E-07 -7.1890E-06 4.0320E-06
-1.6580E-07 -7.0110E-06 3.9180E-06 -1.1650E-07 -7.7780E-06 4.5380E-06 -
7.7270E-08 -6.5760E-06 3.5000E-06 -2.0020E-07 -7.5930E-06 4.4360E-06
1.2580E-06 5.6710E-05 -3.1790E-05 -2.8720E-07 -7.1170E-06 4.0940E-06 -
2.1670E-07 -6.1310E-06 3.2460E-06 8.7060E-08 5.6140E-06 -3.2170E-06
21 3.2830E-08 4.0530E-06 -2.2690E-06 6.0580E-08 4.0460E-06 -2.2750E-06
9.4170E-08 3.9220E-06 -2.1960E-06 6.1150E-08 4.5110E-06 -2.6590E-06
3.1800E-08 3.5610E-06 -1.8720E-06 1.1960E-07 4.3900E-06 -2.5930E-06 -
7.0790E-07 -3.1790E-05 1.8020E-05 1.7980E-07 4.0420E-06 -2.3450E-06
1.2800E-07 3.2650E-06 -1.7040E-06 -8.0690E-08 -4.5520E-06 2.6150E-06
22 -2.0060E-08 -1.2180E-07 7.3470E-08 -1.4350E-08 -1.4890E-07 8.6530E-08
-7.3650E-09 -1.9290E-07 1.1330E-07 -1.4800E-08 -9.2910E-08 2.9380E-08 -
1.9880E-08 -1.8870E-07 1.3790E-07 -3.1210E-09 -1.5670E-07 6.5290E-08
2.7530E-09 -2.8720E-07 1.7980E-07 1.8740E-07 1.4990E-06 -8.9160E-07
4.7570E-10 -3.1000E-07 2.0600E-07 -2.8460E-08 -1.7410E-06 9.8690E-07
23 -1.5430E-07 -7.5510E-06 4.3270E-06 -1.7270E-07 -7.5590E-06 4.3380E-06
-1.9440E-07 -7.4540E-06 4.2730E-06 -1.7370E-07 -7.9370E-06 4.6320E-06 -
1.5340E-07 -7.1720E-06 4.0360E-06 -2.1200E-07 -7.8300E-06 4.5730E-06 -
2.2390E-07 -7.1170E-06 4.0420E-06 1.4990E-06 5.9650E-05 -3.4110E-05 -
2.1440E-07 -6.9180E-06 3.8920E-06 -6.9520E-08 -5.0270E-07 3.4460E-07
24 1.0390E-07 4.3000E-06 -2.4710E-06 1.0860E-07 4.3180E-06 -2.4820E-06
1.1340E-07 4.2710E-06 -2.4540E-06 1.1110E-07 4.5660E-06 -2.6440E-06
1.0180E-07 4.0650E-06 -2.3210E-06 1.2100E-07 4.5280E-06 -2.6220E-06
1.1780E-07 4.0940E-06 -2.3450E-06 -8.9160E-07 -3.4110E-05 1.9720E-05

1.1380E-07 3.9710E-06 -2.2680E-06 7.6010E-08 1.9060E-06 -1.0960E-06
  25 -1.1110E-08 -9.8200E-08 5.5530E-08 -8.6920E-09 -1.2160E-07 6.7750E-08
-5.8220E-09 -1.5500E-07 8.7440E-08 -8.8460E-09 -9.5900E-08 4.1750E-08 -
1.1090E-08 -1.2920E-07 8.5190E-08 -4.0940E-09 -1.4810E-07 7.1500E-08 -
1.8740E-09 -2.1670E-07 1.2800E-07 4.7570E-10 -2.1440E-07 1.1380E-07
1.6220E-07 1.1790E-06 -6.5080E-07 -7.2490E-09 -8.2870E-07 4.6650E-07
  26 -4.2380E-08 -7.0450E-06 3.8930E-06 -9.3280E-08 -7.0180E-06 3.8960E-06
-1.5540E-07 -6.8030E-06 3.7590E-06 -9.1650E-08 -7.7130E-06 4.5080E-06 -
4.2830E-08 -6.2940E-06 3.2490E-06 -1.9820E-07 -7.4890E-06 4.3860E-06 -
2.4530E-07 -6.1310E-06 3.2650E-06 -3.1000E-07 -6.9180E-06 3.9710E-06
1.1790E-06 5.5520E-05 -3.0930E-05 1.6230E-07 8.6980E-06 -5.0030E-06
  27   1.3150E-09 3.9440E-06 -2.1830E-06 3.9980E-08 3.9250E-06 -2.1860E-06
8.7170E-08 3.7650E-06 -2.0840E-06 3.9600E-08 4.4920E-06 -2.6740E-06
7.9450E-10 3.3310E-06 -1.6700E-06 1.2090E-07 4.3320E-06 -2.5870E-06
1.5510E-07 3.2460E-06 -1.7040E-06 2.0600E-07 3.8920E-06 -2.2680E-06 -
6.5080E-07 -3.0930E-05 1.7470E-05 -1.5270E-07 -7.5970E-06 4.3600E-06
  28   4.4100E-08 -1.8510E-08 8.4070E-09 2.9010E-08 -1.9000E-08 1.3030E-08
1.2450E-08 -2.3630E-09 -4.4770E-10 3.0320E-08 -1.3140E-07 1.3140E-07
4.1330E-08 1.2100E-07 -1.2740E-07 2.4160E-09 -1.2950E-07 1.3230E-07 -
1.2800E-08 8.7060E-08 -8.0690E-08 -2.8460E-08 -6.9520E-08 7.6010E-08 -
7.2490E-09 1.6230E-07 -1.5270E-07 1.2700E-06 6.3510E-06 -3.7550E-06
  29   1.2940E-06 -2.5130E-06 1.3160E-06 7.2420E-07 -2.0300E-06 1.2590E-06
6.4840E-09 -1.3460E-07 6.0450E-09 7.7580E-07 -7.3580E-06 6.7250E-06
1.2710E-06 3.6490E-06 -4.7010E-06 -4.3290E-07 -5.3120E-06 5.6360E-06 -
1.0690E-06 5.6140E-06 -4.5520E-06 -1.7410E-06 -5.0270E-07 1.9060E-06 -
8.2870E-07 8.6980E-06 -7.5970E-06 6.3510E-06 4.3270E-04 -2.4490E-04
  30 -7.3210E-07 1.4190E-06 -7.2470E-07 -4.0980E-07 1.1580E-06 -7.0120E-07
-3.8000E-09 7.9350E-08 1.1460E-08 -4.3750E-07 4.2600E-06 -3.8450E-06 -
7.2080E-07 -2.1450E-06 2.7210E-06 2.4700E-07 3.1030E-06 -3.2290E-06
6.0370E-07 -3.2170E-06 2.6150E-06 9.8690E-07 3.4460E-07 -1.0960E-06
4.6650E-07 -5.0030E-06 4.3600E-06 -3.7550E-06 -2.4490E-04 1.4040E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
  0.0000012700 0.0000063510 -0.0000037550
  0.0000063510 0.0004327000 -0.0002449000
 -0.0000037550 -0.0002449000 0.0001404000

Covariance Matrix for the enu OPUS Position (meters^2).
  0.0000012801 -0.0000001024 -0.0000077616
 -0.0000001024 0.0000013627 -0.0000019983
 -0.0000077616 -0.0000019983 0.0005717272

Horizontal network accuracy = 0.00281 meters.
Vertical network accuracy = 0.04688 meters.

		Vectors		
To	From	X	Y	Z
eng6	qcfv	1309.981	-4109.768	-7125.689
nola	qcfv	-15888.655	-1064.688	-1813.977
lwes	qcfv	-38030.830	-2840.810	-5089.439
covg	qcfv	-13458.778	29136.794	50065.622
gris	qcfv	-134.922	-37681.795	-66284.582
hamm	qcfv	-49169.829	31392.724	53621.531

houm qcfv -74385.257 -19450.174 -34739.981
gvms qcfv -91192.288 20763.896 34615.350
lmcn qcfv -68560.608 -37884.709 -67304.286

Covariance matrix of the 9 vectors
1 1.3296E-06 5.8158E-06 -3.4655E-06 1.2009E-06 4.9935E-06 -2.9866E-06
1.2107E-06 4.9685E-06 -2.9699E-06 1.2002E-06 5.0628E-06 -3.0589E-06
1.1936E-06 4.9196E-06 -2.9075E-06 1.2166E-06 5.0356E-06 -3.0444E-06
1.2253E-06 4.8927E-06 -2.9094E-06 1.2343E-06 4.9722E-06 -2.9950E-06
1.2220E-06 4.8523E-06 -2.8689E-06
2 5.8158E-06 4.9747E-04 -2.8139E-04 5.5672E-06 4.2971E-04 -2.4331E-04
6.2731E-06 4.2789E-04 -2.4211E-04 5.5138E-06 4.3473E-04 -2.4856E-04
5.0322E-06 4.2434E-04 -2.3757E-04 6.7008E-06 4.3275E-04 -2.4751E-04
7.3340E-06 4.2239E-04 -2.3771E-04 7.9887E-06 4.2816E-04 -2.4392E-04
7.1000E-06 4.1947E-04 -2.3478E-04
3 -3.4655E-06 -2.8139E-04 1.6112E-04 -3.3080E-06 -2.4310E-04 1.3940E-04
-3.7070E-06 -2.4208E-04 1.3872E-04 -3.2779E-06 -2.4594E-04 1.4237E-04 -
3.0055E-06 -2.4007E-04 1.3616E-04 -3.9487E-06 -2.4483E-04 1.4178E-04 -
4.3068E-06 -2.3897E-04 1.3624E-04 -4.6768E-06 -2.4223E-04 1.3975E-04 -
4.1744E-06 -2.3732E-04 1.3458E-04
4 1.2009E-06 5.5672E-06 -3.3080E-06 1.3568E-06 6.5389E-06 -3.8781E-06
1.2251E-06 5.5187E-06 -3.2808E-06 1.2118E-06 5.6385E-06 -3.3938E-06
1.2034E-06 5.4566E-06 -3.2015E-06 1.2326E-06 5.6040E-06 -3.3754E-06
1.2436E-06 5.4224E-06 -3.2039E-06 1.2551E-06 5.5236E-06 -3.3126E-06
1.2395E-06 5.3712E-06 -3.1525E-06
5 4.9935E-06 4.2971E-04 -2.4310E-04 6.5389E-06 4.9654E-04 -2.8115E-04
6.2536E-06 4.2740E-04 -2.4183E-04 5.4974E-06 4.3421E-04 -2.4826E-04
5.0178E-06 4.2387E-04 -2.3732E-04 6.6795E-06 4.3224E-04 -2.4722E-04
7.3101E-06 4.2193E-04 -2.3746E-04 7.9621E-06 4.2767E-04 -2.4365E-04
7.0771E-06 4.1901E-04 -2.3454E-04
6 -2.9866E-06 -2.4331E-04 1.3940E-04 -3.8781E-06 -2.8115E-04 1.6114E-04
-3.7002E-06 -2.4201E-04 1.3869E-04 -3.2718E-06 -2.4587E-04 1.4233E-04 -
2.9999E-06 -2.4001E-04 1.3613E-04 -3.9416E-06 -2.4475E-04 1.4174E-04 -
4.2990E-06 -2.3891E-04 1.3621E-04 -4.6684E-06 -2.4217E-04 1.3972E-04 -
4.1668E-06 -2.3726E-04 1.3456E-04
7 1.2107E-06 6.2731E-06 -3.7070E-06 1.2251E-06 6.2536E-06 -3.7002E-06
1.3930E-06 7.4149E-06 -4.3691E-06 1.2239E-06 6.3649E-06 -3.8164E-06
1.2133E-06 6.1347E-06 -3.5732E-06 1.2502E-06 6.3213E-06 -3.7932E-06
1.2642E-06 6.0917E-06 -3.5763E-06 1.2786E-06 6.2196E-06 -3.7138E-06
1.2590E-06 6.0268E-06 -3.5113E-06
8 4.9685E-06 4.2789E-04 -2.4208E-04 5.5187E-06 4.2740E-04 -2.4201E-04
7.4149E-06 4.9195E-04 -2.7832E-04 5.4662E-06 4.3233E-04 -2.4717E-04
4.9924E-06 4.2212E-04 -2.3637E-04 6.6341E-06 4.3039E-04 -2.4614E-04
7.2573E-06 4.2021E-04 -2.3651E-04 7.9015E-06 4.2588E-04 -2.4261E-04
7.0271E-06 4.1733E-04 -2.3362E-04
9 -2.9699E-06 -2.4211E-04 1.3872E-04 -3.2808E-06 -2.4183E-04 1.3869E-04
-4.3691E-06 -2.7832E-04 1.5941E-04 -3.2511E-06 -2.4462E-04 1.4161E-04 -
2.9830E-06 -2.3885E-04 1.3550E-04 -3.9114E-06 -2.4353E-04 1.4102E-04 -
4.2639E-06 -2.3777E-04 1.3558E-04 -4.6282E-06 -2.4098E-04 1.3903E-04 -
4.1336E-06 -2.3614E-04 1.3394E-04
10 1.2002E-06 5.5138E-06 -3.2779E-06 1.2118E-06 5.4974E-06 -3.2718E-06
1.2239E-06 5.4662E-06 -3.2511E-06 1.3537E-06 6.5805E-06 -3.9561E-06
1.2027E-06 5.4050E-06 -3.1733E-06 1.2313E-06 5.5501E-06 -3.3440E-06
1.2421E-06 5.3716E-06 -3.1757E-06 1.2533E-06 5.4710E-06 -3.2824E-06

1.2381E-06 5.3212E-06 -3.1252E-06
  11 5.0628E-06 4.3473E-04 -2.4594E-04 5.6385E-06 4.3421E-04 -2.4587E-04
6.3649E-06 4.3233E-04 -2.4462E-04 6.5805E-06 5.1029E-04 -2.9219E-04
5.0877E-06 4.2867E-04 -2.3995E-04 6.8054E-06 4.3736E-04 -2.5020E-04
7.4562E-06 4.2667E-04 -2.4010E-04 8.1305E-06 4.3262E-04 -2.4650E-04
7.2152E-06 4.2365E-04 -2.3707E-04
  12 -3.0590E-06 -2.4856E-04 1.4237E-04 -3.3938E-06 -2.4826E-04 1.4233E-04
-3.8164E-06 -2.4717E-04 1.4161E-04 -3.9561E-06 -2.9219E-04 1.6929E-04 -
3.0731E-06 -2.4504E-04 1.3889E-04 -4.0728E-06 -2.5009E-04 1.4485E-04 -
4.4515E-06 -2.4387E-04 1.3897E-04 -4.8439E-06 -2.4734E-04 1.4270E-04 -
4.3112E-06 -2.4211E-04 1.3721E-04
  13 1.1936E-06 5.0322E-06 -3.0055E-06 1.2034E-06 5.0178E-06 -2.9999E-06
1.2133E-06 4.9924E-06 -2.9830E-06 1.2027E-06 5.0877E-06 -3.0731E-06
1.3358E-06 5.7432E-06 -3.3770E-06 1.2192E-06 5.0602E-06 -3.0584E-06
1.2281E-06 4.9157E-06 -2.9217E-06 1.2372E-06 4.9961E-06 -3.0084E-06
1.2248E-06 4.8749E-06 -2.8807E-06
  14 4.9196E-06 4.2434E-04 -2.4007E-04 5.4566E-06 4.2387E-04 -2.4001E-04
6.1347E-06 4.2212E-04 -2.3885E-04 5.4050E-06 4.2867E-04 -2.4504E-04
5.7432E-06 4.8238E-04 -2.6972E-04 6.5451E-06 4.2678E-04 -2.4403E-04
7.1540E-06 4.1686E-04 -2.3464E-04 7.7823E-06 4.2238E-04 -2.4060E-04
6.9295E-06 4.1406E-04 -2.3183E-04
  15 -2.9075E-06 -2.3757E-04 1.3616E-04 -3.2015E-06 -2.3732E-04 1.3613E-04
-3.5732E-06 -2.3637E-04 1.3550E-04 -3.1733E-06 -2.3995E-04 1.3889E-04 -
3.3770E-06 -2.6972E-04 1.5280E-04 -3.7982E-06 -2.3892E-04 1.3834E-04 -
4.1321E-06 -2.3348E-04 1.3319E-04 -4.4766E-06 -2.3651E-04 1.3645E-04 -
4.0089E-06 -2.3195E-04 1.3165E-04
  16 1.2166E-06 6.7008E-06 -3.9487E-06 1.2326E-06 6.6795E-06 -3.9416E-06
1.2502E-06 6.6341E-06 -3.9114E-06 1.2313E-06 6.8054E-06 -4.0728E-06
1.2192E-06 6.5451E-06 -3.7982E-06 1.4181E-06 8.1284E-06 -4.8582E-06
1.2766E-06 6.4966E-06 -3.8017E-06 1.2929E-06 6.6414E-06 -3.9570E-06
1.2707E-06 6.4234E-06 -3.7284E-06
  17 5.0356E-06 4.3275E-04 -2.4483E-04 5.6040E-06 4.3224E-04 -2.4475E-04
6.3213E-06 4.3039E-04 -2.4353E-04 5.5501E-06 4.3736E-04 -2.5009E-04
5.0602E-06 4.2678E-04 -2.3892E-04 8.1284E-06 5.0526E-04 -2.8939E-04
7.3990E-06 4.2480E-04 -2.3906E-04 8.0648E-06 4.3068E-04 -2.4538E-04
7.1611E-06 4.2183E-04 -2.3607E-04
  18 -3.0444E-06 -2.4751E-04 1.4178E-04 -3.3754E-06 -2.4722E-04 1.4174E-04
-3.7932E-06 -2.4614E-04 1.4102E-04 -3.3440E-06 -2.5020E-04 1.4485E-04 -
3.0584E-06 -2.4403E-04 1.3834E-04 -4.8582E-06 -2.8939E-04 1.6773E-04 -
4.4211E-06 -2.4288E-04 1.3842E-04 -4.8089E-06 -2.4631E-04 1.4210E-04 -
4.2823E-06 -2.4115E-04 1.3668E-04
  19 1.2253E-06 7.3340E-06 -4.3068E-06 1.2436E-06 7.3101E-06 -4.2990E-06
1.2642E-06 7.2573E-06 -4.2639E-06 1.2421E-06 7.4562E-06 -4.4515E-06
1.2281E-06 7.1540E-06 -4.1321E-06 1.2766E-06 7.3990E-06 -4.4211E-06
1.4631E-06 8.5909E-06 -4.9859E-06 1.3140E-06 7.2656E-06 -4.3169E-06
1.2882E-06 7.0124E-06 -4.0509E-06
  20 4.8927E-06 4.2239E-04 -2.3897E-04 5.4224E-06 4.2193E-04 -2.3891E-04
6.0917E-06 4.2021E-04 -2.3777E-04 5.3716E-06 4.2667E-04 -2.4387E-04
4.9157E-06 4.1686E-04 -2.3348E-04 6.4966E-06 4.2480E-04 -2.4288E-04
8.5909E-06 4.7818E-04 -2.6892E-04 7.7177E-06 4.2047E-04 -2.3949E-04
6.8759E-06 4.1226E-04 -2.3084E-04
  21 -2.9094E-06 -2.3771E-04 1.3624E-04 -3.2039E-06 -2.3746E-04 1.3621E-04
-3.5763E-06 -2.3651E-04 1.3558E-04 -3.1757E-06 -2.4010E-04 1.3897E-04 -
2.9217E-06 -2.3464E-04 1.3319E-04 -3.8017E-06 -2.3906E-04 1.3842E-04 -

4.9859E-06 -2.6892E-04 1.5319E-04 -4.4814E-06 -2.3665E-04 1.3654E-04 -
4.0128E-06 -2.3208E-04 1.3172E-04
  22   1.2343E-06 7.9887E-06 -4.6768E-06 1.2551E-06 7.9621E-06 -4.6684E-06
1.2786E-06 7.9015E-06 -4.6282E-06 1.2533E-06 8.1305E-06 -4.8439E-06
1.2372E-06 7.7823E-06 -4.4766E-06 1.2929E-06 8.0648E-06 -4.8089E-06
1.3140E-06 7.7177E-06 -4.4814E-06 1.5143E-06 9.6605E-06 -5.7095E-06
1.3062E-06 7.6197E-06 -4.3832E-06
  23   4.9722E-06 4.2816E-04 -2.4223E-04 5.5236E-06 4.2767E-04 -2.4217E-04
6.2196E-06 4.2588E-04 -2.4098E-04 5.4710E-06 4.3262E-04 -2.4734E-04
4.9961E-06 4.2238E-04 -2.3651E-04 6.6414E-06 4.3068E-04 -2.4631E-04
7.2656E-06 4.2047E-04 -2.3665E-04 9.6605E-06 4.9336E-04 -2.8126E-04
7.0348E-06 4.1759E-04 -2.3376E-04
  24 -2.9950E-06 -2.4392E-04 1.3975E-04 -3.3126E-06 -2.4365E-04 1.3972E-04
-3.7138E-06 -2.4261E-04 1.3903E-04 -3.2824E-06 -2.4650E-04 1.4270E-04 -
3.0084E-06 -2.4060E-04 1.3645E-04 -3.9570E-06 -2.4538E-04 1.4210E-04 -
4.3169E-06 -2.3949E-04 1.3654E-04 -5.7095E-06 -2.8126E-04 1.6231E-04 -
4.1837E-06 -2.3783E-04 1.3487E-04
  25   1.2220E-06 7.1000E-06 -4.1744E-06 1.2395E-06 7.0771E-06 -4.1668E-06
1.2590E-06 7.0271E-06 -4.1336E-06 1.2381E-06 7.2152E-06 -4.3112E-06
1.2248E-06 6.9295E-06 -4.0089E-06 1.2707E-06 7.1611E-06 -4.2823E-06
1.2882E-06 6.8759E-06 -4.0128E-06 1.3062E-06 7.0348E-06 -4.1837E-06
1.4467E-06 8.1964E-06 -4.7196E-06
  26   4.8523E-06 4.1947E-04 -2.3732E-04 5.3712E-06 4.1901E-04 -2.3726E-04
6.0268E-06 4.1733E-04 -2.3614E-04 5.3213E-06 4.2365E-04 -2.4211E-04
4.8749E-06 4.1406E-04 -2.3195E-04 6.4234E-06 4.2183E-04 -2.4115E-04
7.0124E-06 4.1226E-04 -2.3208E-04 7.6197E-06 4.1759E-04 -2.3783E-04
8.1964E-06 4.7082E-04 -2.6323E-04
  27 -2.8689E-06 -2.3478E-04 1.3458E-04 -3.1525E-06 -2.3454E-04 1.3456E-04
-3.5113E-06 -2.3362E-04 1.3394E-04 -3.1252E-06 -2.3707E-04 1.3721E-04 -
2.8807E-06 -2.3183E-04 1.3165E-04 -3.7284E-06 -2.3607E-04 1.3668E-04 -
4.0509E-06 -2.3084E-04 1.3172E-04 -4.3832E-06 -2.3376E-04 1.3487E-04 -
4.7196E-06 -2.6323E-04 1.4915E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 2.2614E-01 -2.3677E-01 8.9413E-01 1.9434E-01 -2.0404E-01
8.8958E-01 1.9427E-01 -2.0400E-01 8.9462E-01 1.9437E-01 -2.0389E-01
8.9558E-01 1.9426E-01 -2.0399E-01 8.8598E-01 1.9428E-01 -2.0386E-01
8.7849E-01 1.9404E-01 -2.0386E-01 8.6986E-01 1.9414E-01 -2.0387E-01
8.8112E-01 1.9394E-01 -2.0372E-01
   2   2.2614E-01 1.0000E+00 -9.9394E-01 2.1429E-01 8.6460E-01 -8.5936E-01
2.3830E-01 8.6494E-01 -8.5974E-01 2.1248E-01 8.6284E-01 -8.5650E-01
1.9521E-01 8.6624E-01 -8.6171E-01 2.5229E-01 8.6318E-01 -8.5686E-01
2.7185E-01 8.6604E-01 -8.6111E-01 2.9106E-01 8.6427E-01 -8.5842E-01
2.6466E-01 8.6674E-01 -8.6191E-01
   3 -2.3677E-01 -9.9394E-01 1.0000E+00 -2.2374E-01 -8.5949E-01 8.6516E-01
-2.4744E-01 -8.5984E-01 8.6560E-01 -2.2196E-01 -8.5773E-01 8.6204E-01 -
2.0486E-01 -8.6114E-01 8.6781E-01 -2.6124E-01 -8.5808E-01 8.6244E-01 -
2.8051E-01 -8.6095E-01 8.6720E-01 -2.9941E-01 -8.5917E-01 8.6417E-01 -
2.7342E-01 -8.6165E-01 8.6816E-01
   4   8.9413E-01 2.1429E-01 -2.2374E-01 1.0000E+00 2.5193E-01 -2.6228E-01
8.9113E-01 2.1361E-01 -2.2309E-01 8.9420E-01 2.1429E-01 -2.2393E-01
8.9388E-01 2.1329E-01 -2.2235E-01 8.8862E-01 2.1403E-01 -2.2375E-01
8.8269E-01 2.1288E-01 -2.2224E-01 8.7562E-01 2.1350E-01 -2.2322E-01
8.8475E-01 2.1251E-01 -2.2161E-01

5 1.9434E-01 8.6460E-01 -8.5949E-01 2.5193E-01 1.0000E+00 -9.9392E-01
2.3778E-01 8.6476E-01 -8.5958E-01 2.1204E-01 8.6261E-01 -8.5627E-01
1.9483E-01 8.6608E-01 -8.6159E-01 2.5172E-01 8.6296E-01 -8.5664E-01
2.7121E-01 8.6589E-01 -8.6099E-01 2.9036E-01 8.6408E-01 -8.5824E-01
2.6405E-01 8.6661E-01 -8.6183E-01
6 -2.0404E-01 -8.5936E-01 8.6516E-01 -2.6228E-01 -9.9392E-01 1.0000E+00
-2.4697E-01 -8.5954E-01 8.6533E-01 -2.2153E-01 -8.5741E-01 8.6173E-01 -
2.0447E-01 -8.6085E-01 8.6756E-01 -2.6074E-01 -8.5776E-01 8.6214E-01 -
2.7998E-01 -8.6066E-01 8.6695E-01 -2.9885E-01 -8.5887E-01 8.6390E-01 -
2.7290E-01 -8.6137E-01 8.6793E-01
7 8.8958E-01 2.3830E-01 -2.4744E-01 8.9113E-01 2.3778E-01 -2.4697E-01
1.0000E+00 2.8325E-01 -2.9320E-01 8.9131E-01 2.3873E-01 -2.4852E-01
8.8942E-01 2.3666E-01 -2.4492E-01 8.8950E-01 2.3827E-01 -2.4816E-01
8.8551E-01 2.3603E-01 -2.4482E-01 8.8037E-01 2.3725E-01 -2.4698E-01
8.8686E-01 2.3533E-01 -2.4360E-01
8 1.9427E-01 8.6494E-01 -8.5984E-01 2.1361E-01 8.6476E-01 -8.5954E-01
2.8325E-01 1.0000E+00 -9.9386E-01 2.1182E-01 8.6288E-01 -8.5648E-01
1.9475E-01 8.6653E-01 -8.6212E-01 2.5117E-01 8.6327E-01 -8.5687E-01
2.7051E-01 8.6638E-01 -8.6152E-01 2.8949E-01 8.6447E-01 -8.5858E-01
2.6341E-01 8.6715E-01 -8.6245E-01
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2730217 24 26 -8603312 24 27 8668061 25 26 3140544 25 27 -3212954 D 26 27 -
9933320

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	4284.618	-5530812.141	3165884.873
nola	4284.623	-5530812.161	3165884.896
lwes	4284.611	-5530812.161	3165884.903
covg	4284.613	-5530812.130	3165884.875
gris	4284.612	-5530812.148	3165884.890
hamm	4284.612	-5530812.188	3165884.907
houm	4284.615	-5530812.174	3165884.905
gvms	4284.618	-5530812.162	3165884.896
lmcn	4284.616	-5530812.166	3165884.899

Residuals of position determined by individual baselines from the final

position

	X	Y	Z	East	North	Up
eng6	0.002	0.008	-0.015	0.002	-0.009	-0.015
nola	0.007	-0.011	0.008	0.007	0.001	0.013
lwes	-0.005	-0.012	0.015	-0.005	0.007	0.018
covg	-0.002	0.019	-0.013	-0.002	0.002	-0.023
gris	-0.004	0.002	0.001	-0.004	0.002	-0.001
hamm	-0.004	-0.038	0.019	-0.004	0.003	0.043
houm	-0.001	-0.025	0.017	-0.001	0.002	0.030
gvms	0.002	-0.013	0.008	0.002	0.001	0.015
lmcn	0.001	-0.016	0.011	0.001	0.001	0.020

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 531165.624
Easting (X) [feet] 3717121.105
Convergence [degrees] 0.68888091
Point Scale 0.99992609
Combined Factor 0.99993022

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.429 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.527
scatter (mean square distance from rover) is 5018.062
average edop for rover is 0.910
average ndop for rover is 1.050
average hdop for rover is 1.389
average vdop for rover is 2.670
average gdop for rover is 3.620

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:16 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA43.O00 OP1335489107777

FILE: QCFVA43.O00 OP1335489107777

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068s.12o TIME: 01:15:28 UTC

SOFTWARE: rsgps 1.37 RS11.prl 1.73 START: 2012/03/08 18:38:11
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 18:58:22
NAV FILE: brdc0680.12n OBS USED: 1746 / 1746 : 100%
ANT NAME: LEIAT502 NONE QUALITY IND. 6.66/ 13.12
ARP HEIGHT: 1.450 NORMALIZED RMS: 0.371

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18520)

X:	6708.129(m)	0.005(m)	6707.396(m)	0.005(m)
Y:	-5525012.325(m)	0.031(m)	-5525010.834(m)	0.031(m)
Z:	3175925.618(m)	0.014(m)	3175925.411(m)	0.014(m)

LAT:	30 3 28.75943	0.007(m)	30 3 28.77788	0.007(m)
E LON:	270 4 10.43388	0.005(m)	270 4 10.40658	0.005(m)
W LON:	89 55 49.56612	0.005(m)	89 55 49.59342	0.005(m)
EL HGT:	-26.938(m)	0.033(m)	-28.333(m)	0.033(m)
ORTHO HGT:	-0.686(m)	0.035(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (Zone 16)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3328831.891	173522.206
Easting (X) [meters]	217468.972	1135268.314
Convergence [degrees]	-1.46875925	0.70146695
Point Scale	1.00058495	0.99992624
Combined Factor	1.00058919	0.99993047

US NATIONAL GRID DESIGNATOR: 16RBU1746828831(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	19853.1

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 22868.7
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 44046.5
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 48977.3
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 87879.7
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 92425.1
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 97936.6
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 101579.4
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 110043.8

NEAREST NGS PUBLISHED CONTROL POINT
BH2832 36A001 N300355.321 W0895557.682 849.6

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.599	-5534921.908	3158759.194
nola	-11604.034	-5531876.856	3164070.917
lwes	-33746.211	-5533652.919	3160795.436
covg	-9174.162	-5501675.345	3215950.507
gris	4149.693	-5568493.951	3099600.311
houm	-70100.643	-5550262.364	3131144.921
gvms	-86907.675	-5510048.179	3200500.202
awes	-94742.057	-5521868.849	3179990.074
mspk	82001.473	-5483970.031	3244889.884
qcfv	6707.396	-5525010.834	3175925.411

Covariance matrix of the stations:
1 2.8110E-07 -1.1930E-06 5.9220E-07 -1.9710E-08 1.5250E-07 -7.6800E-08
-2.1550E-08 1.3210E-07 -6.7720E-08 -1.9440E-08 2.1080E-07 -9.6140E-08 -
1.8710E-08 9.0290E-08 -5.9260E-08 -2.5010E-08 6.7200E-08 -4.2880E-08 -
2.5810E-08 1.3860E-07 -6.3810E-08 -2.6680E-08 1.0780E-07 -5.2800E-08 -
1.3050E-08 2.9390E-07 -1.3290E-07 6.5440E-09 2.5440E-07 -1.3500E-07
2 -1.1930E-06 2.4180E-05 -1.2440E-05 1.5510E-07 -2.9750E-06 1.5360E-06
1.5110E-07 -3.1350E-06 1.6100E-06 1.4680E-07 -2.4910E-06 1.3340E-06
1.6970E-07 -3.5580E-06 1.7660E-06 1.4680E-07 -3.6910E-06 1.8510E-06
1.3380E-07 -3.0360E-06 1.5890E-06 1.3450E-07 -3.2970E-06 1.7000E-06
1.5510E-07 -1.8900E-06 1.0520E-06 -1.1730E-08 5.4690E-07 -2.9740E-07
3 5.9220E-07 -1.2440E-05 6.7390E-06 -7.7930E-08 1.5380E-06 -8.1770E-07
-7.4400E-08 1.6230E-06 -8.5640E-07 -7.5330E-08 1.2880E-06 -7.2180E-07 -
8.4160E-08 1.8250E-06 -9.1940E-07 -6.8830E-08 1.9080E-06 -9.7440E-07 -
6.3490E-08 1.5840E-06 -8.5750E-07 -6.2700E-08 1.7180E-06 -9.1090E-07 -
8.5320E-08 9.5490E-07 -5.7040E-07 9.4270E-09 -4.1780E-07 2.4660E-07
4 -1.9710E-08 1.5510E-07 -7.7930E-08 2.7750E-07 -1.1830E-06 5.8770E-07
-2.0980E-08 1.4080E-07 -7.0640E-08 -2.0130E-08 1.7350E-07 -8.2950E-08 -
1.9920E-08 1.2900E-07 -6.9820E-08 -2.2340E-08 1.1090E-07 -5.8490E-08 -
2.2660E-08 1.3790E-07 -6.5970E-08 -2.3010E-08 1.2460E-07 -6.1010E-08 -
1.7640E-08 2.1170E-07 -1.0090E-07 8.5130E-09 1.2300E-07 -6.5070E-08
5 1.5250E-07 -2.9750E-06 1.5380E-06 -1.1830E-06 2.4500E-05 -1.2610E-05
1.5020E-07 -3.1490E-06 1.6230E-06 1.4230E-07 -2.6400E-06 1.3940E-06

1.6360E-07 -3.4840E-06 1.7560E-06 1.5210E-07 -3.6020E-06 1.8260E-06
1.4060E-07 -3.0780E-06 1.6040E-06 1.4280E-07 -3.2870E-06 1.6970E-06
1.3920E-07 -2.1720E-06 1.1680E-06 6.1070E-09 -5.3200E-08 3.7120E-08
   6 -7.6800E-08 1.5360E-06 -8.1770E-07 5.8770E-07 -1.2610E-05 6.8310E-06
-7.4040E-08 1.6280E-06 -8.6250E-07 -7.2630E-08 1.3780E-06 -7.5820E-07 -
8.0420E-08 1.7730E-06 -9.1110E-07 -7.2370E-08 1.8470E-06 -9.5630E-07 -
6.7960E-08 1.6060E-06 -8.6480E-07 -6.8130E-08 1.7070E-06 -9.0680E-07 -
7.5350E-08 1.1300E-06 -6.4230E-07 -8.8420E-10 -4.0760E-08 3.2810E-08
   7 -2.1550E-08 1.5110E-07 -7.4400E-08 -2.0980E-08 1.5020E-07 -7.4040E-08
2.7520E-07 -1.1680E-06 5.7810E-07 -2.1040E-08 1.2520E-07 -6.5760E-08 -
2.1500E-08 1.8170E-07 -8.4180E-08 -1.8750E-08 1.7040E-07 -7.9550E-08 -
1.8440E-08 1.3820E-07 -6.9190E-08 -1.8080E-08 1.4820E-07 -7.2260E-08 -
2.3760E-08 1.0340E-07 -5.8740E-08 1.4060E-08 -6.1480E-08 3.3060E-08
   8   1.3210E-07 -3.1350E-06 1.6230E-06 1.4080E-07 -3.1490E-06 1.6280E-06
-1.1680E-06 2.5570E-05 -1.3100E-05 1.3070E-07 -3.2010E-06 1.6040E-06
1.4530E-07 -3.1270E-06 1.6770E-06 1.8060E-07 -3.1810E-06 1.6850E-06
1.7500E-07 -3.1960E-06 1.6270E-06 1.8350E-07 -3.1920E-06 1.6460E-06
8.0670E-08 -3.2750E-06 1.6060E-06 5.1540E-08 -1.8250E-06 9.6780E-07
   9 -6.7720E-08 1.6100E-06 -8.5640E-07 -7.0640E-08 1.6230E-06 -8.6250E-07
5.7810E-07 -1.3100E-05 7.0540E-06 -6.7230E-08 1.6200E-06 -8.4940E-07 -
7.2150E-08 1.6300E-06 -8.8050E-07 -8.3650E-08 1.6770E-06 -8.9970E-07 -
8.1770E-08 1.6620E-06 -8.7740E-07 -8.4550E-08 1.6740E-06 -8.8830E-07 -
5.0420E-08 1.5990E-06 -8.2890E-07 -1.9300E-08 7.0650E-07 -3.5900E-07
  10 -1.9440E-08 1.4680E-07 -7.5330E-08 -2.0130E-08 1.4230E-07 -7.2630E-08
-2.1040E-08 1.3070E-07 -6.7230E-08 2.7770E-07 -1.0880E-06 5.5610E-07 -
1.9730E-08 1.1460E-07 -6.5500E-08 -2.2770E-08 9.5890E-08 -5.3440E-08 -
2.3120E-08 1.2920E-07 -6.2610E-08 -2.3570E-08 1.1340E-07 -5.6860E-08 -
1.6800E-08 2.1530E-07 -1.0250E-07 7.9190E-09 1.3570E-07 -7.3400E-08
  11   2.1080E-07 -2.4910E-06 1.2880E-06 1.7350E-07 -2.6400E-06 1.3780E-06
1.2520E-07 -3.2010E-06 1.6200E-06 -1.0880E-06 2.3190E-05 -1.1900E-05
2.1460E-07 -4.8080E-06 2.0810E-06 3.8800E-08 -5.1410E-06 2.3640E-06
6.5840E-09 -2.7310E-06 1.5690E-06 -1.3230E-08 -3.6830E-06 1.9190E-06
3.3170E-07 1.6180E-06 -3.1410E-07 -1.6610E-07 6.0800E-06 -3.1740E-06
  12 -9.6140E-08 1.3340E-06 -7.2180E-07 -8.2950E-08 1.3940E-06 -7.5820E-07
-6.5760E-08 1.6040E-06 -8.4940E-07 5.5610E-07 -1.1900E-05 6.5170E-06 -
9.7540E-08 2.1750E-06 -1.0080E-06 -3.4930E-08 2.3210E-06 -1.1250E-06 -
2.3460E-08 1.4500E-06 -8.4020E-07 -1.6380E-08 1.7990E-06 -9.6860E-07 -
1.3890E-07 -1.7200E-07 -1.3460E-07 5.5980E-08 -2.1120E-06 1.1090E-06
  13 -1.8710E-08 1.6970E-07 -8.4160E-08 -1.9920E-08 1.6360E-07 -8.0420E-08
-2.1500E-08 1.4530E-07 -7.2150E-08 -1.9730E-08 2.1460E-07 -9.7540E-08
2.8090E-07 -1.3410E-06 6.4070E-07 -2.4460E-08 8.7250E-08 -4.9570E-08 -
2.5200E-08 1.4990E-07 -6.8170E-08 -2.5940E-08 1.2250E-07 -5.8260E-08 -
1.4250E-08 2.8810E-07 -1.3050E-07 5.1480E-09 2.4430E-07 -1.2720E-07
  14   9.0290E-08 -3.5580E-06 1.8250E-06 1.2900E-07 -3.4840E-06 1.7730E-06
1.8170E-07 -3.1270E-06 1.6300E-06 1.1460E-07 -4.8080E-06 2.1750E-06 -
1.3410E-06 2.9850E-05 -1.4570E-05 2.8260E-07 -1.9010E-06 1.2220E-06
2.9450E-07 -3.5050E-06 1.6500E-06 3.2150E-07 -2.8760E-06 1.4520E-06 -
7.3280E-08 -6.4760E-06 2.8450E-06 2.0290E-07 -6.9840E-06 3.6530E-06
  15 -5.9260E-08 1.7660E-06 -9.1940E-07 -6.9820E-08 1.7560E-06 -9.1110E-07
-8.4180E-08 1.6770E-06 -8.8050E-07 -6.5500E-08 2.0810E-06 -1.0080E-06
6.4070E-07 -1.4570E-05 7.5240E-06 -1.1170E-07 1.3940E-06 -7.9010E-07 -
1.1450E-07 1.7900E-06 -8.9490E-07 -1.2190E-07 1.6400E-06 -8.4920E-07 -
1.3730E-08 2.4670E-06 -1.1600E-06 -5.9700E-08 2.0630E-06 -1.0520E-06
  16 -2.5010E-08 1.4680E-07 -6.8830E-08 -2.2340E-08 1.5210E-07 -7.2370E-08

-1.8750E-08 1.8060E-07 -8.3650E-08 -2.2770E-08 3.8800E-08 -3.4930E-08 -
2.4460E-08 2.8260E-07 -1.1170E-07 2.7930E-07 -1.0440E-06 5.2330E-07 -
1.0630E-08 1.4190E-07 -7.6140E-08 -8.9570E-09 1.9510E-07 -9.4070E-08 -
3.5200E-08 -9.4270E-08 1.8450E-08 2.4290E-08 -4.0030E-07 2.1390E-07
  17   6.7200E-08 -3.6910E-06 1.9080E-06 1.1090E-07 -3.6020E-06 1.8470E-06
1.7040E-07 -3.1810E-06 1.6770E-06 9.5890E-08 -5.1410E-06 2.3210E-06
8.7250E-08 -1.9010E-06 1.3940E-06 -1.0440E-06 3.1200E-05 -1.5420E-05
2.9880E-07 -3.6130E-06 1.7000E-06 3.2880E-07 -2.8770E-06 1.4640E-06 -
1.1520E-07 -7.0830E-06 3.1060E-06 2.1300E-07 -7.9260E-06 4.1610E-06
  18 -4.2880E-08 1.8510E-06 -9.7440E-07 -5.8490E-08 1.8260E-06 -9.5630E-07
-7.9550E-08 1.6850E-06 -8.9970E-07 -5.3440E-08 2.3640E-06 -1.1250E-06 -
4.9570E-08 1.2220E-06 -7.9010E-07 5.2330E-07 -1.5420E-05 7.9990E-06 -
1.2520E-07 1.8520E-06 -9.1770E-07 -1.3570E-07 1.5970E-06 -8.3550E-07
2.1510E-08 3.0210E-06 -1.3900E-06 -7.6290E-08 2.9530E-06 -1.5290E-06
  19 -2.5810E-08 1.3380E-07 -6.3490E-08 -2.2660E-08 1.4060E-07 -6.7960E-08
-1.8440E-08 1.7500E-07 -8.1770E-08 -2.3120E-08 6.5840E-09 -2.3460E-08 -
2.5200E-08 2.9450E-07 -1.1450E-07 -1.0630E-08 2.9880E-07 -1.2520E-07
2.8160E-07 -1.0920E-06 5.3100E-07 -6.9060E-09 1.9440E-07 -9.5300E-08 -
3.7700E-08 -1.5220E-07 4.0850E-08 2.6700E-08 -4.9130E-07 2.6020E-07
  20   1.3860E-07 -3.0360E-06 1.5840E-06 1.3790E-07 -3.0780E-06 1.6060E-06
1.3820E-07 -3.1960E-06 1.6620E-06 1.2920E-07 -2.7310E-06 1.4500E-06
1.4990E-07 -3.5050E-06 1.7900E-06 1.4190E-07 -3.6130E-06 1.8520E-06 -
1.0920E-06 2.4900E-05 -1.2920E-05 1.3350E-07 -3.3220E-06 1.7300E-06
1.2270E-07 -2.3070E-06 1.2430E-06 -2.4120E-09 -2.4080E-07 1.4980E-07
  21 -6.3810E-08 1.5890E-06 -8.5750E-07 -6.5970E-08 1.6040E-06 -8.6480E-07
-6.9190E-08 1.6270E-06 -8.7740E-07 -6.2610E-08 1.5690E-06 -8.4020E-07 -
6.8170E-08 1.6500E-06 -8.9490E-07 -7.6140E-08 1.7000E-06 -9.1770E-07
5.3100E-07 -1.2920E-05 7.0650E-06 -7.6070E-08 1.6710E-06 -8.9850E-07 -
4.9270E-08 1.5080E-06 -8.0320E-07 -1.0890E-08 5.7280E-07 -3.0050E-07
  22 -2.6680E-08 1.3450E-07 -6.2700E-08 -2.3010E-08 1.4280E-07 -6.8130E-08
-1.8080E-08 1.8350E-07 -8.4550E-08 -2.3570E-08 -1.3230E-08 -1.6380E-08 -
2.5940E-08 3.2150E-07 -1.2190E-07 -8.9570E-09 3.2880E-07 -1.3570E-07 -
6.9060E-09 1.3350E-07 -7.6070E-08 2.8490E-07 -1.0320E-06 5.0610E-07 -
4.0590E-08 -1.9990E-07 5.9500E-08 2.9240E-08 -5.7420E-07 3.0480E-07
  23   1.0780E-07 -3.2970E-06 1.7180E-06 1.2460E-07 -3.2870E-06 1.7070E-06
1.4820E-07 -3.1920E-06 1.6740E-06 1.1340E-07 -3.6830E-06 1.7990E-06
1.2250E-07 -2.8760E-06 1.6400E-06 1.9510E-07 -2.8770E-06 1.5970E-06
1.9440E-07 -3.3220E-06 1.6710E-06 -1.0320E-06 2.6840E-05 -1.3790E-05
2.6130E-08 -4.1920E-06 1.9840E-06 7.9920E-08 -3.2750E-06 1.7380E-06
  24 -5.2800E-08 1.7000E-06 -9.1090E-07 -6.1010E-08 1.6970E-06 -9.0680E-07
-7.2260E-08 1.6460E-06 -8.8830E-07 -5.6860E-08 1.9190E-06 -9.6860E-07 -
5.8260E-08 1.4520E-06 -8.4920E-07 -9.4070E-08 1.4640E-06 -8.3550E-07 -
9.5300E-08 1.7300E-06 -8.9850E-07 5.0610E-07 -1.3790E-05 7.4360E-06 -
1.5770E-08 2.1810E-06 -1.0670E-06 -3.8830E-08 1.6390E-06 -8.5470E-07
  25 -1.3050E-08 1.5510E-07 -8.5320E-08 -1.7640E-08 1.3920E-07 -7.5350E-08
-2.3760E-08 8.0670E-08 -5.0420E-08 -1.6800E-08 3.3170E-07 -1.3890E-07 -
1.4250E-08 -7.3280E-08 -1.3730E-08 -3.5200E-08 -1.1520E-07 2.1510E-08 -
3.7700E-08 1.2270E-07 -4.9270E-08 -4.0590E-08 2.6130E-08 -1.5770E-08
3.1000E-07 -6.6660E-07 4.0700E-07 -1.1320E-08 7.6960E-07 -4.1120E-07
  26   2.9390E-07 -1.8900E-06 9.5490E-07 2.1170E-07 -2.1720E-06 1.1300E-06
1.0340E-07 -3.2750E-06 1.5990E-06 2.1530E-07 1.6180E-06 -1.7200E-07
2.8810E-07 -6.4760E-06 2.4670E-06 -9.4270E-08 -7.0830E-06 3.0210E-06 -
1.5220E-07 -2.3070E-06 1.5080E-06 -1.9990E-07 -4.1920E-06 2.1810E-06 -
6.6660E-07 2.5890E-05 -1.2690E-05 -3.7320E-07 1.3790E-05 -7.2340E-06

27 -1.3290E-07 1.0520E-06 -5.7040E-07 -1.0090E-07 1.1680E-06 -6.4230E-07
-5.8740E-08 1.6060E-06 -8.2890E-07 -1.0250E-07 -3.1410E-07 -1.3460E-07 -
1.3050E-07 2.8450E-06 -1.1600E-06 1.8450E-08 3.1060E-06 -1.3900E-06
4.0850E-08 1.2430E-06 -8.0320E-07 5.9500E-08 1.9840E-06 -1.0670E-06
4.0700E-07 -1.2690E-05 6.7070E-06 1.4040E-07 -5.3630E-06 2.8170E-06
28 6.5440E-09 -1.1730E-08 9.4270E-09 8.5130E-09 6.1070E-09 -8.8420E-10
1.4060E-08 5.1540E-08 -1.9300E-08 7.9190E-09 -1.6610E-07 5.5980E-08
5.1480E-09 2.0290E-07 -5.9700E-08 2.4290E-08 2.1300E-07 -7.6290E-08
2.6700E-08 -2.4120E-09 -1.0890E-08 2.9240E-08 7.9920E-08 -3.8830E-08 -
1.1320E-08 -3.7320E-07 1.4040E-07 2.7030E-06 -1.1980E-05 5.9980E-06
29 2.5440E-07 5.4690E-07 -4.1780E-07 1.2300E-07 -5.3200E-08 -4.0760E-08
-6.1480E-08 -1.8250E-06 7.0650E-07 1.3570E-07 6.0800E-06 -2.1120E-06
2.4430E-07 -6.9840E-06 2.0630E-06 -4.0030E-07 -7.9260E-06 2.9530E-06 -
4.9130E-07 -2.4080E-07 5.7280E-07 -5.7420E-07 -3.2750E-06 1.6390E-06
7.6960E-07 1.3790E-05 -5.3630E-06 -1.1980E-05 2.3710E-04 -1.2270E-04
30 -1.3500E-07 -2.9740E-07 2.4660E-07 -6.5070E-08 3.7120E-08 3.2810E-08
3.3060E-08 9.6780E-07 -3.5900E-07 -7.3400E-08 -3.1740E-06 1.1090E-06 -
1.2720E-07 3.6530E-06 -1.0520E-06 2.1390E-07 4.1610E-06 -1.5290E-06
2.6020E-07 1.4980E-07 -3.0050E-07 3.0480E-07 1.7380E-06 -8.5470E-07 -
4.1120E-07 -7.2340E-06 2.8170E-06 5.9980E-06 -1.2270E-04 6.6850E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000027030 -0.0000119800 0.0000059980
-0.0000119800 0.0002371000 -0.0001227000
0.0000059980 -0.0001227000 0.0000668500

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000026743 -0.0000007576 0.0000130545
-0.0000007576 0.0000031063 -0.0000118151
0.0000130545 -0.0000118151 0.0003008724

Horizontal network accuracy = 0.00420 meters.
Vertical network accuracy = 0.03401 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	-1112.797	-9911.074	-17166.217
nola	qcfv	-18311.430	-6866.022	-11854.494
lwes	qcfv	-40453.607	-8642.085	-15129.975
covg	qcfv	-15881.559	23335.489	40025.096
gris	qcfv	-2557.704	-43483.116	-76325.100
houm	qcfv	-76808.039	-25251.529	-44780.490
gvms	qcfv	-93615.071	14962.655	24574.791
awes	qcfv	-101449.453	3141.985	4064.663
mspk	qcfv	75294.077	41040.803	68964.473

Covariance matrix of the 9 vectors
1 2.9710E-06 -1.3416E-05 6.7158E-06 2.6682E-06 -1.2088E-05 6.0571E-06
2.6608E-06 -1.2154E-05 6.0846E-06 2.6691E-06 -1.1858E-05 5.9809E-06
2.6726E-06 -1.2347E-05 6.1334E-06 2.6472E-06 -1.2380E-05 6.1664E-06
2.6439E-06 -1.2093E-05 6.0801E-06 2.6405E-06 -1.2207E-05 6.1190E-06
2.6947E-06 -1.1567E-05 5.8597E-06
2 -1.3416E-05 2.6019E-04 -1.3442E-04 -1.1936E-05 2.3363E-04 -1.2083E-04

-1.1756E-05 2.3524E-04 -1.2150E-04 -1.1957E-05 2.2798E-04 -1.1896E-04 -
1.2043E-05 2.3998E-04 -1.2270E-04 -1.1421E-05 2.4079E-04 -1.2350E-04 -
1.1343E-05 2.3376E-04 -1.2139E-04 -1.1260E-05 2.3653E-04 -1.2234E-04 -
1.2583E-05 2.2087E-04 -1.1599E-04
   3   6.7158E-06 -1.3442E-04 7.3096E-05 5.9757E-06 -1.2078E-04 6.5753E-05
5.8811E-06 -1.2163E-04 6.6106E-05 5.9866E-06 -1.1782E-04 6.4773E-05
6.0316E-06 -1.2411E-04 6.6736E-05 5.7058E-06 -1.2454E-04 6.7158E-05
5.6649E-06 -1.2085E-04 6.6046E-05 5.6211E-06 -1.2230E-04 6.6547E-05
6.3145E-06 -1.1409E-04 6.3216E-05
   4   2.6682E-06 -1.1936E-05 5.9757E-06 2.9635E-06 -1.3292E-05 6.6517E-06
2.6594E-06 -1.2014E-05 6.0117E-06 2.6664E-06 -1.1763E-05 5.9241E-06
2.6694E-06 -1.2177E-05 6.0530E-06 2.6479E-06 -1.2205E-05 6.0809E-06
2.6451E-06 -1.1963E-05 6.0080E-06 2.6422E-06 -1.2058E-05 6.0409E-06
2.6882E-06 -1.1518E-05 5.8218E-06
   5 -1.2088E-05 2.3363E-04 -1.2078E-04 -1.3292E-05 2.6171E-04 -1.3531E-04
-1.1774E-05 2.3583E-04 -1.2182E-04 -1.1980E-05 2.2843E-04 -1.1923E-04 -
1.2067E-05 2.4065E-04 -1.2304E-04 -1.1434E-05 2.4148E-04 -1.2386E-04 -
1.1354E-05 2.3432E-04 -1.2171E-04 -1.1269E-05 2.3714E-04 -1.2268E-04 -
1.2617E-05 2.2119E-04 -1.1621E-04
   6   6.0571E-06 -1.2083E-04 6.5753E-05 6.6517E-06 -1.3531E-04 7.3615E-05
5.8918E-06 -1.2200E-04 6.6314E-05 5.9997E-06 -1.1811E-04 6.4950E-05
6.0457E-06 -1.2454E-04 6.6958E-05 5.7126E-06 -1.2497E-04 6.7390E-05
5.6707E-06 -1.2120E-04 6.6253E-05 5.6260E-06 -1.2269E-04 6.6765E-05
6.3347E-06 -1.1430E-04 6.3358E-05
   7   2.6608E-06 -1.1756E-05 5.8811E-06 2.6594E-06 -1.1774E-05 5.8918E-06
2.9501E-06 -1.3138E-05 6.5623E-06 2.6600E-06 -1.1627E-05 5.8432E-06
2.6623E-06 -1.1940E-05 5.9405E-06 2.6459E-06 -1.1961E-05 5.9617E-06
2.6438E-06 -1.1778E-05 5.9066E-06 2.6416E-06 -1.1850E-05 5.9315E-06
2.6765E-06 -1.1442E-05 5.7658E-06
   8 -1.2154E-05 2.3524E-04 -1.2163E-04 -1.2014E-05 2.3583E-04 -1.2200E-04
-1.3138E-05 2.6632E-04 -1.3747E-04 -1.2037E-05 2.2964E-04 -1.1995E-04 -
1.2131E-05 2.4278E-04 -1.2405E-04 -1.1451E-05 2.4367E-04 -1.2494E-04 -
1.1365E-05 2.3597E-04 -1.2261E-04 -1.1274E-05 2.3901E-04 -1.2366E-04 -
1.2720E-05 2.2186E-04 -1.1670E-04
   9   6.0846E-06 -1.2150E-04 6.6106E-05 6.0117E-06 -1.2182E-04 6.6314E-05
6.5623E-06 -1.3747E-04 7.4622E-05 6.0235E-06 -1.1861E-04 6.5251E-05
6.0724E-06 -1.2543E-04 6.7381E-05 5.7197E-06 -1.2589E-04 6.7838E-05
5.6753E-06 -1.2189E-04 6.6632E-05 5.6280E-06 -1.2347E-04 6.7175E-05
6.3781E-06 -1.1457E-04 6.3563E-05
  10   2.6691E-06 -1.1957E-05 5.9866E-06 2.6664E-06 -1.1980E-05 5.9997E-06
2.6600E-06 -1.2037E-05 6.0235E-06 2.9649E-06 -1.3038E-05 6.5715E-06
2.6702E-06 -1.2204E-05 6.0656E-06 2.6480E-06 -1.2233E-05 6.0943E-06
2.6453E-06 -1.1984E-05 6.0197E-06 2.6423E-06 -1.2082E-05 6.0534E-06
2.6896E-06 -1.1527E-05 5.8285E-06
  11 -1.1858E-05 2.2798E-04 -1.1782E-04 -1.1763E-05 2.2843E-04 -1.1811E-04
-1.1627E-05 2.2964E-04 -1.1861E-04 -1.3038E-05 2.4813E-04 -1.2931E-04 -
1.1844E-05 2.3320E-04 -1.1951E-04 -1.1375E-05 2.3380E-04 -1.2011E-04 -
1.1316E-05 2.2853E-04 -1.1853E-04 -1.1253E-05 2.3061E-04 -1.1925E-04 -
1.2252E-05 2.1885E-04 -1.1448E-04
  12   5.9809E-06 -1.1896E-04 6.4773E-05 5.9241E-06 -1.1923E-04 6.4950E-05
5.8432E-06 -1.1995E-04 6.5251E-05 6.5715E-06 -1.2931E-04 7.1149E-05
5.9717E-06 -1.2207E-04 6.5785E-05 5.6932E-06 -1.2243E-04 6.6145E-05
5.6584E-06 -1.1929E-04 6.5201E-05 5.6208E-06 -1.2053E-04 6.5627E-05
6.2143E-06 -1.1353E-04 6.2789E-05

13 2.6726E-06 -1.2043E-05 6.0316E-06 2.6694E-06 -1.2067E-05 6.0457E-06
2.6623E-06 -1.2131E-05 6.0724E-06 2.6702E-06 -1.1844E-05 5.9717E-06
2.9736E-06 -1.3768E-05 6.8256E-06 2.6491E-06 -1.2350E-05 6.1519E-06
2.6460E-06 -1.2072E-05 6.0679E-06 2.6427E-06 -1.2182E-05 6.1058E-06
2.6949E-06 -1.1563E-05 5.8543E-06
14 -1.2347E-05 2.3998E-04 -1.2411E-04 -1.2177E-05 2.4065E-04 -1.2454E-04
-1.1940E-05 2.4278E-04 -1.2543E-04 -1.2204E-05 2.3320E-04 -1.2207E-04 -
1.3768E-05 2.8092E-04 -1.4299E-04 -1.1500E-05 2.5011E-04 -1.2808E-04 -
1.1397E-05 2.4082E-04 -1.2528E-04 -1.1287E-05 2.4448E-04 -1.2654E-04 -
1.3026E-05 2.2382E-04 -1.1815E-04
15 6.1334E-06 -1.2270E-04 6.6736E-05 6.0530E-06 -1.2304E-04 6.6958E-05
5.9405E-06 -1.2405E-04 6.7381E-05 6.0656E-06 -1.1951E-04 6.5785E-05
6.8256E-06 -1.4299E-04 7.6478E-05 5.7321E-06 -1.2753E-04 6.8641E-05
5.6830E-06 -1.2312E-04 6.7308E-05 5.6310E-06 -1.2486E-04 6.7907E-05
6.4552E-06 -1.1506E-04 6.3925E-05
16 2.6472E-06 -1.1421E-05 5.7058E-06 2.6479E-06 -1.1434E-05 5.7126E-06
2.6459E-06 -1.1451E-05 5.7197E-06 2.6480E-06 -1.1375E-05 5.6932E-06
2.6491E-06 -1.1500E-05 5.7321E-06 2.9337E-06 -1.2837E-05 6.3837E-06
2.6414E-06 -1.1435E-05 5.7189E-06 2.6405E-06 -1.1465E-05 5.7289E-06
2.6548E-06 -1.1301E-05 5.6621E-06
17 -1.2380E-05 2.4079E-04 -1.2454E-04 -1.2205E-05 2.4148E-04 -1.2497E-04
-1.1961E-05 2.4367E-04 -1.2589E-04 -1.2233E-05 2.3380E-04 -1.2243E-04 -
1.2350E-05 2.5011E-04 -1.2753E-04 -1.2837E-05 2.8415E-04 -1.4523E-04 -
1.1403E-05 2.4165E-04 -1.2573E-04 -1.1290E-05 2.4542E-04 -1.2704E-04 -
1.3078E-05 2.2415E-04 -1.1839E-04
18 6.1664E-06 -1.2350E-04 6.7158E-05 6.0809E-06 -1.2386E-04 6.7390E-05
5.9617E-06 -1.2494E-04 6.7838E-05 6.0943E-06 -1.2011E-04 6.6145E-05
6.1519E-06 -1.2808E-04 6.8641E-05 6.3837E-06 -1.4523E-04 7.7907E-05
5.6889E-06 -1.2395E-04 6.7762E-05 5.6338E-06 -1.2579E-04 6.8398E-05
6.5070E-06 -1.1540E-04 6.4172E-05
19 2.6439E-06 -1.1343E-05 5.6649E-06 2.6451E-06 -1.1354E-05 5.6707E-06
2.6438E-06 -1.1365E-05 5.6753E-06 2.6453E-06 -1.1316E-05 5.6584E-06
2.6460E-06 -1.1397E-05 5.6830E-06 2.6414E-06 -1.1403E-05 5.6889E-06
2.9312E-06 -1.2578E-05 6.2797E-06 2.6402E-06 -1.1374E-05 5.6813E-06
2.6499E-06 -1.1268E-05 5.6382E-06
20 -1.2093E-05 2.3376E-04 -1.2085E-04 -1.1963E-05 2.3432E-04 -1.2120E-04
-1.1778E-05 2.3597E-04 -1.2189E-04 -1.1984E-05 2.2853E-04 -1.1929E-04 -
1.2072E-05 2.4082E-04 -1.2312E-04 -1.1435E-05 2.4165E-04 -1.2395E-04 -
1.2578E-05 2.6248E-04 -1.3634E-04 -1.1270E-05 2.3729E-04 -1.2276E-04 -
1.2624E-05 2.2124E-04 -1.1624E-04
21 6.0801E-06 -1.2139E-04 6.6046E-05 6.0080E-06 -1.2171E-04 6.6253E-05
5.9066E-06 -1.2261E-04 6.6632E-05 6.0197E-06 -1.1853E-04 6.5201E-05
6.0679E-06 -1.2528E-04 6.7308E-05 5.7189E-06 -1.2573E-04 6.7762E-05
6.2797E-06 -1.3634E-04 7.4516E-05 5.6280E-06 -1.2334E-04 6.7107E-05
6.3708E-06 -1.1453E-04 6.3530E-05
22 2.6405E-06 -1.1260E-05 5.6211E-06 2.6422E-06 -1.1269E-05 5.6260E-06
2.6416E-06 -1.1274E-05 5.6280E-06 2.6423E-06 -1.1253E-05 5.6208E-06
2.6427E-06 -1.1287E-05 5.6310E-06 2.6405E-06 -1.1290E-05 5.6338E-06
2.6402E-06 -1.1270E-05 5.6280E-06 2.9294E-06 -1.2518E-05 6.2381E-06
2.6445E-06 -1.1233E-05 5.6123E-06
23 -1.2207E-05 2.3653E-04 -1.2230E-04 -1.2058E-05 2.3714E-04 -1.2269E-04
-1.1850E-05 2.3901E-04 -1.2347E-04 -1.2082E-05 2.3061E-04 -1.2053E-04 -
1.2182E-05 2.4448E-04 -1.2486E-04 -1.1465E-05 2.4542E-04 -1.2579E-04 -
1.1374E-05 2.3729E-04 -1.2334E-04 -1.2518E-05 2.7049E-04 -1.3987E-04 -

1.2803E-05 2.2239E-04 -1.1709E-04
  24   6.1190E-06 -1.2234E-04 6.6547E-05 6.0409E-06 -1.2268E-04 6.6765E-05
5.9315E-06 -1.2366E-04 6.7175E-05 6.0534E-06 -1.1925E-04 6.5627E-05
6.1058E-06 -1.2654E-04 6.7907E-05 5.7289E-06 -1.2704E-04 6.8398E-05
5.6813E-06 -1.2276E-04 6.7107E-05 6.2381E-06 -1.3987E-04 7.5995E-05
6.4323E-06 -1.1492E-04 6.3821E-05
  25   2.6947E-06 -1.2583E-05 6.3145E-06 2.6882E-06 -1.2617E-05 6.3347E-06
2.6765E-06 -1.2720E-05 6.3781E-06 2.6896E-06 -1.2252E-05 6.2143E-06
2.6949E-06 -1.3026E-05 6.4552E-06 2.6548E-06 -1.3078E-05 6.5070E-06
2.6499E-06 -1.2624E-05 6.3708E-06 2.6445E-06 -1.2803E-05 6.4323E-06
3.0356E-06 -1.3043E-05 6.6758E-06
  26 -1.1567E-05 2.2087E-04 -1.1409E-04 -1.1518E-05 2.2119E-04 -1.1430E-04
-1.1442E-05 2.2186E-04 -1.1457E-04 -1.1527E-05 2.1885E-04 -1.1353E-04 -
1.1563E-05 2.2382E-04 -1.1506E-04 -1.1301E-05 2.2415E-04 -1.1540E-04 -
1.1268E-05 2.2124E-04 -1.1453E-04 -1.1233E-05 2.2239E-04 -1.1492E-04 -
1.3043E-05 2.3541E-04 -1.2279E-04
  27   5.8597E-06 -1.1599E-04 6.3216E-05 5.8218E-06 -1.1621E-04 6.3358E-05
5.7658E-06 -1.1670E-04 6.3563E-05 5.8285E-06 -1.1448E-04 6.2789E-05
5.8543E-06 -1.1815E-04 6.3925E-05 5.6621E-06 -1.1839E-04 6.4172E-05
5.6382E-06 -1.1624E-04 6.3530E-05 5.6123E-06 -1.1709E-04 6.3821E-05
6.6758E-06 -1.2279E-04 6.7923E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -4.8252E-01 4.5572E-01 8.9923E-01 -4.3351E-01 4.0957E-01
8.9877E-01 -4.3208E-01 4.0864E-01 8.9931E-01 -4.3672E-01 4.1137E-01
8.9917E-01 -4.2739E-01 4.0690E-01 8.9664E-01 -4.2609E-01 4.0531E-01
8.9594E-01 -4.3306E-01 4.0863E-01 8.9505E-01 -4.3059E-01 4.0723E-01
8.9730E-01 -4.3739E-01 4.1249E-01
   2 -4.8252E-01 1.0000E+00 -9.7475E-01 -4.2986E-01 8.9533E-01 -8.7304E-01
-4.2432E-01 8.9366E-01 -8.7196E-01 -4.3051E-01 8.9726E-01 -8.7430E-01 -
4.3296E-01 8.8765E-01 -8.6983E-01 -4.1339E-01 8.8556E-01 -8.6747E-01 -
4.1074E-01 8.9449E-01 -8.7177E-01 -4.0784E-01 8.9160E-01 -8.7004E-01 -
4.4772E-01 8.9246E-01 -8.7249E-01
   3   4.5572E-01 -9.7475E-01 1.0000E+00 4.0602E-01 -8.7327E-01 8.9636E-01
4.0049E-01 -8.7173E-01 8.9508E-01 4.0666E-01 -8.7485E-01 8.9817E-01
4.0912E-01 -8.6611E-01 8.9258E-01 3.8964E-01 -8.6411E-01 8.8995E-01
3.8701E-01 -8.7246E-01 8.9491E-01 3.8413E-01 -8.6979E-01 8.9287E-01
4.2390E-01 -8.6976E-01 8.9717E-01
   4   8.9923E-01 -4.2986E-01 4.0602E-01 1.0000E+00 -4.7729E-01 4.5034E-01
8.9944E-01 -4.2764E-01 4.0426E-01 8.9956E-01 -4.3380E-01 4.0798E-01
8.9924E-01 -4.2203E-01 4.0207E-01 8.9802E-01 -4.2060E-01 4.0020E-01
8.9748E-01 -4.2892E-01 4.0430E-01 8.9677E-01 -4.2590E-01 4.0254E-01
8.9625E-01 -4.3608E-01 4.1034E-01
   5 -4.3351E-01 8.9533E-01 -8.7327E-01 -4.7729E-01 1.0000E+00 -9.7483E-01
-4.2376E-01 8.9328E-01 -8.7173E-01 -4.3006E-01 8.9642E-01 -8.7377E-01 -
4.3256E-01 8.8755E-01 -8.6973E-01 -4.1264E-01 8.8551E-01 -8.6746E-01 -
4.0995E-01 8.9402E-01 -8.7152E-01 -4.0700E-01 8.9130E-01 -8.6990E-01 -
4.4762E-01 8.9114E-01 -8.7159E-01
   6   4.0957E-01 -8.7304E-01 8.9636E-01 4.5034E-01 -9.7483E-01 1.0000E+00
3.9980E-01 -8.7131E-01 8.9472E-01 4.0611E-01 -8.7388E-01 8.9745E-01
4.0862E-01 -8.6603E-01 8.9238E-01 3.8872E-01 -8.6409E-01 8.8986E-01
3.8604E-01 -8.7193E-01 8.9453E-01 3.8311E-01 -8.6946E-01 8.9263E-01
4.2376E-01 -8.6822E-01 8.9600E-01
   7   8.9877E-01 -4.2432E-01 4.0049E-01 8.9944E-01 -4.2376E-01 3.9980E-01

1.0000E+00 -4.6872E-01 4.4229E-01 8.9941E-01 -4.2975E-01 4.0332E-01
8.9887E-01 -4.1475E-01 3.9549E-01 8.9939E-01 -4.1312E-01 3.9325E-01
8.9906E-01 -4.2325E-01 3.9838E-01 8.9859E-01 -4.1950E-01 3.9615E-01
8.9439E-01 -4.3418E-01 4.0732E-01
   8 -4.3208E-01 8.9366E-01 -8.7173E-01 -4.2764E-01 8.9328E-01 -8.7131E-01
-4.6872E-01 1.0000E+00 -9.7518E-01 -4.2835E-01 8.9333E-01 -8.7141E-01 -
4.3106E-01 8.8762E-01 -8.6924E-01 -4.0966E-01 8.8578E-01 -8.6735E-01 -
4.0677E-01 8.9249E-01 -8.7039E-01 -4.0363E-01 8.9050E-01 -8.6923E-01 -
4.4738E-01 8.8606E-01 -8.6767E-01
   9   4.0864E-01 -8.7196E-01 8.9508E-01 4.0426E-01 -8.7173E-01 8.9472E-01
4.4229E-01 -9.7518E-01 1.0000E+00 4.0496E-01 -8.7168E-01 8.9550E-01
4.0764E-01 -8.6632E-01 8.9193E-01 3.8658E-01 -8.6454E-01 8.8972E-01
3.8374E-01 -8.7096E-01 8.9356E-01 3.8065E-01 -8.6907E-01 8.9204E-01
4.2377E-01 -8.6445E-01 8.9282E-01
  10   8.9931E-01 -4.3051E-01 4.0666E-01 8.9956E-01 -4.3006E-01 4.0611E-01
8.9941E-01 -4.2835E-01 4.0496E-01 1.0000E+00 -4.8068E-01 4.5246E-01
8.9929E-01 -4.2287E-01 4.0281E-01 8.9786E-01 -4.2145E-01 4.0099E-01
8.9731E-01 -4.2959E-01 4.0499E-01 8.9657E-01 -4.2665E-01 4.0328E-01
8.9652E-01 -4.3632E-01 4.1072E-01
  11 -4.3672E-01 8.9726E-01 -8.7485E-01 -4.3380E-01 8.9642E-01 -8.7388E-01
-4.2975E-01 8.9333E-01 -8.7168E-01 -4.8068E-01 1.0000E+00 -9.7324E-01 -
4.3602E-01 8.8327E-01 -8.6754E-01 -4.2159E-01 8.8052E-01 -8.6391E-01 -
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4.4641E-01 9.0550E-01 -8.8180E-01
  12   4.1137E-01 -8.7430E-01 8.9817E-01 4.0798E-01 -8.7377E-01 8.9745E-01
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4.2285E-01 -8.7720E-01 9.0322E-01
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8.9887E-01 -4.3106E-01 4.0764E-01 8.9929E-01 -4.3602E-01 4.1055E-01
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-4.1312E-01 8.8578E-01 -8.6454E-01 -4.2145E-01 8.8052E-01 -8.6104E-01 -
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4.8791E-01 1.0000E+00 -9.7107E-01
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4.0732E-01 -8.6767E-01 8.9282E-01 4.1072E-01 -8.8180E-01 9.0322E-01
4.1193E-01 -8.5530E-01 8.8694E-01 4.0111E-01 -8.5219E-01 8.8216E-01
3.9959E-01 -8.7059E-01 8.9299E-01 3.9787E-01 -8.6385E-01 8.8830E-01
4.6491E-01 -9.7107E-01 1.0000E+00

G-FILE for the vectors

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C00100009 752940770 17 410408030 153 689644733 82
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4234916 24 26 -8592204 24 27 8882996 25 26 -4879102 25 27 4649109 D 26 27 -
9710748

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	6707.395	-5525010.863	3175925.420
nola	6707.394	-5525010.826	3175925.415
lwes	6707.392	-5525010.840	3175925.414
covg	6707.394	-5525010.845	3175925.412
gris	6707.393	-5525010.838	3175925.413
houm	6707.396	-5525010.825	3175925.416
gvms	6707.398	-5525010.892	3175925.430
awes	6707.408	-5525010.789	3175925.385
mspk	6707.396	-5525010.866	3175925.431

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	-0.001	-0.029	0.009	-0.001	-0.007	0.029
nola	-0.002	0.008	0.004	-0.002	0.007	-0.005
lwes	-0.004	-0.006	0.003	-0.004	-0.000	0.007
covg	-0.003	-0.011	0.001	-0.003	-0.005	0.010

gris	-0.003	-0.003	0.002	-0.004	-0.000	0.004
houm	-0.000	0.010	0.005	-0.000	0.009	-0.006
gvms	0.002	-0.058	0.019	0.002	-0.012	0.060
awes	0.011	0.045	-0.026	0.011	0.000	-0.052
mspk	-0.000	-0.032	0.020	-0.000	0.002	0.037

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)

Northing (Y) [feet]	569297.438
Easting (X) [feet]	3724626.126
Convergence [degrees]	0.70146695
Point Scale	0.99992624
Combined Factor	0.99993047

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.781 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.388
scatter (mean square distance from rover) is 5948.631
average edop for rover is 1.060
average ndop for rover is 0.910
average hdop for rover is 1.397
average vdop for rover is 2.470
average gdop for rover is 3.310

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:15 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA44.O00 OP1335489161010

FILE: QCFVA44.O00 OP1335489161010

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068t.12o TIME: 01:14:36 UTC

SOFTWARE: rsgps 1.37 RS28.prl 1.73 START: 2012/03/08 19:30:19
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 19:50:35
NAV FILE: brdc0680.12n OBS USED: 1476 / 1845 : 80%
ANT NAME: LEIAT502 NONE QUALITY IND. 4.23/ 13.31
ARP HEIGHT: 1.596 NORMALIZED RMS: 0.362

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18530)

X:	9517.996(m)	0.003(m)	9517.264(m)	0.003(m)
Y:	-5526965.978(m)	0.032(m)	-5526964.486(m)	0.032(m)
Z:	3172541.708(m)	0.016(m)	3172541.501(m)	0.016(m)
LAT:	30 1 21.79820	0.008(m)	30 1 21.81664	0.008(m)
E LON:	270 5 55.20857	0.003(m)	270 5 55.18134	0.003(m)
W LON:	89 54 4.79143	0.003(m)	89 54 4.81866	0.003(m)
EL HGT:	-26.162(m)	0.035(m)	-27.559(m)	0.035(m)
ORTHO HGT:	0.009(m)	0.037(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3324849.859	169648.056
Easting (X) [meters]	220176.970	1138123.254
Convergence [degrees]	-1.45260669	0.71601936
Point Scale	1.00056617	0.99992582
Combined Factor	1.00057028	0.99992993

US NATIONAL GRID DESIGNATOR: 16RBU2017624849(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	16390.9

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 23280.7
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 45325.9
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 84106.6
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 89865.2
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 101811.7
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 111071.0
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 123256.1
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 127779.4

NEAREST NGS PUBLISHED CONTROL POINT
BH1890 WASTE WELL 2 RESET N300122.714 W0895446.798 1125.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.598	-5534921.910	3158759.196
nola	-11604.035	-5531876.842	3164070.916
lwes	-33746.213	-5533652.956	3160795.442
gris	4149.692	-5568493.962	3099600.313
bvhs	57650.145	-5564331.459	3106490.844
gvms	-86907.683	-5510048.256	3200500.237
mspk	82001.474	-5483970.015	3244889.874
sjb1	-106395.195	-5505141.433	3208320.257
msga	130192.491	-5504708.299	3208174.553
qcfv	9517.264	-5526964.486	3172541.501

Covariance matrix of the stations:
1 3.5980E-07 5.3760E-07 -3.5110E-07 -3.1130E-08 -7.3400E-08 4.7650E-08
-3.1730E-08 -8.0470E-08 5.1610E-08 -3.0500E-08 -6.6870E-08 4.5070E-08 -
2.9350E-08 -4.8230E-08 3.4730E-08 -3.3510E-08 -9.7110E-08 6.0300E-08 -
2.9510E-08 -4.3650E-08 2.9170E-08 -3.4200E-08 -1.0280E-07 6.3360E-08 -
2.8790E-08 -2.5030E-08 1.9190E-08 1.2580E-08 -5.9720E-08 3.1530E-08
2 5.3760E-07 1.7330E-05 -8.3440E-06 -6.9650E-08 -2.1540E-06 1.0430E-06
-7.2250E-08 -2.1530E-06 1.0400E-06 -6.8500E-08 -2.2120E-06 1.0660E-06 -
6.1550E-08 -2.2200E-06 1.0740E-06 -7.7460E-08 -2.1160E-06 1.0220E-06 -
5.7580E-08 -2.1060E-06 1.0310E-06 -7.9340E-08 -2.1090E-06 1.0170E-06 -
5.1350E-08 -2.1460E-06 1.0510E-06 -3.6350E-08 -2.4010E-07 1.4290E-07
3 -3.5110E-07 -8.3440E-06 4.4910E-06 4.7090E-08 1.0380E-06 -5.4190E-07
5.0320E-08 1.0310E-06 -5.3570E-07 4.4950E-08 1.0660E-06 -5.4600E-07
3.6440E-08 1.0870E-06 -5.6220E-07 5.7330E-08 9.9960E-07 -5.2190E-07
3.1780E-08 1.0500E-06 -5.7030E-07 5.9780E-08 9.9080E-07 -5.1700E-07
2.3440E-08 1.0820E-06 -5.8540E-07 6.4540E-09 -4.3540E-08 3.6400E-08
4 -3.1130E-08 -6.9650E-08 4.7090E-08 3.6830E-07 5.6960E-07 -3.6670E-07
-2.8770E-08 -8.9840E-08 5.9370E-08 -3.0360E-08 -5.7740E-08 4.8080E-08 -
3.4360E-08 -3.0440E-08 3.0490E-08 -2.6570E-08 -1.2270E-07 7.4760E-08 -
3.8140E-08 -5.0080E-08 2.1600E-08 -2.5820E-08 -1.3300E-07 8.0250E-08 -
4.2050E-08 -1.6140E-08 5.0870E-09 -4.3820E-09 -2.3890E-07 1.2850E-07
5 -7.3400E-08 -2.1540E-06 1.0380E-06 5.6960E-07 1.7250E-05 -8.3040E-06
-8.7330E-08 -2.1310E-06 1.0210E-06 -7.6090E-08 -2.2390E-06 1.0590E-06 -

5.5450E-08 -2.2700E-06 1.0860E-06 -1.0310E-07 -2.0510E-06 9.8430E-07 -
4.1920E-08 -2.0930E-06 1.0520E-06 -1.0880E-07 -2.0320E-06 9.7350E-07 -
2.3390E-08 -2.1720E-06 1.0900E-06 5.8220E-09 1.5050E-07 -8.0320E-08
   6 4.7650E-08 1.0430E-06 -5.4190E-07 -3.6670E-07 -8.3040E-06 4.4700E-06
5.8660E-08 1.0180E-06 -5.2450E-07 4.9100E-08 1.0800E-06 -5.4190E-07
3.2920E-08 1.1150E-06 -5.6880E-07 7.1610E-08 9.6290E-07 -5.0080E-07
2.2900E-08 1.0420E-06 -5.8210E-07 7.6200E-08 9.4720E-07 -4.9230E-07
7.6580E-09 1.0970E-06 -6.0690E-07 -1.6320E-08 -2.7690E-07 1.6440E-07
   7 -3.1730E-08 -7.2250E-08 5.0320E-08 -2.8770E-08 -8.7330E-08 5.8660E-08
3.8360E-07 6.0330E-07 -3.7890E-07 -3.0100E-08 -4.5450E-08 5.1800E-08 -
4.0920E-08 -6.7480E-09 2.4650E-08 -1.7320E-08 -1.5630E-07 9.3590E-08 -
4.9470E-08 -5.8370E-08 1.1350E-08 -1.4670E-08 -1.7270E-07 1.0230E-07 -
5.9500E-08 -4.2160E-09 -1.3790E-08 -2.2080E-08 -4.9220E-07 2.6450E-07
   8 -8.0470E-08 -2.1530E-06 1.0310E-06 -8.9840E-08 -2.1310E-06 1.0180E-06
6.0330E-07 1.7210E-05 -8.2640E-06 -8.4560E-08 -2.2620E-06 1.0500E-06 -
5.2630E-08 -2.3120E-06 1.0940E-06 -1.2650E-07 -1.9980E-06 9.5050E-07 -
3.1190E-08 -2.0830E-06 1.0670E-06 -1.3540E-07 -1.9680E-06 9.3430E-07 -
2.4890E-09 -2.1960E-06 1.1190E-06 2.7250E-08 5.6780E-07 -3.0850E-07
   9 5.1610E-08 1.0400E-06 -5.3570E-07 5.9370E-08 1.0210E-06 -5.2450E-07
-3.7890E-07 -8.2640E-06 4.4410E-06 5.4310E-08 1.1000E-06 -5.3490E-07
2.8090E-08 1.1510E-06 -5.7600E-07 9.0080E-08 9.1480E-07 -4.7150E-07
1.1050E-08 1.0310E-06 -5.9590E-07 9.7460E-08 8.9000E-07 -4.5820E-07 -
1.3220E-08 1.1160E-06 -6.3350E-07 -3.7600E-08 -6.4770E-07 3.6590E-07
  10 -3.0500E-08 -6.8500E-08 4.4950E-08 -3.0360E-08 -7.6090E-08 4.9100E-08
-3.0100E-08 -8.4560E-08 5.4310E-08 3.6070E-07 5.6170E-07 -3.5440E-07 -
3.1180E-08 -4.0550E-08 3.2230E-08 -3.0150E-08 -1.0830E-07 6.5910E-08 -
3.2920E-08 -4.6580E-08 2.5270E-08 -3.0220E-08 -1.1590E-07 7.0020E-08 -
3.4210E-08 -2.1320E-08 1.2460E-08 3.5830E-09 -1.2980E-07 6.9100E-08
  11 -6.6870E-08 -2.2120E-06 1.0660E-06 -5.7740E-08 -2.2390E-06 1.0800E-06
-4.5450E-08 -2.2620E-06 1.1000E-06 5.6170E-07 1.7980E-05 -8.4880E-06 -
9.4840E-08 -2.1250E-06 1.0440E-06 -2.0630E-08 -2.3470E-06 1.1320E-06 -
1.1820E-07 -2.1940E-06 9.7550E-07 -1.1670E-08 -2.3740E-06 1.1450E-06 -
1.4680E-07 -2.1180E-06 9.4690E-07 -1.1950E-07 -1.8300E-06 9.6630E-07
  12 4.5070E-08 1.0660E-06 -5.4600E-07 4.8080E-08 1.0590E-06 -5.4190E-07
5.1800E-08 1.0500E-06 -5.3490E-07 -3.5440E-07 -8.4880E-06 4.4960E-06
3.5880E-08 1.1140E-06 -5.6460E-07 5.9840E-08 1.0150E-06 -5.1930E-07
3.0350E-08 1.0710E-06 -5.7370E-07 6.2650E-08 1.0050E-06 -5.1370E-07
2.0810E-08 1.1070E-06 -5.9060E-07 -3.1120E-09 -2.6720E-08 3.9870E-08
  13 -2.9350E-08 -6.1550E-08 3.6440E-08 -3.4360E-08 -5.5450E-08 3.2920E-08
-4.0920E-08 -5.2630E-08 2.8090E-08 -3.1180E-08 -9.4840E-08 3.5880E-08
3.5400E-07 3.7410E-07 -2.7610E-07 -5.4730E-08 -2.0280E-08 1.6600E-08 -
3.7240E-09 -2.4780E-08 5.1960E-08 -5.9760E-08 -1.2050E-08 1.2300E-08
1.0980E-08 -5.2350E-08 6.1700E-08 4.9400E-08 5.3200E-07 -2.8630E-07
  14 -4.8230E-08 -2.2200E-06 1.0870E-06 -3.0440E-08 -2.2700E-06 1.1150E-06
-6.7480E-09 -2.3120E-06 1.1510E-06 -4.0550E-08 -2.1250E-06 1.1140E-06
3.7410E-07 1.8360E-05 -8.7440E-06 4.1130E-08 -2.4920E-06 1.2220E-06 -
1.4650E-07 -2.2250E-06 9.3680E-07 5.8390E-08 -2.5460E-06 1.2500E-06 -
2.0200E-07 -2.0610E-06 8.7020E-07 -1.7600E-07 -2.9340E-06 1.5690E-06
  15 3.4730E-08 1.0740E-06 -5.6220E-07 3.0490E-08 1.0860E-06 -5.6880E-07
2.4650E-08 1.0940E-06 -5.7600E-07 3.2230E-08 1.0440E-06 -5.6460E-07 -
2.7610E-07 -8.7440E-06 4.6390E-06 1.3370E-08 1.1370E-06 -5.9290E-07
5.9360E-08 1.0980E-06 -5.3990E-07 9.2110E-09 1.1500E-06 -5.9920E-07
7.2300E-08 1.0610E-06 -5.2500E-07 4.9390E-08 8.9840E-07 -4.6250E-07
  16 -3.3510E-08 -7.7460E-08 5.7330E-08 -2.6570E-08 -1.0310E-07 7.1610E-08

-1.7320E-08 -1.2650E-07 9.0080E-08 -3.0150E-08 -2.0630E-08 5.9840E-08 -
5.4730E-08 4.1130E-08 1.3370E-08 4.3450E-07 5.9430E-07 -3.7920E-07 -
7.2930E-08 -7.5030E-08 -8.8420E-09 7.2610E-09 -2.5290E-07 1.4740E-07 -
9.5320E-08 1.9960E-08 -5.1410E-08 -5.8390E-08 -1.0040E-06 5.4010E-07
  17 -9.7110E-08 -2.1160E-06 9.9960E-07 -1.2270E-07 -2.0510E-06 9.6290E-07
-1.5630E-07 -1.9980E-06 9.1480E-07 -1.0830E-07 -2.3470E-06 1.0150E-06 -
2.0280E-08 -2.4920E-06 1.1370E-06 5.9430E-07 1.7020E-05 -8.1970E-06
4.0410E-08 -2.0000E-06 1.1470E-06 -2.4860E-07 -1.6260E-06 7.4830E-07
1.1950E-07 -2.2800E-06 1.2710E-06 1.5150E-07 2.6600E-06 -1.4290E-06
  18   6.0300E-08 1.0220E-06 -5.2190E-07 7.4760E-08 9.8430E-07 -5.0080E-07
9.3590E-08 9.5050E-07 -4.7150E-07 6.5910E-08 1.1320E-06 -5.1930E-07
1.6600E-08 1.2220E-06 -5.9290E-07 -3.7920E-07 -8.1970E-06 4.4210E-06 -
1.6640E-08 9.9410E-07 -6.2810E-07 1.4600E-07 7.4560E-07 -3.8050E-07 -
6.1660E-08 1.1480E-06 -6.9490E-07 -8.6860E-08 -1.5090E-06 8.2690E-07
  19 -2.9510E-08 -5.7580E-08 3.1780E-08 -3.8140E-08 -4.1920E-08 2.2900E-08
-4.9470E-08 -3.1190E-08 1.1050E-08 -3.2920E-08 -1.1820E-07 3.0350E-08 -
3.7240E-09 -1.4650E-07 5.9360E-08 -7.2930E-08 4.0410E-08 -1.6640E-08
3.7750E-07 3.7030E-07 -2.0940E-07 -8.1430E-08 5.9790E-08 -2.6830E-08
4.1690E-08 -7.4820E-08 9.7420E-08 8.0530E-08 9.9370E-07 -5.3340E-07
  20 -4.3650E-08 -2.1060E-06 1.0500E-06 -5.0080E-08 -2.0930E-06 1.0420E-06
-5.8370E-08 -2.0830E-06 1.0310E-06 -4.6580E-08 -2.1940E-06 1.0710E-06 -
2.4780E-08 -2.2250E-06 1.0980E-06 -7.5030E-08 -2.0000E-06 9.9410E-07
3.7030E-07 1.6910E-05 -8.3700E-06 -8.1070E-08 -1.9800E-06 9.8300E-07
9.2140E-09 -2.1220E-06 1.1020E-06 3.7780E-08 2.3070E-07 -8.5870E-08
  21   2.9170E-08 1.0310E-06 -5.7030E-07 2.1600E-08 1.0520E-06 -5.8210E-07
1.1350E-08 1.0670E-06 -5.9590E-07 2.5270E-08 9.7550E-07 -5.7370E-07
5.1960E-08 9.3680E-07 -5.3990E-07 -8.8420E-09 1.1470E-06 -6.2810E-07 -
2.0940E-07 -8.3700E-06 4.7350E-06 -1.6200E-08 1.1700E-06 -6.4000E-07
9.5220E-08 9.9080E-07 -4.9450E-07 7.3190E-08 1.2920E-06 -7.0160E-07
  22 -3.4200E-08 -7.9340E-08 5.9780E-08 -2.5820E-08 -1.0880E-07 7.6200E-08
-1.4670E-08 -1.3540E-07 9.7460E-08 -3.0220E-08 -1.1670E-08 6.2650E-08 -
5.9760E-08 5.8390E-08 9.2110E-09 7.2610E-09 -2.4860E-07 1.4600E-07 -
8.1430E-08 -8.1070E-08 -1.6200E-08 4.5840E-07 5.7750E-07 -3.6980E-07 -
1.0830E-07 2.8650E-08 -6.5060E-08 -7.1540E-08 -1.1890E-06 6.3940E-07
  23 -1.0280E-07 -2.1090E-06 9.9080E-07 -1.3300E-07 -2.0320E-06 9.4720E-07
-1.7270E-07 -1.9680E-06 8.9000E-07 -1.1590E-07 -2.3740E-06 1.0050E-06 -
1.2050E-08 -2.5460E-06 1.1500E-06 -2.5290E-07 -1.6260E-06 7.4560E-07
5.9790E-08 -1.9800E-06 1.1700E-06 5.7750E-07 1.7050E-05 -8.2130E-06
1.5320E-07 -2.3070E-06 1.3140E-06 1.8580E-07 3.2520E-06 -1.7480E-06
  24   6.3360E-08 1.0170E-06 -5.1700E-07 8.0250E-08 9.7350E-07 -4.9230E-07
1.0230E-07 9.3430E-07 -4.5820E-07 7.0020E-08 1.1450E-06 -5.1370E-07
1.2300E-08 1.2500E-06 -5.9920E-07 1.4740E-07 7.4830E-07 -3.8050E-07 -
2.6830E-08 9.8300E-07 -6.4000E-07 -3.6980E-07 -8.2130E-06 4.4290E-06 -
7.9410E-08 1.1620E-06 -7.1750E-07 -1.0490E-07 -1.8220E-06 9.9500E-07
  25 -2.8790E-08 -5.1350E-08 2.3440E-08 -4.2050E-08 -2.3390E-08 7.6580E-09
-5.9500E-08 -2.4890E-09 -1.3220E-08 -3.4210E-08 -1.4680E-07 2.0810E-08
1.0980E-08 -2.0200E-07 7.2300E-08 -9.5320E-08 1.1950E-07 -6.1660E-08
4.1690E-08 9.2140E-09 9.5220E-08 -1.0830E-07 1.5320E-07 -7.9410E-08
4.2640E-07 1.4470E-07 -6.5230E-08 1.2140E-07 1.5880E-06 -8.5350E-07
  26 -2.5030E-08 -2.1460E-06 1.0820E-06 -1.6140E-08 -2.1720E-06 1.0970E-06
-4.2160E-09 -2.1960E-06 1.1160E-06 -2.1320E-08 -2.1180E-06 1.1070E-06 -
5.2350E-08 -2.0610E-06 1.0610E-06 1.9960E-08 -2.2800E-06 1.1480E-06 -
7.4820E-08 -2.1220E-06 9.9080E-07 2.8650E-08 -2.3070E-06 1.1620E-06
1.4470E-07 1.7510E-05 -8.7630E-06 -7.6380E-08 -1.7460E-06 9.7370E-07

27 1.9190E-08 1.0510E-06 -5.8540E-07 5.0870E-09 1.0900E-06 -6.0690E-07
-1.3790E-08 1.1190E-06 -6.3350E-07 1.2460E-08 9.4690E-07 -5.9060E-07
6.1700E-08 8.7020E-07 -5.2500E-07 -5.1410E-08 1.2710E-06 -6.9490E-07
9.7420E-08 1.1020E-06 -4.9450E-07 -6.5060E-08 1.3140E-06 -7.1750E-07 -
6.5230E-08 -8.7630E-06 4.9590E-06 1.1980E-07 2.1350E-06 -1.1530E-06
28 1.2580E-08 -3.6350E-08 6.4540E-09 -4.3820E-09 5.8220E-09 -1.6320E-08
-2.2080E-08 2.7250E-08 -3.7600E-08 3.5830E-09 -1.1950E-07 -3.1120E-09
4.9400E-08 -1.7600E-07 4.9390E-08 -5.8390E-08 1.5150E-07 -8.6860E-08
8.0530E-08 3.7780E-08 7.3190E-08 -7.1540E-08 1.8580E-07 -1.0490E-07
1.2140E-07 -7.6380E-08 1.1980E-07 3.6210E-06 6.4200E-06 -4.1020E-06
29 -5.9720E-08 -2.4010E-07 -4.3540E-08 -2.3890E-07 1.5050E-07 -2.7690E-07
-4.9220E-07 5.6780E-07 -6.4770E-07 -1.2980E-07 -1.8300E-06 -2.6720E-08
5.3200E-07 -2.9340E-06 8.9840E-07 -1.0040E-06 2.6600E-06 -1.5090E-06
9.9370E-07 2.3070E-07 1.2920E-06 -1.1890E-06 3.2520E-06 -1.8220E-06
1.5880E-06 -1.7460E-06 2.1350E-06 6.4200E-06 1.8820E-04 -9.1480E-05
30 3.1530E-08 1.4290E-07 3.6400E-08 1.2850E-07 -8.0320E-08 1.6440E-07
2.6450E-07 -3.0850E-07 3.6590E-07 6.9100E-08 9.6630E-07 3.9870E-08 -
2.8630E-07 1.5690E-06 -4.6250E-07 5.4010E-07 -1.4290E-06 8.2690E-07 -
5.3340E-07 -8.5870E-08 -7.0160E-07 6.3940E-07 -1.7480E-06 9.9500E-07 -
8.5350E-07 9.7370E-07 -1.1530E-06 -4.1020E-06 -9.1480E-05 4.9250E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000036210 0.0000064200 -0.0000041020
0.0000064200 0.0001882000 -0.0000914800
-0.0000041020 -0.0000914800 0.0000492500

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000036437 -0.0000003399 -0.0000079640
-0.0000003399 0.0000046932 -0.0000138491
-0.0000079640 -0.0000138491 0.0002327342

Horizontal network accuracy = 0.00500 meters.
Vertical network accuracy = 0.02991 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	-3922.666	-7957.424	-13782.305
nola	qcfv	-21121.299	-4912.356	-8470.585
lwes	qcfv	-43263.477	-6688.470	-11746.060
gris	qcfv	-5367.572	-41529.476	-72941.188
bvhs	qcfv	48132.881	-37366.973	-66050.658
gvms	qcfv	-96424.948	16916.229	27958.735
mspk	qcfv	72484.210	42994.471	72348.372
sjb1	qcfv	-115912.459	21823.053	35778.756
msga	qcfv	120675.227	22256.186	35633.051

Covariance matrix of the 9 vectors
1 3.9556E-06 7.0537E-06 -4.4911E-06 3.5817E-06 6.4005E-06 -4.0696E-06
3.5988E-06 6.3720E-06 -4.0443E-06 3.5743E-06 6.5324E-06 -4.0853E-06
3.5297E-06 6.6075E-06 -4.1482E-06 3.6333E-06 6.2311E-06 -3.9864E-06
3.4984E-06 6.3983E-06 -4.1775E-06 3.6458E-06 6.1911E-06 -3.9653E-06
3.4582E-06 6.5311E-06 -4.2341E-06
2 7.0537E-06 2.0601E-04 -9.9923E-05 6.6256E-06 1.8614E-04 -9.0303E-05

6.8763E-06 1.8572E-04 -8.9935E-05 6.5177E-06 1.8806E-04 -9.0530E-05
5.8628E-06 1.8915E-04 -9.1447E-05 7.3829E-06 1.8366E-04 -8.9092E-05
5.4051E-06 1.8610E-04 -9.1884E-05 7.5660E-06 1.8308E-04 -8.8784E-05
4.8170E-06 1.8804E-04 -9.2707E-05
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3.6842E-06 7.2703E-06 -4.5144E-06 3.6457E-06 7.5229E-06 -4.5791E-06
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3.4984E-06 -8.8891E-05 4.8497E-05 -4.5085E-06 -8.7477E-05 4.7048E-05 -
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6.5537E-06 1.8241E-04 -8.8194E-05 6.2481E-06 1.8440E-04 -8.8700E-05
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  24 -3.9653E-06 -8.8784E-05 4.7702E-05 -4.0454E-06 -8.8604E-05 4.7598E-05
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3.2230E-06 -8.9470E-05 4.8690E-05
  25   3.4582E-06 4.8170E-06 -3.2315E-06 3.4619E-06 4.8028E-06 -3.2245E-06
3.4622E-06 4.8023E-06 -3.2241E-06 3.4618E-06 4.8047E-06 -3.2246E-06
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3.4608E-06 4.8034E-06 -3.2265E-06 3.4628E-06 4.7994E-06 -3.2230E-06
3.8046E-06 5.0531E-06 -3.4335E-06
  26   6.5311E-06 1.8804E-04 -9.1328E-05 6.7191E-06 1.8762E-04 -9.1080E-05
6.9844E-06 1.8718E-04 -9.0690E-05 6.6049E-06 1.8966E-04 -9.1320E-05
5.9120E-06 1.9082E-04 -9.2291E-05 7.5203E-06 1.8501E-04 -8.9797E-05
5.4279E-06 1.8759E-04 -9.2755E-05 7.7140E-06 1.8439E-04 -8.9470E-05
5.0531E-06 2.0920E-04 -1.0335E-04
  27 -4.2341E-06 -9.2707E-05 4.9781E-05 -4.3452E-06 -9.2445E-05 4.9632E-05
-4.5001E-06 -9.2187E-05 4.9404E-05 -4.2784E-06 -9.3634E-05 4.9773E-05 -
3.8738E-06 -9.4314E-05 5.0340E-05 -4.8133E-06 -9.0915E-05 4.8881E-05 -
3.5910E-06 -9.2427E-05 5.0610E-05 -4.9263E-06 -9.0553E-05 4.8690E-05 -
3.4335E-06 -1.0335E-04 5.6515E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 2.4709E-01 -3.0824E-01 9.0064E-01 2.2468E-01 -2.8003E-01
8.9926E-01 2.2416E-01 -2.7943E-01 9.0145E-01 2.2673E-01 -2.8039E-01
9.0141E-01 2.2794E-01 -2.8171E-01 8.9435E-01 2.2159E-01 -2.7790E-01
8.9792E-01 2.2488E-01 -2.8223E-01 8.9206E-01 2.2081E-01 -2.7731E-01
8.9144E-01 2.2704E-01 -2.8319E-01
   2   2.4709E-01 1.0000E+00 -9.5031E-01 2.3086E-01 9.0542E-01 -8.6104E-01
2.3809E-01 9.0533E-01 -8.6102E-01 2.2777E-01 9.0449E-01 -8.6099E-01
2.0747E-01 9.0420E-01 -8.6056E-01 2.5182E-01 9.0505E-01 -8.6064E-01
1.9224E-01 9.0637E-01 -8.6017E-01 2.5653E-01 9.0478E-01 -8.6038E-01
1.7206E-01 9.0578E-01 -8.5918E-01
   3 -3.0824E-01 -9.5031E-01 1.0000E+00 -2.8603E-01 -8.6076E-01 9.0618E-01
-2.9324E-01 -8.6049E-01 9.0620E-01 -2.8296E-01 -8.6068E-01 9.0610E-01 -
2.6247E-01 -8.6087E-01 9.0552E-01 -3.0682E-01 -8.5934E-01 9.0591E-01 -
2.4690E-01 -8.6164E-01 9.0506E-01 -3.1142E-01 -8.5882E-01 9.0568E-01 -
2.2615E-01 -8.6191E-01 9.0391E-01
   4   9.0064E-01 2.3086E-01 -2.8603E-01 1.0000E+00 2.5220E-01 -3.1354E-01
8.9943E-01 2.2891E-01 -2.8407E-01 9.0095E-01 2.3203E-01 -2.8532E-01
8.9965E-01 2.3349E-01 -2.8705E-01 8.9544E-01 2.2584E-01 -2.8215E-01
8.9527E-01 2.2972E-01 -2.8775E-01 8.9349E-01 2.2492E-01 -2.8141E-01
8.8764E-01 2.3233E-01 -2.8907E-01
   5   2.2468E-01 9.0542E-01 -8.6076E-01 2.5220E-01 1.0000E+00 -9.5002E-01
2.3661E-01 9.0543E-01 -8.6087E-01 2.2651E-01 9.0437E-01 -8.6074E-01
2.0663E-01 9.0399E-01 -8.6015E-01 2.5003E-01 9.0534E-01 -8.6065E-01
1.9169E-01 9.0643E-01 -8.5969E-01 2.5463E-01 9.0513E-01 -8.6044E-01
1.7191E-01 9.0567E-01 -8.5855E-01
   6 -2.8003E-01 -8.6104E-01 9.0618E-01 -3.1354E-01 -9.5002E-01 1.0000E+00
-2.9189E-01 -8.6061E-01 9.0635E-01 -2.8184E-01 -8.6058E-01 9.0613E-01 -
2.6182E-01 -8.6065E-01 9.0538E-01 -3.0513E-01 -8.5966E-01 9.0623E-01 -
2.4657E-01 -8.6172E-01 9.0483E-01 -3.0962E-01 -8.5921E-01 9.0606E-01 -
2.2624E-01 -8.6180E-01 9.0353E-01
   7   8.9926E-01 2.3809E-01 -2.9324E-01 8.9943E-01 2.3661E-01 -2.9189E-01

1.0000E+00 2.6038E-01 -3.2150E-01 8.9977E-01 2.3968E-01 -2.9250E-01
8.9681E-01 2.4147E-01 -2.9477E-01 8.9637E-01 2.3215E-01 -2.8845E-01
8.9126E-01 2.3679E-01 -2.9571E-01 8.9485E-01 2.3103E-01 -2.8751E-01
8.8213E-01 2.3998E-01 -2.9749E-01
   8 2.2416E-01 9.0533E-01 -8.6049E-01 2.2891E-01 9.0543E-01 -8.6061E-01
2.6038E-01 1.0000E+00 -9.4979E-01 2.2594E-01 9.0418E-01 -8.6048E-01
2.0641E-01 9.0372E-01 -8.5975E-01 2.4903E-01 9.0548E-01 -8.6060E-01
1.9172E-01 9.0637E-01 -8.5924E-01 2.5354E-01 9.0531E-01 -8.6044E-01
1.7226E-01 9.0547E-01 -8.5799E-01
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-3.2150E-01 -9.4979E-01 1.0000E+00 -2.8116E-01 -8.6037E-01 9.0617E-01 -
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2.2714E-01 -8.6160E-01 9.0304E-01
  10 9.0145E-01 2.2777E-01 -2.8296E-01 9.0095E-01 2.2651E-01 -2.8184E-01
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9.0109E-01 2.3007E-01 -2.8376E-01 8.9525E-01 2.2315E-01 -2.7947E-01
8.9721E-01 2.2670E-01 -2.8435E-01 8.9311E-01 2.2231E-01 -2.7881E-01
8.9024E-01 2.2905E-01 -2.8547E-01
  11 2.2673E-01 9.0449E-01 -8.6068E-01 2.3203E-01 9.0437E-01 -8.6058E-01
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  12 -2.8039E-01 -8.6099E-01 9.0610E-01 -2.8532E-01 -8.6074E-01 9.0613E-01
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  13 9.0141E-01 2.0747E-01 -2.6247E-01 8.9965E-01 2.0663E-01 -2.6182E-01
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  14 2.2794E-01 9.0420E-01 -8.6087E-01 2.3349E-01 9.0399E-01 -8.6065E-01
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1.9109E-01 9.0492E-01 -8.6110E-01 2.6189E-01 9.0200E-01 -8.5867E-01
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-2.9477E-01 -8.5975E-01 9.0519E-01 -2.8376E-01 -8.6063E-01 9.0543E-01 -
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2.4537E-01 -8.6103E-01 9.0515E-01 -3.1430E-01 -8.5730E-01 9.0399E-01 -
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  16 8.9435E-01 2.5182E-01 -3.0682E-01 8.9544E-01 2.5003E-01 -3.0513E-01
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8.8903E-01 2.5666E-01 -3.0934E-01 1.0000E+00 2.7240E-01 -3.3495E-01
8.8118E-01 2.5021E-01 -3.1076E-01 8.9538E-01 2.4258E-01 -2.9892E-01
8.6910E-01 2.5455E-01 -3.1346E-01
  17 2.2159E-01 9.0505E-01 -8.5934E-01 2.2584E-01 9.0534E-01 -8.5966E-01
2.3215E-01 9.0548E-01 -8.6002E-01 2.2315E-01 9.0339E-01 -8.5937E-01
2.0535E-01 9.0252E-01 -8.5799E-01 2.7240E-01 1.0000E+00 -9.4868E-01
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1.7405E-01 9.0468E-01 -8.5536E-01

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-2.8845E-01 -8.6060E-01 9.0663E-01 -2.7947E-01 -8.5958E-01 9.0591E-01 -
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2.2913E-01 -8.6080E-01 9.0154E-01
19 8.9792E-01 1.9224E-01 -2.4690E-01 8.9527E-01 1.9169E-01 -2.4657E-01
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2.2983E-01 -8.6039E-01 9.0087E-01
25 8.9144E-01 1.7206E-01 -2.2615E-01 8.8764E-01 1.7191E-01 -2.2624E-01
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1.0000E+00 1.7911E-01 -2.3416E-01
26 2.2704E-01 9.0578E-01 -8.6191E-01 2.3233E-01 9.0567E-01 -8.6180E-01
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2.0761E-01 9.0518E-01 -8.6185E-01 2.5455E-01 9.0468E-01 -8.6080E-01
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1.7911E-01 1.0000E+00 -9.5050E-01
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-2.9749E-01 -8.5799E-01 9.0304E-01 -2.8547E-01 -8.5982E-01 9.0377E-01 -
2.6173E-01 -8.6077E-01 9.0446E-01 -3.1346E-01 -8.5536E-01 9.0154E-01 -
2.4384E-01 -8.5944E-01 9.0458E-01 -3.1890E-01 -8.5442E-01 9.0087E-01 -
2.3416E-01 -9.5050E-01 1.0000E+00

G-FILE for the vectors

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C00100004 -53675718 19 -415294758 144 -729411882 73
C00100005 481328805 19 -373669733 145 -660506577 74
C00100006 -964249475 20 169162293 141 279587354 72
C00100007 724842099 19 429944709 143 723483724 74
C00100008-1159124588 20 218230527 140 357787560 71
C00100009 1206752266 19 222561864 144 356330512 75
D 1 2 2470941 1 3 -3082366 1 4 9006427 1 5 2246832 1 6 -2800297 D
1 7 8992587 1 8 2241611 1 9 -2794257 1 10 9014549 1 11 2267341 D 1
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17 2215902 1 18 -2779046 1 19 8979203 1 20 2248801 1 21 -2822309 D 1
22 8920637 1 23 2208063 1 24 -2773098 1 25 8914376 1 26 2270351 D 1
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3158826 21 23 -8564057 21 24 9030019 21 25 -2222616 21 26 -8616786 D 21 27
9045794 22 23 2761817 22 24 -3388706 22 25 8639609 22 26 2595461 D 22 27 -
3188979 23 24 -9483727 23 25 1745352 23 26 9042701 23 27 -8544207 D 24 25 -
2298307 24 26 -8603873 24 27 9008724 25 26 1791095 25 27 -2341555 D 26 27 -
9505015

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	9517.265	-5526964.496	3172541.500
nola	9517.269	-5526964.514	3172541.516
lwes	9517.259	-5526964.456	3172541.503
gris	9517.260	-5526964.477	3172541.504
bvhs	9517.261	-5526964.492	3172541.498
gvms	9517.267	-5526964.507	3172541.511
mspk	9517.262	-5526964.525	3172541.528
sjb1	9517.262	-5526964.546	3172541.526
msga	9517.265	-5526964.516	3172541.519

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.001	-0.011	-0.001	0.001	-0.006	0.009
nola	0.005	-0.028	0.015	0.005	-0.001	0.032
lwes	-0.005	0.030	0.001	-0.005	0.016	-0.025
gris	-0.004	0.009	0.003	-0.004	0.007	-0.006

bvhs	-0.003	-0.006	-0.003	-0.003	-
0.006	0.004				
gvms	0.003	-0.021	0.010	0.003	-
0.002	0.024				
mspk	-0.002	-0.039	0.026	-0.002	
0.003	0.047				
sjb1	-0.002	-0.060	0.024	-0.002	-
0.009	0.064				
msga	0.001	-0.030	0.018	0.001	
0.001	0.035				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 556586.996
Easting (X) [feet] 3733992.708
Convergence [degrees] 0.71601936
Point Scale 0.99992582
Combined Factor 0.99992993

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.074 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.334
scatter (mean square distance from rover) is 8025.641
average edop for rover is 1.260
average ndop for rover is 1.090
average hdop for rover is 1.666
average vdop for rover is 2.750
average gdop for rover is 3.880

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:22 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA45.O00 OP1335489200822

FILE: QCFVA45.O00 OP1335489200822

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv069a.12o TIME: 01:21:56 UTC

SOFTWARE: rsgps 1.37 RS41.prl 1.73 START: 2012/03/09 00:08:41
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/09 00:31:32
NAV FILE: brdc0680.12n OBS USED: 3141 / 3276 : 96%
ANT NAME: LEIAT502 NONE QUALITY IND. 20.42/ 28.54
ARP HEIGHT: 1.595 NORMALIZED RMS: 0.309

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18583)

X:	8046.306(m)	0.003(m)	8045.574(m)	0.003(m)
Y:	-5528279.148(m)	0.016(m)	-5528277.656(m)	0.016(m)
Z:	3170276.845(m)	0.011(m)	3170276.637(m)	0.011(m)

LAT:	29 59 56.81440	0.005(m)	29 59 56.83280	0.005(m)
E LON:	270 5 0.21432	0.003(m)	270 5 0.18709	0.003(m)
W LON:	89 54 59.78568	0.003(m)	89 54 59.81291	0.003(m)
EL HGT:	-23.880(m)	0.019(m)	-25.277(m)	0.019(m)
ORTHO HGT:	2.235(m)	0.022(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES UTM (Zone 16)	STATE PLANE COORDINATES SPC (1702 LA S)
Northing (Y) [meters]	3322269.821	167013.280
Easting (X) [meters]	218636.297	1136682.221
Convergence [degrees]	-1.45922424	0.70838108
Point Scale	1.00057684	0.99992575
Combined Factor	1.00058059	0.99992950

US NATIONAL GRID DESIGNATOR: 16RBU1863622269(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	13520.5

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 20918.2
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 43189.6
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 55590.5
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 81410.5
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 88482.3
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 103444.3
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 109564.8
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 114016.6

NEAREST NGS PUBLISHED CONTROL POINT
BH2831 MICHOUD RAD STA KKS 460 MAST N300028.155 W0895610.714 2132.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.594	-5534921.911	3158759.197
nola	-11604.030	-5531876.839	3164070.913
lwes	-33746.217	-5533652.951	3160795.445
covg	-9174.165	-5501675.356	3215950.508
gris	4149.689	-5568493.952	3099600.317
bvhs	57650.142	-5564331.461	3106490.840
awes	-94742.051	-5521868.795	3179990.036
lmcn	-64275.988	-5568696.870	3098580.613
mspk	82001.472	-5483970.041	3244889.890
qcfv	8045.574	-5528277.656	3170276.637

Covariance matrix of the stations:
1 1.4090E-07 1.1360E-07 -5.9110E-08 -4.0230E-09 -1.6160E-08 8.7040E-09
-5.9630E-09 -1.9320E-08 1.0140E-08 -4.7990E-09 -2.3580E-08 1.7700E-08 -
1.5180E-09 -4.1010E-09 -3.4220E-09 2.8150E-09 4.7760E-09 -7.4680E-09 -
1.2070E-08 -3.0940E-08 1.8500E-08 -7.3810E-09 -1.4570E-08 2.1140E-09
3.1250E-09 -9.6450E-09 1.2830E-08 1.6130E-08 2.8830E-08 -1.4260E-08
2 1.1360E-07 4.5970E-06 -2.2070E-06 -1.4730E-08 -5.6330E-07 2.7760E-07
-1.7520E-08 -5.6600E-07 2.7880E-07 -1.6180E-08 -5.7910E-07 2.9360E-07 -
1.0730E-08 -5.4210E-07 2.5790E-07 -4.4070E-09 -5.3370E-07 2.5410E-07 -
2.6430E-08 -5.8000E-07 2.8960E-07 -1.9150E-08 -5.5230E-07 2.6360E-07 -
4.4790E-09 -5.6940E-07 2.9210E-07 4.0980E-09 1.4130E-07 -6.8050E-08
3 -5.9110E-08 -2.2070E-06 1.2010E-06 7.7570E-09 2.7800E-07 -1.3750E-07
9.6210E-09 2.7930E-07 -1.3800E-07 8.8940E-09 2.9500E-07 -1.5160E-07
4.9540E-09 2.5660E-07 -1.2080E-07 7.9870E-10 2.5210E-07 -1.1880E-07
1.5680E-08 2.9070E-07 -1.4640E-07 1.0490E-08 2.6300E-07 -1.2430E-07
9.3750E-10 2.9250E-07 -1.5290E-07 -3.1310E-09 -7.4670E-08 5.3200E-08
4 -4.0230E-09 -1.4730E-08 7.7570E-09 1.4120E-07 1.3040E-07 -6.7650E-08
-2.8580E-09 -1.8690E-08 9.5580E-09 -3.2570E-09 -1.4940E-08 5.5220E-09 -
4.3210E-09 -1.6330E-08 1.0810E-08 -5.9610E-09 -1.1760E-08 8.4580E-09 -
1.1080E-09 -2.5560E-08 1.2120E-08 -2.3960E-09 -2.3050E-08 1.3920E-08 -
6.1560E-09 -5.3160E-09 -4.8780E-10 1.1330E-08 -1.2430E-08 5.9570E-09
5 -1.6160E-08 -5.6330E-07 2.7800E-07 1.3040E-07 4.6420E-06 -2.2370E-06
-1.6400E-08 -5.6880E-07 2.8080E-07 -1.6710E-08 -5.7360E-07 2.8350E-07 -

1.5830E-08 -5.5890E-07 2.7570E-07 -1.5790E-08 -5.5550E-07 2.7390E-07 -
1.7020E-08 -5.7720E-07 2.8530E-07 -1.6050E-08 -5.6460E-07 2.7860E-07 -
1.6390E-08 -5.6920E-07 2.8130E-07 -3.5220E-09 -4.1850E-08 2.6860E-08
   6   8.7040E-09 2.7760E-07 -1.3750E-07 -6.7650E-08 -2.2370E-06 1.2200E-06
7.7450E-09 2.8040E-07 -1.3890E-07 8.4870E-09 2.8870E-07 -1.4160E-07
8.6400E-09 2.7010E-07 -1.3560E-07 1.0100E-08 2.6980E-07 -1.3530E-07
6.4070E-09 2.8710E-07 -1.4160E-07 6.8460E-09 2.7270E-07 -1.3680E-07
1.0710E-08 2.9060E-07 -1.4200E-07 2.4590E-09 3.6610E-08 -5.7240E-09
   7 -5.9630E-09 -1.7520E-08 9.6210E-09 -2.8580E-09 -1.6400E-08 7.7450E-09
1.4710E-07 1.5240E-07 -7.9010E-08 -1.4500E-09 -4.7200E-09 -8.8400E-09 -
7.6030E-09 -3.0590E-08 2.7410E-08 -1.6250E-08 -3.1070E-08 2.7050E-08
1.1750E-08 -1.9160E-08 4.5470E-09 3.4570E-09 -3.2890E-08 2.7680E-08 -
1.7040E-08 -1.7710E-10 -1.6180E-08 8.1330E-09 -5.8050E-08 2.7460E-08
   8 -1.9320E-08 -5.6600E-07 2.7930E-07 -1.8690E-08 -5.6880E-07 2.8040E-07
1.5240E-07 4.6620E-06 -2.2450E-06 -1.8730E-08 -5.7210E-07 2.7980E-07 -
1.9380E-08 -5.6510E-07 2.8140E-07 -2.1440E-08 -5.6370E-07 2.8050E-07 -
1.5680E-08 -5.7580E-07 2.8310E-07 -1.6830E-08 -5.6870E-07 2.8310E-07 -
2.2240E-08 -5.7020E-07 2.7770E-07 -7.0570E-09 -5.7150E-08 3.3960E-08
   9   1.0140E-08 2.7880E-07 -1.3800E-07 9.5580E-09 2.8080E-07 -1.3890E-07
-7.9010E-08 -2.2450E-06 1.2240E-06 9.6600E-09 2.8880E-07 -1.4090E-07
1.0180E-08 2.7210E-07 -1.3720E-07 1.2120E-08 2.7240E-07 -1.3720E-07
6.7890E-09 2.8700E-07 -1.4110E-07 7.7340E-09 2.7400E-07 -1.3790E-07
1.2770E-08 2.9160E-07 -1.4150E-07 3.9840E-09 4.0540E-08 -7.5090E-09
  10 -4.7990E-09 -1.6180E-08 8.8940E-09 -3.2570E-09 -1.6710E-08 8.4870E-09
-1.4500E-09 -1.8730E-08 9.6600E-09 1.4290E-07 1.4800E-07 -8.3960E-08 -
5.6390E-09 -2.2310E-08 1.7730E-08 -1.0010E-08 -1.9700E-08 1.6160E-08
3.9090E-09 -2.3410E-08 9.5420E-09 -1.4270E-10 -2.7320E-08 1.9720E-08 -
1.0410E-08 -3.5790E-09 -6.2440E-09 1.0080E-08 -3.0330E-08 1.4630E-08
  11 -2.3580E-08 -5.7910E-07 2.9500E-07 -1.4940E-08 -5.7360E-07 2.8870E-07
-4.7200E-09 -5.7210E-07 2.8880E-07 1.4800E-07 4.8010E-06 -2.4090E-06 -
2.7900E-08 -6.1420E-07 3.4330E-07 -5.1800E-08 -6.2810E-07 3.4840E-07
2.6190E-08 -5.6110E-07 2.6980E-07 3.1230E-09 -6.0460E-07 3.3630E-07 -
5.4330E-08 -5.5760E-07 2.3810E-07 -1.5240E-08 -2.0290E-07 1.1040E-07
  12   1.7700E-08 2.9360E-07 -1.5160E-07 5.5220E-09 2.8350E-07 -1.4160E-07
-8.8400E-09 2.7980E-07 -1.4090E-07 -8.3960E-08 -2.4090E-06 1.3820E-06
2.3820E-08 3.3870E-07 -2.1730E-07 5.7360E-08 3.6150E-07 -2.2610E-07 -
5.2390E-08 2.6090E-07 -1.1240E-07 -1.9820E-08 3.2110E-07 -2.0540E-07
6.0660E-08 2.7000E-07 -7.5480E-08 1.7230E-08 2.4830E-07 -1.0960E-07
  13 -1.5180E-09 -1.0730E-08 4.9540E-09 -4.3210E-09 -1.5830E-08 8.6400E-09
-7.6030E-09 -1.9380E-08 1.0180E-08 -5.6390E-09 -2.7900E-08 2.3820E-08
1.4260E-07 1.1520E-07 -6.8270E-08 7.4000E-09 1.3700E-08 -1.6090E-08 -
1.7820E-08 -3.3500E-08 2.1580E-08 -9.9850E-09 -9.8180E-09 -4.3510E-09
7.9370E-09 -1.1740E-08 1.9540E-08 1.5460E-08 4.6790E-08 -2.2170E-08
  14 -4.1010E-09 -5.4210E-07 2.5660E-07 -1.6330E-08 -5.5890E-07 2.7010E-07
-3.0590E-08 -5.6510E-07 2.7210E-07 -2.2310E-08 -6.1420E-07 3.3870E-07
1.1520E-07 4.5440E-06 -2.1640E-06 3.5540E-08 -4.5580E-07 1.7360E-07 -
7.4540E-08 -6.0060E-07 3.0900E-07 -4.0560E-08 -5.1070E-07 2.0160E-07
3.7640E-08 -5.8510E-07 3.4220E-07 1.4440E-08 1.7880E-07 -8.5880E-08
  15 -3.4220E-09 2.5790E-07 -1.2080E-07 1.0810E-08 2.7570E-07 -1.3560E-07
2.7410E-08 2.8140E-07 -1.3720E-07 1.7730E-08 3.4330E-07 -2.1730E-07 -
6.8270E-08 -2.1640E-06 1.2010E-06 -4.9570E-08 1.5580E-07 -2.3140E-08
7.8540E-08 3.2020E-07 -1.7880E-07 3.9060E-08 2.1290E-07 -5.2290E-08 -
5.2320E-08 3.1610E-07 -2.2520E-07 -1.6840E-08 -2.2640E-07 1.2260E-07
  16   2.8150E-09 -4.4070E-09 7.9870E-10 -5.9610E-09 -1.5790E-08 1.0100E-08

-1.6250E-08 -2.1440E-08 1.2120E-08 -1.0010E-08 -5.1800E-08 5.7360E-08
7.4000E-09 3.5540E-08 -4.9570E-08 1.7170E-07 1.1760E-07 -9.0210E-08 -
4.7870E-08 -4.8470E-08 3.9300E-08 -2.3760E-08 1.2920E-08 -3.6180E-08
3.3070E-08 -2.3900E-08 5.6220E-08 2.2720E-08 1.5270E-07 -7.1990E-08
  17 4.7760E-09 -5.3370E-07 2.5210E-07 -1.1760E-08 -5.5550E-07 2.6980E-07
-3.1070E-08 -5.6370E-07 2.7240E-07 -1.9700E-08 -6.2810E-07 3.6150E-07
1.3700E-08 -4.5580E-07 1.5580E-07 1.1760E-07 4.5390E-06 -2.1770E-06 -
9.0500E-08 -6.1020E-07 3.2150E-07 -4.4770E-08 -4.9190E-07 1.7790E-07
6.1500E-08 -5.8840E-07 3.6610E-07 2.5420E-08 2.5790E-07 -1.2290E-07
  18 -7.4680E-09 2.5410E-07 -1.1880E-07 8.4580E-09 2.7390E-07 -1.3530E-07
2.7050E-08 2.8050E-07 -1.3720E-07 1.6160E-08 3.4840E-07 -2.2610E-07 -
1.6090E-08 1.7360E-07 -2.3140E-08 -9.0210E-08 -2.1770E-06 1.2120E-06
8.4280E-08 3.2380E-07 -1.8360E-07 4.0160E-08 2.0510E-07 -4.2850E-08 -
6.2250E-08 3.1680E-07 -2.3430E-07 -2.1700E-08 -2.5770E-07 1.3720E-07
  19 -1.2070E-08 -2.6430E-08 1.5680E-08 -1.1080E-09 -1.7020E-08 6.4070E-09
1.1750E-08 -1.5680E-08 6.7890E-09 3.9090E-09 2.6190E-08 -5.2390E-08 -
1.7820E-08 -7.4540E-08 7.8540E-08 -4.7870E-08 -9.0500E-08 8.4280E-08
2.0360E-07 2.4580E-07 -1.4550E-07 2.1160E-08 -6.3320E-08 7.0080E-08 -
5.0480E-08 1.5180E-08 -6.3760E-08 -1.8190E-09 -1.9760E-07 9.3450E-08
  20 -3.0940E-08 -5.8000E-07 2.9070E-07 -2.5560E-08 -5.7720E-07 2.8710E-07
-1.9160E-08 -5.7580E-07 2.8700E-07 -2.3410E-08 -5.6110E-07 2.6090E-07 -
3.3500E-08 -6.0060E-07 3.2020E-07 -4.8470E-08 -6.1020E-07 3.2380E-07
2.4580E-07 4.7810E-06 -2.3440E-06 -1.4050E-08 -5.9380E-07 3.1550E-07 -
5.0340E-08 -5.7160E-07 2.5800E-07 -2.1020E-08 -1.4930E-07 8.1240E-08
  21 1.8500E-08 2.8960E-07 -1.4640E-07 1.2120E-08 2.8530E-07 -1.4160E-07
4.5470E-09 2.8310E-07 -1.4110E-07 9.5420E-09 2.6980E-07 -1.1240E-07
2.1580E-08 3.0900E-07 -1.7880E-07 3.9300E-08 3.2150E-07 -1.8360E-07 -
1.4550E-07 -2.3440E-06 1.2980E-06 -1.4740E-09 2.9990E-07 -1.7260E-07
4.1250E-08 2.8550E-07 -1.1080E-07 1.5180E-08 1.4730E-07 -5.9810E-08
  22 -7.3810E-09 -1.9150E-08 1.0490E-08 -2.3960E-09 -1.6050E-08 6.8460E-09
3.4570E-09 -1.6830E-08 7.7340E-09 -1.4270E-10 3.1230E-09 -1.9820E-08 -
9.9850E-09 -4.0560E-08 3.9060E-08 -2.3760E-08 -4.4770E-08 4.0160E-08
2.1160E-08 -1.4050E-08 -1.4740E-09 1.5510E-07 1.4420E-07 -5.4780E-08 -
2.5040E-08 3.9010E-09 -2.8140E-08 5.7730E-09 -9.1410E-08 4.2900E-08
  23 -1.4570E-08 -5.5230E-07 2.6300E-07 -2.3050E-08 -5.6460E-07 2.7270E-07
-3.2890E-08 -5.6870E-07 2.7400E-07 -2.7320E-08 -6.0460E-07 3.2110E-07 -
9.8180E-09 -5.1070E-07 2.1290E-07 1.2920E-08 -4.9190E-07 2.0510E-07 -
6.3320E-08 -5.9380E-07 2.9990E-07 1.4420E-07 4.5840E-06 -2.1720E-06
1.4110E-08 -5.8590E-07 3.2420E-07 2.1300E-09 1.0700E-07 -5.1260E-08
  24 2.1140E-09 2.6360E-07 -1.2430E-07 1.3920E-08 2.7860E-07 -1.3680E-07
2.7680E-08 2.8310E-07 -1.3790E-07 1.9720E-08 3.3630E-07 -2.0540E-07 -
4.3510E-09 2.0160E-07 -5.2290E-08 -3.6180E-08 1.7790E-07 -4.2850E-08
7.0080E-08 3.1550E-07 -1.7260E-07 -5.4780E-08 -2.1720E-06 1.1960E-06 -
3.8370E-08 3.1530E-07 -2.1280E-07 -1.0130E-08 -1.8100E-07 1.0080E-07
  25 3.1250E-09 -4.4790E-09 9.3750E-10 -6.1560E-09 -1.6390E-08 1.0710E-08
-1.7040E-08 -2.2240E-08 1.2770E-08 -1.0410E-08 -5.4330E-08 6.0660E-08
7.9370E-09 3.7640E-08 -5.2320E-08 3.3070E-08 6.1500E-08 -6.2250E-08 -
5.0480E-08 -5.0340E-08 4.1250E-08 -2.5040E-08 1.4110E-08 -3.8370E-08
1.7620E-07 3.4870E-08 2.6510E-08 2.3320E-08 1.6170E-07 -7.6050E-08
  26 -9.6450E-09 -5.6940E-07 2.9250E-07 -5.3160E-09 -5.6920E-07 2.9060E-07
-1.7710E-10 -5.7020E-07 2.9160E-07 -3.5790E-09 -5.5760E-07 2.7000E-07 -
1.1740E-08 -5.8510E-07 3.1610E-07 -2.3900E-08 -5.8840E-07 3.1680E-07
1.5180E-08 -5.7160E-07 2.8550E-07 3.9010E-09 -5.8590E-07 3.1530E-07
3.4870E-08 4.7080E-06 -2.3790E-06 8.0830E-10 -1.2260E-07 7.5540E-08

27 1.2830E-08 2.9210E-07 -1.5290E-07 -4.8780E-10 2.8130E-07 -1.4200E-07
-1.6180E-08 2.7770E-07 -1.4150E-07 -6.2440E-09 2.3810E-07 -7.5480E-08
1.9540E-08 3.4220E-07 -2.2520E-07 5.6220E-08 3.6610E-07 -2.3430E-07 -
6.3760E-08 2.5800E-07 -1.1080E-07 -2.8140E-08 3.2420E-07 -2.1280E-07
2.6510E-08 -2.3790E-06 1.4060E-06 1.2940E-08 2.6690E-07 -1.2000E-07
28 1.6130E-08 4.0980E-09 -3.1310E-09 1.1330E-08 -3.5220E-09 2.4590E-09
8.1330E-09 -7.0570E-09 3.9840E-09 1.0080E-08 -1.5240E-08 1.7230E-08
1.5460E-08 1.4440E-08 -1.6840E-08 2.2720E-08 2.5420E-08 -2.1700E-08 -
1.8190E-09 -2.1020E-08 1.5180E-08 5.7730E-09 2.1300E-09 -1.0130E-08
2.3320E-08 8.0830E-10 1.2940E-08 1.3130E-06 1.2540E-06 -6.3530E-07
29 2.8830E-08 1.4130E-07 -7.4670E-08 -1.2430E-08 -4.1850E-08 3.6610E-08
-5.8050E-08 -5.7150E-08 4.0540E-08 -3.0330E-08 -2.0290E-07 2.4830E-07
4.6790E-08 1.7880E-07 -2.2640E-07 1.5270E-07 2.5790E-07 -2.5770E-07 -
1.9760E-07 -1.4930E-07 1.4730E-07 -9.1410E-08 1.0700E-07 -1.8100E-07
1.6170E-07 -1.2260E-07 2.6690E-07 1.2540E-06 4.9160E-05 -2.3640E-05
30 -1.4260E-08 -6.8050E-08 5.3200E-08 5.9570E-09 2.6860E-08 -5.7240E-09
2.7460E-08 3.3960E-08 -7.5090E-09 1.4630E-08 1.1040E-07 -1.0960E-07 -
2.2170E-08 -8.5880E-08 1.2260E-07 -7.1990E-08 -1.2290E-07 1.3720E-07
9.3450E-08 8.1240E-08 -5.9810E-08 4.2900E-08 -5.1260E-08 1.0080E-07 -
7.6050E-08 7.5540E-08 -1.2000E-07 -6.3530E-07 -2.3640E-05 1.2660E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000013130 0.0000012540 -0.0000006353
0.0000012540 0.0000491600 -0.0000236400
-0.0000006353 -0.0000236400 0.0000126600

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000013168 0.0000000775 -0.0000014814
0.0000000775 0.0000012893 -0.0000038110
-0.0000014814 -0.0000038110 0.0000605270

Horizontal network accuracy = 0.00279 meters.
Vertical network accuracy = 0.01525 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	-2450.981	-6644.255	-11517.439
nola	qcfv	-19649.605	-3599.183	-6205.724
lwes	qcfv	-41791.791	-5375.295	-9481.191
covg	qcfv	-17219.739	26602.300	45673.872
gris	qcfv	-3895.885	-40216.296	-70676.320
bvhs	qcfv	49604.568	-36053.805	-63785.796
awes	qcfv	-102787.625	6408.862	9713.399
lmcn	qcfv	-72321.562	-40419.214	-71696.024
mspk	qcfv	73955.898	44307.616	74613.254

Covariance matrix of the 9 vectors
1 1.4216E-06 1.3347E-06 -6.7702E-07 1.2815E-06 1.2125E-06 -6.1479E-07
1.2828E-06 1.2129E-06 -6.1488E-07 1.2820E-06 1.2168E-06 -6.2057E-07
1.2799E-06 1.2066E-06 -6.0762E-07 1.2770E-06 1.2045E-06 -6.0681E-07
1.2866E-06 1.2152E-06 -6.1772E-07 1.2837E-06 1.2085E-06 -6.0880E-07
1.2767E-06 1.2147E-06 -6.2115E-07
2 1.3347E-06 5.3474E-05 -2.5704E-05 1.2476E-06 4.8497E-05 -2.3331E-05

1.2904E-06 4.8510E-05 -2.3334E-05 1.2641E-06 4.8642E-05 -2.3527E-05
1.1924E-06 4.8298E-05 -2.3088E-05 1.0928E-06 4.8227E-05 -2.3060E-05
1.4211E-06 4.8588E-05 -2.3430E-05 1.3222E-06 4.8359E-05 -2.3127E-05
1.0837E-06 4.8572E-05 -2.3547E-05
   3 -6.7702E-07 -2.5704E-05 1.3755E-05 -6.3037E-07 -2.3314E-05 1.2475E-05
-6.5001E-07 -2.3320E-05 1.2476E-05 -6.3790E-07 -2.3381E-05 1.2565E-05 -
6.0505E-07 -2.3223E-05 1.2363E-05 -5.5938E-07 -2.3190E-05 1.2351E-05 -
7.0994E-07 -2.3356E-05 1.2520E-05 -6.6458E-07 -2.3251E-05 1.2382E-05 -
5.5518E-07 -2.3348E-05 1.2574E-05
   4   1.2815E-06 1.2476E-06 -6.3037E-07 1.4315E-06 1.4004E-06 -7.1137E-07
1.2907E-06 1.2548E-06 -6.3568E-07 1.2883E-06 1.2667E-06 -6.5297E-07
1.2819E-06 1.2357E-06 -6.1361E-07 1.2730E-06 1.2292E-06 -6.1110E-07
1.3024E-06 1.2619E-06 -6.4432E-07 1.2935E-06 1.2412E-06 -6.1721E-07
1.2722E-06 1.2603E-06 -6.5468E-07
   5   1.2125E-06 4.8497E-05 -2.3314E-05 1.4004E-06 5.3886E-05 -2.5940E-05
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1.3862E-06 4.8608E-05 -2.3436E-05 1.4875E-06 5.3530E-05 -2.5580E-05

1.1043E-06 4.8590E-05 -2.3531E-05
  24 -6.0880E-07 -2.3127E-05 1.2382E-05 -6.1721E-07 -2.3207E-05 1.2428E-05
-6.2495E-07 -2.3210E-05 1.2429E-05 -6.2008E-07 -2.3233E-05 1.2463E-05 -
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5.8749E-07 -2.3219E-05 1.2466E-05
  25   1.2767E-06 1.0837E-06 -5.5518E-07 1.2722E-06 1.0794E-06 -5.5100E-07
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1.2410E-06 1.0630E-06 -5.3318E-07 1.2589E-06 1.1043E-06 -5.8749E-07
1.4426E-06 1.1264E-06 -5.4568E-07
  26   1.2147E-06 4.8572E-05 -2.3348E-05 1.2603E-06 4.8755E-05 -2.3462E-05
1.3111E-06 4.8770E-05 -2.3464E-05 1.2799E-06 4.8928E-05 -2.3694E-05
1.1947E-06 4.8519E-05 -2.3173E-05 1.0766E-06 4.8436E-05 -2.3141E-05
1.4660E-06 4.8860E-05 -2.3577E-05 1.3485E-06 4.8590E-05 -2.3219E-05
1.1264E-06 5.4113E-05 -2.6361E-05
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-6.9188E-07 -2.3663E-05 1.2646E-05 -6.6911E-07 -2.3779E-05 1.2814E-05 -
6.0653E-07 -2.3479E-05 1.2432E-05 -5.2003E-07 -2.3418E-05 1.2409E-05 -
8.0545E-07 -2.3730E-05 1.2729E-05 -7.1928E-07 -2.3531E-05 1.2466E-05 -
5.4568E-07 -2.6361E-05 1.4306E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 1.5308E-01 -1.5310E-01 8.9831E-01 1.3854E-01 -1.3834E-01
8.9536E-01 1.3851E-01 -1.3833E-01 8.9733E-01 1.3841E-01 -1.3782E-01
8.9933E-01 1.3856E-01 -1.3811E-01 8.9272E-01 1.3853E-01 -1.3801E-01
8.7518E-01 1.3839E-01 -1.3808E-01 8.9209E-01 1.3853E-01 -1.3818E-01
8.9149E-01 1.3849E-01 -1.3773E-01
   2   1.5308E-01 1.0000E+00 -9.4778E-01 1.4259E-01 9.0346E-01 -8.5602E-01
1.4686E-01 9.0327E-01 -8.5589E-01 1.4426E-01 9.0214E-01 -8.5194E-01
1.3661E-01 9.0428E-01 -8.5563E-01 1.2457E-01 9.0434E-01 -8.5518E-01
1.5761E-01 9.0219E-01 -8.5394E-01 1.4981E-01 9.0388E-01 -8.5589E-01
1.2339E-01 9.0294E-01 -8.5133E-01
   3 -1.5310E-01 -9.4778E-01 1.0000E+00 -1.4206E-01 -8.5637E-01 9.0249E-01
-1.4586E-01 -8.5618E-01 9.0234E-01 -1.4355E-01 -8.5500E-01 8.9713E-01 -
1.3668E-01 -8.5731E-01 9.0343E-01 -1.2572E-01 -8.5742E-01 9.0311E-01 -
1.5525E-01 -8.5509E-01 8.9975E-01 -1.4848E-01 -8.5688E-01 9.0348E-01 -
1.2464E-01 -8.5582E-01 8.9637E-01
   4   8.9831E-01 1.4259E-01 -1.4206E-01 1.0000E+00 1.5944E-01 -1.5952E-01
8.9776E-01 1.4280E-01 -1.4251E-01 8.9865E-01 1.4359E-01 -1.4451E-01
8.9761E-01 1.4140E-01 -1.3898E-01 8.8686E-01 1.4088E-01 -1.3851E-01
8.8284E-01 1.4321E-01 -1.4353E-01 8.9578E-01 1.4179E-01 -1.3960E-01
8.8529E-01 1.4319E-01 -1.4467E-01
   5   1.3854E-01 9.0346E-01 -8.5637E-01 1.5944E-01 1.0000E+00 -9.4813E-01
1.4729E-01 9.0316E-01 -8.5601E-01 1.4452E-01 9.0218E-01 -8.5247E-01
1.3638E-01 9.0392E-01 -8.5520E-01 1.2366E-01 9.0389E-01 -8.5469E-01
1.5889E-01 9.0218E-01 -8.5428E-01 1.5045E-01 9.0360E-01 -8.5556E-01
1.2243E-01 9.0289E-01 -8.5188E-01
   6 -1.3834E-01 -8.5602E-01 9.0249E-01 -1.5952E-01 -9.4813E-01 1.0000E+00
-1.4681E-01 -8.5598E-01 9.0206E-01 -1.4418E-01 -8.5506E-01 8.9759E-01 -
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1.2309E-01 -8.5572E-01 8.9690E-01
   7   8.9536E-01 1.4686E-01 -1.4586E-01 8.9776E-01 1.4729E-01 -1.4681E-01

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   8 1.3851E-01 9.0327E-01 -8.5618E-01 1.4280E-01 9.0316E-01 -8.5598E-01
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1.2211E-01 9.0273E-01 -8.5187E-01
   9 -1.3833E-01 -8.5589E-01 9.0234E-01 -1.4251E-01 -8.5601E-01 9.0206E-01
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8.9544E-01 1.2809E-01 -1.3464E-01 1.0000E+00 1.3641E-01 -1.4282E-01
8.4115E-01 1.2154E-01 -1.1979E-01 8.7075E-01 1.2670E-01 -1.3295E-01
9.0223E-01 1.2199E-01 -1.1460E-01
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1.4328E-01 9.0360E-01 -8.5645E-01 1.4181E-01 9.0153E-01 -8.4981E-01
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1.4855E-01 9.0192E-01 -8.5311E-01 1.4489E-01 9.0529E-01 -8.5937E-01
1.2883E-01 9.0288E-01 -8.4899E-01

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-1.3858E-01 -8.5430E-01 9.0148E-01 -1.3853E-01 -8.5123E-01 8.9091E-01 -
1.3803E-01 -8.5853E-01 9.0963E-01 -1.4282E-01 -9.4588E-01 1.0000E+00 -
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1.3543E-01 -8.5310E-01 8.8967E-01
19 8.7518E-01 1.5761E-01 -1.5525E-01 8.8284E-01 1.5889E-01 -1.5772E-01
8.8991E-01 1.5935E-01 -1.5793E-01 8.8579E-01 1.6423E-01 -1.7146E-01
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1.2017E-01 9.0187E-01 -8.5189E-01
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8.9392E-01 1.5215E-01 -1.5345E-01 1.0000E+00 1.6846E-01 -1.6209E-01
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1.2566E-01 9.0281E-01 -8.5034E-01
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-1.4075E-01 -8.5526E-01 9.0220E-01 -1.4005E-01 -8.5272E-01 8.9315E-01 -
1.3770E-01 -8.5855E-01 9.0827E-01 -1.3295E-01 -8.5937E-01 9.0850E-01 -
1.4235E-01 -8.5341E-01 8.9772E-01 -1.6209E-01 -9.4615E-01 1.0000E+00 -
1.3237E-01 -8.5420E-01 8.9196E-01
25 8.9149E-01 1.2339E-01 -1.2464E-01 8.8529E-01 1.2243E-01 -1.2309E-01
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1.4832E-01 9.0273E-01 -8.5559E-01 1.4521E-01 9.0207E-01 -8.5292E-01
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1.6163E-01 9.0187E-01 -8.5424E-01 1.5189E-01 9.0281E-01 -8.5420E-01
1.2749E-01 1.0000E+00 -9.4745E-01
27 -1.3773E-01 -8.5133E-01 8.9637E-01 -1.4467E-01 -8.5188E-01 8.9690E-01
-1.5223E-01 -8.5187E-01 8.9681E-01 -1.4764E-01 -8.5265E-01 8.9712E-01 -
1.3435E-01 -8.4989E-01 8.9077E-01 -1.1460E-01 -8.4899E-01 8.8967E-01 -
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G-FILE for the vectors

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C00100004 -172197390 11 266023004 73 456738715 37
C00100005 -38958847 11 -402162960 73 -706763195 36
C00100006 496045676 11 -360538046 72 -637857960 36
C00100007-1027876249 12 64088615 73 97133993 37
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C00100009 739558977 12 443076155 73 746132536 37
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1 7 8953579 1 8 1385135 1 9 -1383267 1 10 8973301 1 11 1384102 D 1
12 -1378218 1 13 8993315 1 14 1385563 1 15 -1381074 1 16 8927185 D 1
17 1385269 1 18 -1380147 1 19 8751839 1 20 1383925 1 21 -1380804 D 1
22 8920944 1 23 1385295 1 24 -1381785 1 25 8914943 1 26 1384932 D 1
27 -1377344 2 3 -9477820 2 4 1425940 2 5 9034567 2 6 -8560238 D 2
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8969555 22 23 1684570 22 24 -1620871 22 25 8684595 22 26 1518927 D 22 27 -
1575707 23 24 -9461526 23 25 1256647 23 26 9028050 23 27 -8503364 D 24 25 -
1323723 24 26 -8542010 24 27 8919605 25 26 1274850 25 27 -1201190 D 26 27 -
9474546

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	8045.580	-5528277.667	3170276.633
nola	8045.571	-5528277.679	3170276.652
lwes	8045.571	-5528277.645	3170276.637
covg	8045.578	-5528277.656	3170276.637
gris	8045.576	-5528277.657	3170276.633
bvhs	8045.573	-5528277.663	3170276.637
awes	8045.574	-5528277.679	3170276.652
lmcn	8045.570	-5528277.679	3170276.648
mspk	8045.572	-5528277.671	3170276.652

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.006	-0.011	-0.003	0.006	-0.009	0.008
nola	-0.003	-0.023	0.015	-0.003	0.002	0.027
lwes	-0.003	0.011	0.001	-0.003	0.006	-0.010
covg	0.004	-0.000	0.001	0.004	0.001	0.000

gris	0.002	-0.000	-0.004	0.002	-0.004	-0.002
bvhs	-0.002	-0.007	0.000	-0.002	-0.003	0.006
awes	-0.000	-0.023	0.016	-0.000	0.002	0.028
lmcn	-0.004	-0.022	0.012	-0.004	-0.001	0.025
mspk	-0.002	-0.015	0.015	-0.002	0.006	0.021

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 547942.735
Easting (X) [feet] 3729264.921
Convergence [degrees] 0.70838108
Point Scale 0.99992575
Combined Factor 0.99992950

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 2.155 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.352
scatter (mean square distance from rover) is 6192.734
average edop for rover is 0.650
average ndop for rover is 0.630
average hdop for rover is 0.905
average vdop for rover is 1.690
average gdop for rover is 2.220

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:28 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA46.O00 OP1335489737040

FILE: QCFVA46.O00 OP1335489737040

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv079v.12o TIME: 01:28:02 UTC

SOFTWARE: rsgps 1.37 RS40.prl 1.73 START: 2012/03/19 21:05:55
EPHEMERIS: igs16801.eph [precise] STOP: 2012/03/19 21:37:27
NAV FILE: brdc0790.12n OBS USED: 3645 / 3753 : 97%
ANT NAME: LEIAT502 NONE QUALITY IND. 16.11/ 20.13
ARP HEIGHT: 1.695 NORMALIZED RMS: 0.401

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.21555)

X:	8936.071(m)	0.005(m)	8935.339(m)	0.005(m)
Y:	-5532457.509(m)	0.014(m)	-5532456.016(m)	0.014(m)
Z:	3163021.996(m)	0.010(m)	3163021.788(m)	0.010(m)

LAT:	29 55 24.90168	0.005(m)	29 55 24.92003	0.005(m)
E LON:	270 5 33.16033	0.005(m)	270 5 33.13313	0.005(m)
W LON:	89 54 26.83967	0.005(m)	89 54 26.86687	0.005(m)
EL HGT:	-25.911(m)	0.016(m)	-27.310(m)	0.016(m)
ORTHO HGT:	-0.013(m)	0.020(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3313872.485	158652.717
Easting (X) [meters]	219307.110	1137669.282
Convergence [degrees]	-1.45131821	0.71295703
Point Scale	1.00057220	0.99992665
Combined Factor	1.00057627	0.99993072

US NATIONAL GRID DESIGNATOR: 16RBU1930713872(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	5951.8

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 20574.3
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 46058.5
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 73102.1
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 87062.5
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 104047.9
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 105588.9
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 119966.4
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 126882.5

NEAREST NGS PUBLISHED CONTROL POINT
AT0775 SB 014 B N295527.729 W0895429.346 110.3

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.136	-5534934.104	3158737.877
nola	-11604.039	-5531876.852	3164070.919
dstr	-36892.843	-5530079.558	3166960.863
gris	4149.687	-5568493.944	3099600.309
houm	-70100.639	-5550262.342	3131144.921
lmcn	-64275.988	-5568696.889	3098580.624
awes	-94742.051	-5521868.786	3179990.038
mspk	82001.473	-5483970.040	3244889.885
sjb1	-106395.191	-5505141.448	3208320.260
qcfv	8935.339	-5532456.016	3163021.788

Covariance matrix of the stations:
1 1.5780E-07 -8.5010E-08 7.2590E-08 -2.3720E-09 3.9400E-09 -4.7440E-09
-5.7550E-09 6.3340E-09 -5.7340E-09 -7.3890E-10 -7.1890E-10 -1.3540E-08 -
1.0540E-08 4.5890E-09 -1.1370E-08 -1.0020E-08 3.4880E-09 -1.6430E-08 -
1.3300E-08 1.5370E-08 -8.8790E-09 1.0440E-08 2.6970E-08 -2.5770E-09 -
1.4420E-08 2.5130E-08 -9.4510E-09 1.9980E-08 5.2800E-08 -2.8550E-08
2 -8.5010E-08 7.0020E-06 -3.8250E-06 5.6070E-09 -8.4780E-07 4.6990E-07
1.0580E-08 -8.5300E-07 4.7210E-07 3.4600E-09 -8.5630E-07 4.9400E-07
1.7570E-08 -8.6290E-07 4.8870E-07 1.6830E-08 -8.6910E-07 5.0160E-07
2.1560E-08 -8.6900E-07 4.7750E-07 -1.4230E-08 -8.5480E-07 4.4770E-07
2.3200E-08 -8.7780E-07 4.7400E-07 -1.3370E-08 1.1120E-08 -4.4070E-10
3 7.2590E-08 -3.8250E-06 2.2160E-06 -6.4060E-09 4.7210E-07 -2.5910E-07
-9.0040E-09 4.7500E-07 -2.6040E-07 -5.2080E-09 4.6390E-07 -2.6450E-07 -
1.2740E-08 4.7280E-07 -2.6490E-07 -1.2400E-08 4.6990E-07 -2.6820E-07 -
1.4720E-08 4.8480E-07 -2.6420E-07 3.5770E-09 4.9290E-07 -2.5790E-07 -
1.5490E-08 4.9410E-07 -2.6530E-07 7.8680E-09 -3.6040E-09 1.7540E-08
4 -2.3720E-09 5.6070E-09 -6.4060E-09 1.5430E-07 -5.4130E-08 5.6390E-08
-5.4450E-09 4.3090E-09 -5.0980E-09 -2.8650E-09 4.1050E-09 -1.1180E-08 -
8.1470E-09 7.3030E-10 -6.7030E-09 -7.9190E-09 6.1870E-10 -9.6950E-09 -
9.5980E-09 4.6910E-09 -4.3400E-09 3.2930E-09 2.4940E-08 -8.8260E-09 -
1.0180E-08 9.1830E-09 -4.2040E-09 1.4900E-08 3.2140E-08 -1.7860E-08
5 3.9400E-09 -8.4780E-07 4.7210E-07 -5.4130E-08 6.9140E-06 -3.7860E-06
6.8150E-09 -8.4590E-07 4.7010E-07 4.8290E-09 -8.6580E-07 4.8950E-07

9.4370E-09 -8.5220E-07 4.7830E-07 9.3080E-09 -8.6120E-07 4.8730E-07
1.0700E-08 -8.4260E-07 4.6670E-07 -2.3510E-09 -8.4800E-07 4.6030E-07
1.1230E-08 -8.3960E-07 4.6120E-07 -5.2380E-09 -1.1850E-07 7.3560E-08
   6 -4.7440E-09 4.6990E-07 -2.5910E-07 5.6390E-08 -3.7860E-06 2.1990E-06
-7.0810E-09 4.7160E-07 -2.5950E-07 -5.2060E-09 4.6710E-07 -2.6290E-07 -
9.1820E-09 4.6820E-07 -2.6090E-07 -9.0700E-09 4.6640E-07 -2.6280E-07 -
1.0150E-08 4.7390E-07 -2.5990E-07 -3.4780E-10 4.8960E-07 -2.6250E-07 -
1.0510E-08 4.7870E-07 -2.6020E-07 3.4740E-09 7.9630E-08 -3.2540E-08
   7 -5.7550E-09 1.0580E-08 -9.0040E-09 -5.4450E-09 6.8150E-09 -7.0810E-09
1.5330E-07 -1.7440E-08 3.5910E-08 -5.9770E-09 1.1100E-08 -7.7370E-09 -
4.6950E-09 -4.8530E-09 7.7760E-11 -4.8930E-09 -3.5430E-09 1.0370E-10 -
4.2520E-09 -1.0770E-08 2.2450E-09 -7.1100E-09 2.2020E-08 -1.7900E-08 -
4.0550E-09 -1.3910E-08 3.4010E-09 1.1470E-08 -7.5230E-09 4.1200E-09
   8   6.3340E-09 -8.5300E-07 4.7500E-07 4.3090E-09 -8.4590E-07 4.7160E-07
-1.7440E-08 6.7920E-06 -3.7200E-06 6.6740E-09 -8.7610E-07 4.8050E-07 -
2.1890E-09 -8.3440E-07 4.6120E-07 -1.4500E-09 -8.4700E-07 4.6430E-07 -
4.7860E-09 -8.0320E-07 4.4920E-07 1.4460E-08 -8.3720E-07 4.7660E-07 -
5.8370E-09 -7.8390E-07 4.4130E-07 -2.6890E-09 -3.2280E-08 2.6100E-08
   9 -5.7340E-09 4.7210E-07 -2.6040E-07 -5.0980E-09 4.7010E-07 -2.5950E-07
3.5910E-08 -3.7200E-06 2.1640E-06 -5.9200E-09 4.7190E-07 -2.5830E-07 -
3.1690E-09 4.5880E-07 -2.5220E-07 -3.4900E-09 4.5890E-07 -2.5120E-07 -
2.2140E-09 4.5380E-07 -2.5100E-07 -8.5420E-09 4.8390E-07 -2.7050E-07 -
1.7800E-09 4.5030E-07 -2.5000E-07 2.4090E-09 3.6200E-08 -8.7090E-09
  10 -7.3890E-10 3.4600E-09 -5.2080E-09 -2.8650E-09 4.8290E-09 -5.2060E-09
-5.9770E-09 6.6740E-09 -5.9200E-09 1.5910E-07 -8.7690E-08 6.3740E-08 -
1.0390E-08 4.5000E-09 -1.0780E-08 -9.9170E-09 3.4680E-09 -1.5420E-08 -
1.2930E-08 1.4230E-08 -8.3990E-09 8.8900E-09 2.7460E-08 -4.0830E-09 -
1.3960E-08 2.3140E-08 -8.8940E-09 1.6580E-08 5.5510E-08 -3.0720E-08
  11 -7.1890E-10 -8.5630E-07 4.6390E-07 4.1050E-09 -8.6580E-07 4.6710E-07
1.1100E-08 -8.7610E-07 4.7190E-07 -8.7690E-08 7.1960E-06 -3.8100E-06
2.0800E-08 -8.8260E-07 4.9050E-07 1.9660E-08 -8.8160E-07 5.0300E-07
2.6460E-08 -9.0640E-07 4.8420E-07 -2.2980E-08 -8.8910E-07 4.4540E-07
2.8760E-08 -9.2670E-07 4.8430E-07 -1.0100E-08 -2.3560E-07 1.2500E-07
  12 -1.3540E-08 4.9400E-07 -2.6450E-07 -1.1180E-08 4.8950E-07 -2.6290E-07
-7.7370E-09 4.8050E-07 -2.5830E-07 6.3740E-08 -3.8100E-06 2.1620E-06 -
3.3350E-09 4.6800E-07 -2.4520E-07 -4.1250E-09 4.6560E-07 -2.3860E-07 -
2.3620E-10 4.5820E-07 -2.4780E-07 -2.4450E-08 5.0470E-07 -2.8640E-07
1.1060E-09 4.4950E-07 -2.4760E-07 -5.3870E-09 1.0490E-08 1.3500E-08
  13 -1.0540E-08 1.7570E-08 -1.2740E-08 -8.1470E-09 9.4370E-09 -9.1820E-09
-4.6950E-09 -2.1890E-09 -3.1690E-09 -1.0390E-08 2.0800E-08 -3.3350E-09
1.6070E-07 2.0540E-08 2.1600E-08 -1.0590E-09 -8.8360E-09 1.3050E-08
2.6900E-09 -3.1200E-08 1.0850E-08 -2.1340E-08 1.8390E-08 -3.0330E-08
3.9320E-09 -4.4620E-08 1.3370E-08 6.6260E-09 -6.0450E-08 3.3380E-08
  14   4.5890E-09 -8.6290E-07 4.7280E-07 7.3030E-10 -8.5220E-07 4.6820E-07
-4.8530E-09 -8.3440E-07 4.5880E-07 4.5000E-09 -8.8260E-07 4.6800E-07
2.0540E-08 6.7810E-06 -3.6640E-06 -1.0810E-08 -8.3910E-07 4.4360E-07 -
1.6860E-08 -7.8910E-07 4.3630E-07 2.1370E-08 -8.4670E-07 4.8760E-07 -
1.8840E-08 -7.6290E-07 4.2850E-07 -4.3540E-09 8.7840E-09 -4.1400E-09
  15 -1.1370E-08 4.8870E-07 -2.6490E-07 -6.7030E-09 4.7830E-07 -2.6090E-07
7.7760E-11 4.6120E-07 -2.5220E-07 -1.0780E-08 4.9050E-07 -2.4520E-07
2.1600E-08 -3.6640E-06 2.1110E-06 7.5450E-09 4.4770E-07 -2.2120E-07
1.4810E-08 4.1730E-07 -2.3160E-07 -3.2610E-08 4.8490E-07 -2.9480E-07
1.7270E-08 3.9530E-07 -2.2870E-07 -3.3600E-09 -6.1920E-08 4.9990E-08
  16 -1.0020E-08 1.6830E-08 -1.2400E-08 -7.9190E-09 9.3080E-09 -9.0700E-09

-4.8930E-09 -1.4500E-09 -3.4900E-09 -9.9170E-09 1.9660E-08 -4.1250E-09 -
1.0590E-09 -1.0810E-08 7.5450E-09 1.6030E-07 1.5400E-08 2.9130E-08
1.5610E-09 -2.8110E-08 9.4650E-09 -1.9500E-08 1.9130E-08 -2.8780E-08
2.6530E-09 -4.0070E-08 1.1790E-08 7.1660E-09 -5.2710E-08 2.9050E-08
  17 3.4880E-09 -8.6910E-07 4.6990E-07 6.1870E-10 -8.6120E-07 4.6640E-07
-3.5430E-09 -8.4700E-07 4.5890E-07 3.4680E-09 -8.8160E-07 4.6560E-07 -
8.8360E-09 -8.3910E-07 4.4770E-07 1.5400E-08 6.8780E-06 -3.6700E-06 -
1.2470E-08 -8.1160E-07 4.4110E-07 1.6100E-08 -8.6490E-07 4.8480E-07 -
1.3980E-08 -7.9280E-07 4.3540E-07 -5.5220E-09 -2.7780E-08 9.5620E-09
  18 -1.6430E-08 5.0160E-07 -2.6820E-07 -9.6950E-09 4.8730E-07 -2.6280E-07
1.0370E-10 4.6430E-07 -2.5120E-07 -1.5420E-08 5.0300E-07 -2.3860E-07
1.3050E-08 4.4360E-07 -2.2120E-07 2.9130E-08 -3.6700E-06 2.1060E-06
2.1440E-08 4.0470E-07 -2.2360E-07 -4.7220E-08 4.9110E-07 -3.0910E-07
2.4950E-08 3.7380E-07 -2.2020E-07 -8.4740E-09 -1.0740E-07 7.8930E-08
  19 -1.3300E-08 2.1560E-08 -1.4720E-08 -9.5980E-09 1.0700E-08 -1.0150E-08
-4.2520E-09 -4.7860E-09 -2.2140E-09 -1.2930E-08 2.6460E-08 -2.3620E-10
2.6900E-09 -1.6860E-08 1.4810E-08 1.5610E-09 -1.2470E-08 2.1440E-08
1.6770E-07 2.3580E-08 9.1510E-09 -2.9980E-08 1.5770E-08 -3.7750E-08
9.1750E-09 -6.4100E-08 1.9890E-08 3.8170E-09 -9.4050E-08 5.2100E-08
  20 1.5370E-08 -8.6900E-07 4.8480E-07 4.6910E-09 -8.4260E-07 4.7390E-07
-1.0770E-08 -8.0320E-07 4.5380E-07 1.4230E-08 -9.0640E-07 4.5820E-07 -
3.1200E-08 -7.8910E-07 4.1730E-07 -2.8110E-08 -8.1160E-07 4.0470E-07
2.3580E-08 6.5770E-06 -3.6040E-06 6.2570E-08 -8.0840E-07 5.2210E-07 -
4.9640E-08 -6.3550E-07 3.8970E-07 6.7560E-09 1.9930E-07 -1.0040E-07
  21 -8.8790E-09 4.7750E-07 -2.6420E-07 -4.3400E-09 4.6670E-07 -2.5990E-07
2.2450E-09 4.4920E-07 -2.5100E-07 -8.3990E-09 4.8420E-07 -2.4780E-07
1.0850E-08 4.3630E-07 -2.3160E-07 9.4650E-09 4.4110E-07 -2.2360E-07
9.1510E-09 -3.6040E-06 2.1050E-06 -2.9320E-08 4.6890E-07 -2.9030E-07
1.8890E-08 3.8070E-07 -2.2560E-07 -9.2610E-10 -6.9880E-08 4.8870E-08
  22 1.0440E-08 -1.4230E-08 3.5770E-09 3.2930E-09 -2.3510E-09 -3.4780E-10
-7.1100E-09 1.4460E-08 -8.5420E-09 8.8900E-09 -2.2980E-08 -2.4450E-08 -
2.1340E-08 2.1370E-08 -3.2610E-08 -1.9500E-08 1.6100E-08 -4.7220E-08 -
2.9980E-08 6.2570E-08 -2.9320E-08 1.9980E-07 -1.7060E-07 1.7150E-07 -
3.3530E-08 9.5960E-08 -3.2950E-08 2.7870E-08 1.8190E-07 -1.0130E-07
  23 2.6970E-08 -8.5480E-07 4.9290E-07 2.4940E-08 -8.4800E-07 4.8960E-07
2.2020E-08 -8.3720E-07 4.8390E-07 2.7460E-08 -8.8910E-07 5.0470E-07
1.8390E-08 -8.4670E-07 4.8490E-07 1.9130E-08 -8.6490E-07 4.9110E-07
1.5770E-08 -8.0840E-07 4.6890E-07 -1.7060E-07 6.8450E-06 -3.8740E-06
1.4730E-08 -7.8500E-07 4.5860E-07 1.7860E-08 -3.4860E-08 4.4550E-08
  24 -2.5770E-09 4.4770E-07 -2.5790E-07 -8.8260E-09 4.6030E-07 -2.6250E-07
-1.7900E-08 4.7660E-07 -2.7050E-07 -4.0830E-09 4.4540E-07 -2.8640E-07 -
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3.7750E-08 5.2210E-07 -2.9030E-07 1.7150E-07 -3.8740E-06 2.3740E-06 -
4.0770E-08 5.5020E-07 -2.9240E-07 5.8170E-09 2.0980E-07 -1.1520E-07
  25 -1.4420E-08 2.3200E-08 -1.5490E-08 -1.0180E-08 1.1230E-08 -1.0510E-08
-4.0550E-09 -5.8370E-09 -1.7800E-09 -1.3960E-08 2.8760E-08 1.1060E-09
3.9320E-09 -1.8840E-08 1.7270E-08 2.6530E-09 -1.3980E-08 2.4950E-08
9.1750E-09 -4.9640E-08 1.8890E-08 -3.3530E-08 1.4730E-08 -4.0770E-08
1.7140E-07 1.0200E-08 6.6150E-09 2.6730E-09 -1.0790E-07 5.9870E-08
  26 2.5130E-08 -8.7780E-07 4.9410E-07 9.1830E-09 -8.3960E-07 4.7870E-07
-1.3910E-08 -7.8390E-07 4.5030E-07 2.3140E-08 -9.2670E-07 4.4950E-07 -
4.4620E-08 -7.6290E-07 3.9530E-07 -4.0070E-08 -7.9280E-07 3.7380E-07 -
6.4100E-08 -6.3550E-07 3.8070E-07 9.5960E-08 -7.8500E-07 5.5020E-07
1.0200E-08 6.5150E-06 -3.5730E-06 1.6760E-08 3.4140E-07 -1.7410E-07

27 -9.4510E-09 4.7400E-07 -2.6530E-07 -4.2040E-09 4.6120E-07 -2.6020E-07
3.4010E-09 4.4130E-07 -2.5000E-07 -8.8940E-09 4.8430E-07 -2.4760E-07
1.3370E-08 4.2850E-07 -2.2870E-07 1.1790E-08 4.3540E-07 -2.2020E-07
1.9890E-08 3.8970E-07 -2.2560E-07 -3.2950E-08 4.5860E-07 -2.9240E-07
6.6150E-09 -3.5730E-06 2.1010E-06 -1.5600E-09 -9.3470E-08 5.8830E-08
28 1.9980E-08 -1.3370E-08 7.8680E-09 1.4900E-08 -5.2380E-09 3.4740E-09
1.1470E-08 -2.6890E-09 2.4090E-09 1.6580E-08 -1.0100E-08 -5.3870E-09
6.6260E-09 -4.3540E-09 -3.3600E-09 7.1660E-09 -5.5220E-09 -8.4740E-09
3.8170E-09 6.7560E-09 -9.2610E-10 2.7870E-08 1.7860E-08 5.8170E-09
2.6730E-09 1.6760E-08 -1.5600E-09 1.4380E-06 -7.1390E-07 6.5280E-07
29 5.2800E-08 1.1120E-08 -3.6040E-09 3.2140E-08 -1.1850E-07 7.9630E-08
-7.5230E-09 -3.2280E-08 3.6200E-08 5.5510E-08 -2.3560E-07 1.0490E-08 -
6.0450E-08 8.7840E-09 -6.1920E-08 -5.2710E-08 -2.7780E-08 -1.0740E-07 -
9.4050E-08 1.9930E-07 -6.9880E-08 1.8190E-07 -3.4860E-08 2.0980E-07 -
1.0790E-07 3.4140E-07 -9.3470E-08 -7.1390E-07 7.7380E-05 -4.2480E-05
30 -2.8550E-08 -4.4070E-10 1.7540E-08 -1.7860E-08 7.3560E-08 -3.2540E-08
4.1200E-09 2.6100E-08 -8.7090E-09 -3.0720E-08 1.2500E-07 1.3500E-08
3.3380E-08 -4.1400E-09 4.9990E-08 2.9050E-08 9.5620E-09 7.8930E-08
5.2100E-08 -1.0040E-07 4.8870E-08 -1.0130E-07 4.4550E-08 -1.1520E-07
5.9870E-08 -1.7410E-07 5.8830E-08 6.5280E-07 -4.2480E-05 2.4440E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000014380 -0.0000007139 0.0000006528
-0.0000007139 0.0000773800 -0.0000424800
0.0000006528 -0.0000424800 0.0000244400

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000014359 0.0000002137 0.0000008032
0.0000002137 0.0000008734 -0.0000012606
0.0000008032 -0.0000012606 0.0001009487

Horizontal network accuracy = 0.00266 meters.
Vertical network accuracy = 0.01970 meters.

Vectors

To	From	X	Y	Z
eng5	qcfv	-3306.203	-2478.089	-4283.910
nola	qcfv	-20539.378	579.163	1049.131
dstr	qcfv	-45828.182	2376.458	3939.076
gris	qcfv	-4785.652	-36037.929	-63421.479
houm	qcfv	-79035.978	-17806.327	-31876.866
lmcn	qcfv	-73211.327	-36240.874	-64441.164
awes	qcfv	-103677.390	10587.229	16968.250
mspk	qcfv	73066.134	48485.976	81868.098
sjb1	qcfv	-115330.530	27314.567	45298.473

Covariance matrix of the 9 vectors
1 1.5558E-06 -8.3834E-07 7.4607E-07 1.4007E-06 -7.5752E-07 6.7313E-07
1.4008E-06 -7.5768E-07 6.7321E-07 1.4007E-06 -7.5732E-07 6.7320E-07
1.4009E-06 -7.5776E-07 6.7334E-07 1.4008E-06 -7.5769E-07 6.7339E-07
1.4009E-06 -7.5809E-07 6.7340E-07 1.4006E-06 -7.5759E-07 6.7296E-07
1.4009E-06 -7.5833E-07 6.7346E-07
2 -8.3834E-07 8.4360E-05 -4.6301E-05 -7.2706E-07 7.6640E-05 -4.2089E-05

-6.8243E-07 7.6548E-05 -4.2044E-05 -7.5258E-07 7.6748E-05 -4.1996E-05 -
6.2251E-07 7.6497E-05 -4.1929E-05 -6.3099E-07 7.6528E-05 -4.1871E-05 -
5.8492E-07 7.6301E-05 -4.1932E-05 -8.9666E-07 7.6549E-05 -4.2242E-05 -
5.6943E-07 7.6150E-05 -4.1912E-05
   3 7.4607E-07 -4.6301E-05 2.6621E-05 6.5639E-07 -4.2078E-05 2.4196E-05
6.3181E-07 -4.2027E-05 2.4171E-05 6.7044E-07 -4.2137E-05 2.4144E-05
5.9881E-07 -4.1999E-05 2.4108E-05 6.0348E-07 -4.2016E-05 2.4075E-05
5.7811E-07 -4.1891E-05 2.4109E-05 7.4981E-07 -4.2028E-05 2.4280E-05
5.6957E-07 -4.1808E-05 2.4098E-05
   4 1.4007E-06 -7.2706E-07 6.5639E-07 1.5625E-06 -7.9493E-07 7.2358E-07
1.4062E-06 -7.3904E-07 6.6315E-07 1.4037E-06 -7.3183E-07 6.6487E-07
1.4083E-06 -7.4096E-07 6.6732E-07 1.4080E-06 -7.3990E-07 6.6944E-07
1.4097E-06 -7.4810E-07 6.6725E-07 1.3985E-06 -7.3896E-07 6.5602E-07
1.4102E-06 -7.5362E-07 6.6802E-07
   5 -7.5752E-07 7.6640E-05 -4.2078E-05 -7.9493E-07 8.4531E-05 -4.6419E-05
-6.9432E-07 7.6685E-05 -4.2120E-05 -7.5934E-07 7.6868E-05 -4.2075E-05 -
6.3877E-07 7.6638E-05 -4.2013E-05 -6.4664E-07 7.6665E-05 -4.1959E-05 -
6.0391E-07 7.6457E-05 -4.2017E-05 -8.9291E-07 7.6685E-05 -4.2303E-05 -
5.8953E-07 7.6317E-05 -4.1999E-05
   6 6.7313E-07 -4.2089E-05 2.4196E-05 7.2358E-07 -4.6419E-05 2.6704E-05
6.3813E-07 -4.2114E-05 2.4222E-05 6.7484E-07 -4.2218E-05 2.4196E-05
6.0676E-07 -4.2087E-05 2.4162E-05 6.1121E-07 -4.2103E-05 2.4131E-05
5.8708E-07 -4.1985E-05 2.4164E-05 7.5028E-07 -4.2115E-05 2.4325E-05
5.7895E-07 -4.1907E-05 2.4154E-05
   7 1.4008E-06 -6.8243E-07 6.3181E-07 1.4062E-06 -6.9432E-07 6.3813E-07
1.5684E-06 -7.2113E-07 6.8218E-07 1.4040E-06 -6.8518E-07 6.4633E-07
1.4152E-06 -7.0688E-07 6.5212E-07 1.4145E-06 -7.0440E-07 6.5726E-07
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5.4634E-07 -4.1965E-05 2.4204E-05
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6.3435E-07 -4.1954E-05 2.4102E-05 6.3710E-07 -4.1961E-05 2.4082E-05
6.2215E-07 -4.1896E-05 2.4107E-05 7.2271E-07 -4.1972E-05 2.4204E-05
6.0110E-07 -4.5785E-05 2.6423E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -7.3176E-02 1.1593E-01 8.9840E-01 -6.6055E-02 1.0443E-01
8.9675E-01 -6.6184E-02 1.0460E-01 8.9795E-01 -6.5836E-02 1.0469E-01
8.9194E-01 -6.6227E-02 1.0496E-01 8.9234E-01 -6.6155E-02 1.0510E-01
8.8844E-01 -6.6488E-02 1.0498E-01 8.9272E-01 -6.6153E-02 1.0374E-01
8.8680E-01 -6.6647E-02 1.0504E-01
   2 -7.3176E-02 1.0000E+00 -9.7704E-01 -6.3328E-02 9.0756E-01 -8.8678E-01
-5.9329E-02 9.0806E-01 -8.8719E-01 -6.5520E-02 9.0609E-01 -8.8696E-01 -
5.3827E-02 9.0796E-01 -8.8762E-01 -5.4586E-02 9.0741E-01 -8.8744E-01 -
5.0377E-02 9.0879E-01 -8.8775E-01 -7.7616E-02 9.0776E-01 -8.8437E-01 -
4.8951E-02 9.0888E-01 -8.8772E-01
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9.7780E-02 -8.8751E-01 9.0795E-01 1.0391E-01 -8.8558E-01 9.0776E-01
9.2173E-02 -8.8741E-01 9.0849E-01 9.2935E-02 -8.8686E-01 9.0836E-01
8.8635E-02 -8.8821E-01 9.0862E-01 1.1554E-01 -8.8721E-01 9.0489E-01
8.7162E-02 -8.8829E-01 9.0862E-01
   4   8.9840E-01 -6.3328E-02 1.0177E-01 1.0000E+00 -6.9169E-02 1.1202E-01
8.9828E-01 -6.4418E-02 1.0282E-01 8.9793E-01 -6.3485E-02 1.0318E-01
8.9478E-01 -6.4621E-02 1.0380E-01 8.9500E-01 -6.4464E-02 1.0425E-01
8.9210E-01 -6.5472E-02 1.0380E-01 8.8950E-01 -6.4389E-02 1.0092E-01
8.9079E-01 -6.6092E-02 1.0396E-01
   5 -6.6055E-02 9.0756E-01 -8.8702E-01 -6.9169E-02 1.0000E+00 -9.7701E-01
-6.0302E-02 9.0876E-01 -8.8789E-01 -6.6042E-02 9.0659E-01 -8.8772E-01 -
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5.0628E-02 9.0996E-01 -8.8866E-01
   6   1.0443E-01 -8.8678E-01 9.0749E-01 1.1202E-01 -9.7701E-01 1.0000E+00
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8.8459E-02 -8.8900E-01 9.0928E-01
   7   8.9675E-01 -5.9329E-02 9.7780E-02 8.9828E-01 -6.0302E-02 9.8604E-02

1.0000E+00 -6.2739E-02 1.0558E-01 8.9645E-01 -5.9327E-02 1.0011E-01
8.9747E-01 -6.1533E-02 1.0125E-01 8.9742E-01 -6.1256E-02 1.0217E-01
8.9598E-01 -6.3236E-02 1.0121E-01 8.8341E-01 -6.1073E-02 9.5961E-02
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   9   1.0460E-01 -8.8719E-01 9.0795E-01 1.0282E-01 -8.8789E-01 9.0845E-01
1.0558E-01 -9.7693E-01 1.0000E+00 1.0464E-01 -8.8624E-01 9.0897E-01
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9.1809E-02 -8.9031E-01 9.1022E-01
  13   8.9194E-01 -5.3827E-02 9.2173E-02 8.9478E-01 -5.5178E-02 9.3251E-02
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9.4195E-02 -8.9200E-01 9.1169E-01
  16   8.9234E-01 -5.4586E-02 9.2935E-02 8.9500E-01 -5.5884E-02 9.3978E-02
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9.9092E-02 -8.8973E-01 9.1182E-01 1.0230E-01 -9.7633E-01 1.0000E+00
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9.6273E-02 -8.9255E-01 9.1200E-01
19 8.8844E-01 -5.0377E-02 8.8635E-02 8.9210E-01 -5.1960E-02 8.9869E-02
8.9598E-01 -5.3605E-02 9.1388E-02 8.8852E-01 -5.0033E-02 9.2968E-02
8.9854E-01 -5.4532E-02 9.5188E-02 8.9791E-01 -5.3998E-02 9.7110E-02
1.0000E+00 -5.2185E-02 9.3950E-02 8.6559E-01 -5.3586E-02 8.4747E-02
8.9983E-01 -6.0764E-02 9.5742E-02
20 -6.6488E-02 9.0879E-01 -8.8821E-01 -6.5472E-02 9.0973E-01 -8.8882E-01
-6.3236E-02 9.1076E-01 -8.8970E-01 -6.6652E-02 9.0760E-01 -8.8984E-01 -
6.0071E-02 9.1094E-01 -8.9125E-01 -6.0503E-02 9.1019E-01 -8.9162E-01 -
5.2185E-02 1.0000E+00 -9.7669E-01 -7.3058E-02 9.1041E-01 -8.8493E-01 -
5.7215E-02 9.1388E-01 -8.9164E-01
21 1.0498E-01 -8.8775E-01 9.0862E-01 1.0380E-01 -8.8864E-01 9.0925E-01
1.0121E-01 -8.8956E-01 9.1010E-01 1.0512E-01 -8.8666E-01 9.1018E-01
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9.3950E-02 -9.7669E-01 1.0000E+00 1.1219E-01 -8.8922E-01 9.0547E-01
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23 -6.6153E-02 9.0776E-01 -8.8721E-01 -6.4389E-02 9.0846E-01 -8.8765E-01
-6.1073E-02 9.0915E-01 -8.8823E-01 -6.6175E-02 9.0659E-01 -8.8803E-01 -
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8.9836E-01 -5.3409E-02 9.4195E-02 8.9764E-01 -5.2836E-02 9.6273E-02
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1.0000E+00 -5.3021E-02 9.2331E-02
26 -6.6647E-02 9.0888E-01 -8.8829E-01 -6.6092E-02 9.0996E-01 -8.8900E-01
-6.4518E-02 9.1119E-01 -8.9006E-01 -6.6886E-02 9.0755E-01 -8.9031E-01 -
6.2235E-02 9.1145E-01 -8.9200E-01 -6.2542E-02 9.1061E-01 -8.9255E-01 -
6.0764E-02 9.1388E-01 -8.9221E-01 -7.1171E-02 9.1089E-01 -8.8463E-01 -
5.3021E-02 1.0000E+00 -9.7643E-01
27 1.0504E-01 -8.8772E-01 9.0862E-01 1.0396E-01 -8.8866E-01 9.0928E-01
1.0154E-01 -8.8963E-01 9.1018E-01 1.0519E-01 -8.8656E-01 9.1022E-01
9.8007E-02 -8.8975E-01 9.1169E-01 9.8478E-02 -8.8900E-01 9.1200E-01
9.5742E-02 -8.9164E-01 9.1191E-01 1.1178E-01 -8.8935E-01 9.0543E-01
9.2331E-02 -9.7643E-01 1.0000E+00

G-FILE for the vectors

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-8869602  2 13  -538273  2 14  9079621  2 15 -8876157  2 16  -545860 D  2 17
9074056  2 18 -8874353  2 19  -503769  2 20  9087932  2 21 -8877474 D  2 22  -
776155  2 23  9077605  2 24 -8843712  2 25  -489511  2 26  9088807
D  2 27 -8877236  3  4  1017742  3  5 -8870213  3  6  9074891  3  7   977801
D  3  8 -8875067  3  9  9079529  3 10  1039060  3 11 -8855787  3 12  9077564
D  3 13   921728  3 14 -8874053  3 15  9084911  3 16   929350  3 17 -8868599
D  3 18  9083565  3 19   886345  3 20 -8882110  3 21  9086243  3 22  1155387
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D  7 22  8834143  7 23  -610728  7 24   959605  7 25  8951491  7 26  -645176
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D  9 25   900946  9 26 -8900613  9 27  9101765 10 11  -734418 10 12  1167467
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22 27 1117786 23 24 -9761686 23 25 -523841 23 26 9108883 23 27 -8893456
D 24 25 829501 24 26 -8846270 24 27 9054283 25 26 -530207 25 27 923308
D 26 27 -9764273

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	8935.337	-5532456.024	3163021.783
nola	8935.346	-5532456.018	3163021.792
dstr	8935.342	-5532456.014	3163021.791
gris	8935.343	-5532456.011	3163021.787
houm	8935.339	-5532456.002	3163021.780
lmcn	8935.335	-5532455.988	3163021.773
awes	8935.342	-5532456.037	3163021.799
mspk	8935.338	-5532456.025	3163021.803
sjb1	8935.331	-5532456.010	3163021.782

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	-0.002	-0.008	-0.005	-0.002	-	0.008
nola	0.007	-0.002	0.005	0.007		0.003
dstr	0.003	0.002	0.003	0.003		0.004
gris	0.004	0.005	-0.000	0.004		0.002

houm 0.000 0.014 -0.008 0.000
0.000 -0.016
lmcn -0.005 0.027 -0.015 -0.004
0.000 -0.031
awes 0.003 -0.021 0.011 0.003 -
0.001 0.024
mspk -0.001 -0.009 0.015 -0.001
0.009 0.015
sjb1 -0.008 0.005 -0.006 -0.008 -
0.003 -0.007

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 520513.122
Easting (X) [feet] 3732503.303
Convergence [degrees] 0.71295703
Point Scale 0.99992665
Combined Factor 0.99993072

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: -0.078 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.418
scatter (mean square distance from rover) is 7551.619
average edop for rover is 0.820
average ndop for rover is 0.630
average hdop for rover is 1.034
average vdop for rover is 1.890
average gdop for rover is 2.470

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:18 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA48.O00 OP1335489299774

FILE: QCFVA48.O00 OP1335489299774

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068t.12o TIME: 01:17:17 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/08 19:15:58
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 19:42:16
NAV FILE: brdc0680.12n OBS USED: 1908 / 2547 : 75%
ANT NAME: LEIAT502 NONE QUALITY IND. 13.82/ 11.49
ARP HEIGHT: 1.589 NORMALIZED RMS: 0.373

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18528)

X:	10825.782(m)	0.005(m)	10825.050(m)	0.005(m)
Y:	-5535252.324(m)	0.061(m)	-5535250.831(m)	0.061(m)
Z:	3158159.213(m)	0.029(m)	3158159.004(m)	0.029(m)

LAT:	29 52 22.69729	0.006(m)	29 52 22.71558	0.006(m)
E LON:	270 6 43.40979	0.005(m)	270 6 43.38262	0.005(m)
W LON:	89 53 16.59021	0.005(m)	89 53 16.61738	0.005(m)
EL HGT:	-24.043(m)	0.067(m)	-25.443(m)	0.067(m)
ORTHO HGT:	1.686(m)	0.068(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3308213.115	153066.762
Easting (X) [meters]	221050.710	1139624.006
Convergence [degrees]	-1.43935286	0.72271415
Point Scale	1.00056017	0.99992822
Combined Factor	1.00056395	0.99993200

US NATIONAL GRID DESIGNATOR: 16RBU2105008213(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	5237.6

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 23439.2
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 44677.8
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 48797.7
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 67666.7
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 86626.1
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 101530.2
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 108628.2
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 123361.5

NEAREST NGS PUBLISHED CONTROL POINT
AT0332 L 278 N295234.171 W0895345.385 849.7

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.138	-5534934.071	3158737.861
nola	-11604.036	-5531876.826	3164070.913
lwes	-33746.213	-5533652.950	3160795.442
dstr	-36892.838	-5530079.568	3166960.865
gris	4149.692	-5568493.952	3099600.311
houm	-70100.645	-5550262.357	3131144.932
lmcn	-64275.989	-5568696.889	3098580.622
awes	-94742.055	-5521868.817	3179990.057
mspk	82001.473	-5483970.003	3244889.870
qcfv	10825.050	-5535250.831	3158159.004

Covariance matrix of the stations:
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-1.6040E-08 3.8660E-09 3.2590E-09 -1.6420E-08 7.0690E-09 2.3580E-09 -
1.0720E-08 -2.9270E-08 1.3160E-08 -2.3320E-08 -8.6920E-09 1.0930E-10 -
2.3260E-08 -2.5180E-08 3.1920E-09 -2.6040E-08 1.6380E-08 -6.8790E-09
7.5740E-09 4.6140E-08 1.1840E-08 2.6620E-08 1.8950E-07 -9.0090E-08
2 -1.4830E-08 1.2680E-05 -5.1800E-06 1.6990E-09 -1.5630E-06 6.4360E-07
2.0070E-09 -1.5680E-06 6.4610E-07 1.9970E-09 -1.5650E-06 6.4440E-07
2.0940E-09 -1.5990E-06 6.6370E-07 2.5720E-09 -1.5890E-06 6.5770E-07
2.6640E-09 -1.6080E-06 6.6770E-07 2.5830E-09 -1.5660E-06 6.4490E-07 -
1.0590E-09 -1.5080E-06 6.1180E-07 -1.5210E-08 -4.4580E-08 3.9850E-08
3 -3.3220E-08 -5.1800E-06 2.5500E-06 6.5160E-09 6.4710E-07 -3.0200E-07
3.3360E-09 6.4840E-07 -3.0540E-07 3.0530E-09 6.5040E-07 -3.0580E-07
7.3040E-09 6.2790E-07 -3.0050E-07 -2.3370E-09 6.4510E-07 -3.1130E-07 -
2.3580E-09 6.3610E-07 -3.1100E-07 -4.3100E-09 6.6040E-07 -3.1440E-07
2.2130E-08 6.6430E-07 -2.8890E-07 1.6840E-08 2.0050E-07 -8.5280E-08
4 -1.1950E-08 1.6990E-09 6.5160E-09 2.2940E-07 9.4640E-09 -4.8020E-08
-1.5430E-08 -8.0800E-10 5.8450E-09 -1.5630E-08 3.8950E-10 5.5410E-09 -
1.2750E-08 -1.2460E-08 8.8860E-09 -1.8990E-08 -9.8470E-09 6.2640E-09 -
1.8910E-08 -1.7010E-08 7.6250E-09 -2.0430E-08 -2.3130E-10 3.8020E-09 -
4.2750E-09 2.8860E-08 3.5360E-09 1.7600E-08 8.6740E-08 -4.0970E-08
5 4.6210E-09 -1.5630E-06 6.4710E-07 9.4640E-09 1.2650E-05 -5.1510E-06
-2.5760E-09 -1.5600E-06 6.4040E-07 -2.9790E-09 -1.5530E-06 6.3740E-07

3.0640E-09 -1.6370E-06 6.7230E-07 -9.8610E-09 -1.5890E-06 6.4440E-07 -
9.8060E-09 -1.6270E-06 6.5790E-07 -1.2540E-08 -1.5340E-06 6.2210E-07
2.0550E-08 -1.4750E-06 6.2920E-07 4.6650E-09 2.7200E-08 -5.3210E-09
   6   6.1340E-09 6.4360E-07 -3.0200E-07 -4.8020E-08 -5.1510E-06 2.5270E-06
6.0030E-09 6.4240E-07 -3.0130E-07 5.9940E-09 6.4140E-07 -3.0080E-07
6.0800E-09 6.5350E-07 -3.0660E-07 5.8330E-09 6.4420E-07 -3.0190E-07
5.8390E-09 6.4890E-07 -3.0410E-07 5.7440E-09 6.3670E-07 -2.9840E-07
6.4380E-09 6.3990E-07 -3.0110E-07 4.6980E-09 1.0440E-07 -3.8470E-08
   7 -1.6040E-08 2.0070E-09 3.3360E-09 -1.5430E-08 -2.5760E-09 6.0030E-09
2.3170E-07 3.3030E-08 -6.0900E-08 -1.4530E-08 -8.5750E-09 9.8270E-09 -
1.5470E-08 1.0380E-08 3.0660E-09 -1.3080E-08 -1.1320E-08 1.4570E-08 -
1.2970E-08 -5.8420E-09 1.3600E-08 -1.2790E-08 -2.2650E-08 1.8240E-08 -
2.0300E-08 5.5100E-09 -7.7330E-09 8.0800E-09 -6.4130E-08 3.0500E-08
   8   3.8660E-09 -1.5680E-06 6.4840E-07 -8.0800E-10 -1.5600E-06 6.4240E-07
3.3030E-08 1.2660E-05 -5.1360E-06 -7.6490E-09 -1.5510E-06 6.3310E-07
1.2830E-09 -1.6590E-06 6.7560E-07 -1.8150E-08 -1.5920E-06 6.3690E-07 -
1.8110E-08 -1.6390E-06 6.5220E-07 -2.2130E-08 -1.5210E-06 6.1000E-07
2.8790E-08 -1.4620E-06 6.3700E-07 8.1240E-09 1.3800E-07 -6.1140E-08
   9   3.2590E-09 6.4610E-07 -3.0540E-07 5.8450E-09 6.4040E-07 -3.0130E-07
-6.0900E-08 -5.1360E-06 2.5060E-06 9.6320E-09 6.3220E-07 -2.9470E-07
4.9170E-09 6.8420E-07 -3.1320E-07 1.5490E-08 6.4420E-07 -2.9070E-07
1.5530E-08 6.6480E-07 -2.9580E-07 1.7580E-08 6.1060E-07 -2.7950E-07 -
1.1400E-08 6.1310E-07 -3.1470E-07 -5.0510E-09 -8.2350E-08 5.1800E-08
  10 -1.6420E-08 1.9970E-09 3.0530E-09 -1.5630E-08 -2.9790E-09 5.9940E-09
-1.4530E-08 -7.6490E-09 9.6320E-09 2.3240E-07 3.3880E-08 -6.1430E-08 -
1.5730E-08 1.2370E-08 2.5480E-09 -1.2570E-08 -1.1490E-08 1.5310E-08 -
1.2460E-08 -4.8880E-09 1.4140E-08 -1.2130E-08 -2.4680E-08 1.9530E-08 -
2.1740E-08 3.4000E-09 -8.7400E-09 7.2120E-09 -7.7680E-08 3.6900E-08
  11   7.0690E-09 -1.5650E-06 6.5040E-07 3.8950E-10 -1.5530E-06 6.4140E-07
-8.5750E-09 -1.5510E-06 6.3220E-07 3.3880E-08 1.2620E-05 -5.1190E-06
3.1780E-09 -1.6770E-06 6.8010E-07 -2.4500E-08 -1.5870E-06 6.2790E-07 -
2.4490E-08 -1.6470E-06 6.4540E-07 -3.0140E-08 -1.4960E-06 5.9510E-07
4.3400E-08 -1.4360E-06 6.4670E-07 1.6550E-08 2.8480E-07 -1.3030E-07
  12   2.3580E-09 6.4440E-07 -3.0580E-07 5.5410E-09 6.3740E-07 -3.0080E-07
9.8270E-09 6.3310E-07 -2.9470E-07 -6.1430E-08 -5.1190E-06 2.5010E-06
4.4060E-09 6.8890E-07 -3.1430E-07 1.7440E-08 6.4210E-07 -2.8780E-07
1.7480E-08 6.6620E-07 -2.9360E-07 2.0010E-08 6.0250E-07 -2.7490E-07 -
1.5690E-08 6.0470E-07 -3.1740E-07 -7.5030E-09 -1.2630E-07 7.2330E-08
  13 -1.0720E-08 2.0940E-09 7.3040E-09 -1.2750E-08 3.0640E-09 6.0800E-09
-1.5470E-08 1.2830E-09 4.9170E-09 -1.5730E-08 3.1780E-09 4.4060E-09
2.2840E-07 -2.2530E-08 -3.9460E-08 -2.0320E-08 -8.9660E-09 4.0860E-09 -
2.0240E-08 -1.9370E-08 6.0430E-09 -2.2210E-08 6.0210E-09 5.3120E-11
1.5390E-11 3.5280E-08 6.4320E-09 2.0220E-08 1.2660E-07 -5.9700E-08
  14 -2.9270E-08 -1.5990E-06 6.2790E-07 -1.2460E-08 -1.6370E-06 6.5350E-07
1.0380E-08 -1.6590E-06 6.8420E-07 1.2370E-08 -1.6770E-06 6.8890E-07 -
2.2530E-08 1.3410E-05 -5.4170E-06 5.1070E-08 -1.6420E-06 7.3400E-07
5.1370E-08 -1.5600E-06 7.2550E-07 6.4780E-08 -1.7850E-06 7.6960E-07 -
1.2650E-07 -1.7350E-06 5.3340E-07 -8.0980E-08 -1.4330E-06 6.7950E-07
  15   1.3160E-08 6.6370E-07 -3.0050E-07 8.8860E-09 6.7230E-07 -3.0660E-07
3.0660E-09 6.7560E-07 -3.1320E-07 2.5480E-09 6.8010E-07 -3.1430E-07 -
3.9460E-08 -5.4170E-06 2.6060E-06 -7.3140E-09 6.6770E-07 -3.2350E-07 -
7.3640E-09 6.4700E-07 -3.2100E-07 -1.0890E-08 7.0240E-07 -3.3220E-07
3.7540E-08 7.0770E-07 -2.8330E-07 2.2740E-08 4.2240E-07 -1.8470E-07
  16 -2.3320E-08 2.5720E-09 -2.3370E-09 -1.8990E-08 -9.8610E-09 5.8330E-09

-1.3080E-08 -1.8150E-08 1.5490E-08 -1.2570E-08 -2.4500E-08 1.7440E-08 -
2.0320E-08 5.1070E-08 -7.3140E-09 2.4990E-07 8.3180E-08 -6.9450E-08 -
2.4110E-09 1.4070E-08 2.4220E-08 7.9560E-10 -6.2510E-08 4.3930E-08 -
4.8830E-08 -3.6050E-08 -2.7790E-08 -8.8730E-09 -3.3240E-07 1.5760E-07
  17 -8.6920E-09 -1.5890E-06 6.4510E-07 -9.8470E-09 -1.5890E-06 6.4420E-07
-1.1320E-08 -1.5920E-06 6.4420E-07 -1.1490E-08 -1.5870E-06 6.4210E-07 -
8.9660E-09 -1.6420E-06 6.6770E-07 8.3180E-08 1.2860E-05 -5.1640E-06 -
1.3820E-08 -1.6420E-06 6.6370E-07 -1.5010E-08 -1.5800E-06 6.3570E-07 -
3.7820E-09 -1.5240E-06 6.2060E-07 -1.3410E-08 -1.3090E-07 5.7800E-08
  18   1.0930E-10 6.5770E-07 -3.1130E-07 6.2640E-09 6.4440E-07 -3.0190E-07
1.4570E-08 6.3690E-07 -2.9070E-07 1.5310E-08 6.2790E-07 -2.8780E-07
4.0860E-09 7.3400E-07 -3.2350E-07 -6.9450E-08 -5.1640E-06 2.5020E-06
2.9410E-08 6.9440E-07 -2.8590E-07 3.4360E-08 5.8310E-07 -2.5520E-07 -
3.4840E-08 5.8500E-07 -3.3480E-07 -1.7530E-08 -3.2950E-07 1.7370E-07
  19 -2.3260E-08 2.6640E-09 -2.3580E-09 -1.8910E-08 -9.8060E-09 5.8390E-09
-1.2970E-08 -1.8110E-08 1.5530E-08 -1.2460E-08 -2.4490E-08 1.7480E-08 -
2.0240E-08 5.1370E-08 -7.3640E-09 -2.4110E-09 -1.3820E-08 2.9410E-08
2.4930E-07 1.1080E-07 -7.4770E-08 9.6530E-10 -6.2610E-08 4.4060E-08 -
4.8870E-08 -3.6200E-08 -2.7860E-08 -8.8630E-09 -3.3330E-07 1.5800E-07
  20 -2.5180E-08 -1.6080E-06 6.3610E-07 -1.7010E-08 -1.6270E-06 6.4890E-07
-5.8420E-09 -1.6390E-06 6.6480E-07 -4.8880E-09 -1.6470E-06 6.6620E-07 -
1.9370E-08 -1.5600E-06 6.4700E-07 1.4070E-08 -1.6420E-06 6.9440E-07
1.1080E-07 1.3180E-05 -5.2390E-06 2.0670E-08 -1.6990E-06 7.0490E-07 -
7.3340E-08 -1.6480E-06 5.7580E-07 -5.4170E-08 -8.1680E-07 3.7890E-07
  21   3.1920E-09 6.6770E-07 -3.1100E-07 7.6250E-09 6.5790E-07 -3.0410E-07
1.3600E-08 6.5220E-07 -2.9580E-07 1.4140E-08 6.4540E-07 -2.9360E-07
6.0430E-09 7.2550E-07 -3.2100E-07 2.4220E-08 6.6370E-07 -2.8590E-07 -
7.4770E-08 -5.2390E-06 2.5200E-06 2.7820E-08 6.1160E-07 -2.6920E-07 -
2.1970E-08 6.1440E-07 -3.2790E-07 -9.9730E-09 -1.9890E-07 1.1420E-07
  22 -2.6040E-08 2.5830E-09 -4.3100E-09 -2.0430E-08 -1.2540E-08 5.7440E-09
-1.2790E-08 -2.2130E-08 1.7580E-08 -1.2130E-08 -3.0140E-08 2.0010E-08 -
2.2210E-08 6.4780E-08 -1.0890E-08 7.9560E-10 -1.5010E-08 3.4360E-08
9.6530E-10 2.0670E-08 2.7820E-08 2.6190E-07 4.1960E-08 -5.5480E-08 -
5.8790E-08 -5.0400E-08 -3.4700E-08 -1.4890E-08 -4.2510E-07 2.0140E-07
  23   1.6380E-08 -1.5660E-06 6.6040E-07 -2.3130E-10 -1.5340E-06 6.3670E-07
-2.2650E-08 -1.5210E-06 6.1060E-07 -2.4680E-08 -1.4960E-06 6.0250E-07
6.0210E-09 -1.7850E-06 7.0240E-07 -6.2510E-08 -1.5800E-06 5.8310E-07 -
6.2610E-08 -1.6990E-06 6.1160E-07 4.1960E-08 1.2620E-05 -5.1030E-06
1.0920E-07 -1.3270E-06 6.9560E-07 5.1930E-08 9.9940E-07 -4.7460E-07
  24 -6.8790E-09 6.4490E-07 -3.1440E-07 3.8020E-09 6.2210E-07 -2.9840E-07
1.8240E-08 6.1000E-07 -2.7950E-07 1.9530E-08 5.9510E-07 -2.7490E-07
5.3120E-11 7.6960E-07 -3.3220E-07 4.3930E-08 6.3570E-07 -2.5520E-07
4.4060E-08 7.0490E-07 -2.6920E-07 -5.5480E-08 -5.1030E-06 2.4900E-06 -
6.7570E-08 5.2130E-07 -3.5540E-07 -3.6310E-08 -6.6300E-07 3.2950E-07
  25   7.5740E-09 -1.0590E-09 2.2130E-08 -4.2750E-09 2.0550E-08 6.4380E-09
-2.0300E-08 2.8790E-08 -1.1400E-08 -2.1740E-08 4.3400E-08 -1.5690E-08
1.5390E-11 -1.2650E-07 3.7540E-08 -4.8830E-08 -3.7820E-09 -3.4840E-08 -
4.8870E-08 -7.3340E-08 -2.1970E-08 -5.8790E-08 1.0920E-07 -6.7570E-08
3.0620E-07 3.1440E-09 8.5370E-08 6.3940E-08 8.2940E-07 -3.9350E-07
  26   4.6140E-08 -1.5080E-06 6.6430E-07 2.8860E-08 -1.4750E-06 6.3990E-07
5.5100E-09 -1.4620E-06 6.1310E-07 3.4000E-09 -1.4360E-06 6.0470E-07
3.5280E-08 -1.7350E-06 7.0770E-07 -3.6050E-08 -1.5240E-06 5.8500E-07 -
3.6200E-08 -1.6480E-06 6.1440E-07 -5.0400E-08 -1.3270E-06 5.2130E-07
3.1440E-09 1.2230E-05 -4.9500E-06 8.2610E-08 1.0870E-06 -4.8470E-07

27 1.1840E-08 6.1180E-07 -2.8890E-07 3.5360E-09 6.2920E-07 -3.0110E-07
-7.7330E-09 6.3700E-07 -3.1470E-07 -8.7400E-09 6.4670E-07 -3.1740E-07
6.4320E-09 5.3340E-07 -2.8330E-07 -2.7790E-08 6.2060E-07 -3.3480E-07 -
2.7860E-08 5.7580E-07 -3.2790E-07 -3.4700E-08 6.9560E-07 -3.5540E-07
8.5370E-08 -4.9500E-06 2.6340E-06 3.2040E-08 6.7300E-07 -3.2190E-07
28 2.6620E-08 -1.5210E-08 1.6840E-08 1.7600E-08 4.6650E-09 4.6980E-09
8.0800E-09 8.1240E-09 -5.0510E-09 7.2120E-09 1.6550E-08 -7.5030E-09
2.0220E-08 -8.0980E-08 2.2740E-08 -8.8730E-09 -1.3410E-08 -1.7530E-08 -
8.8630E-09 -5.4170E-08 -9.9730E-09 -1.4890E-08 5.1930E-08 -3.6310E-08
6.3940E-08 8.2610E-08 3.2040E-08 2.2480E-06 6.8770E-07 -7.8520E-07
29 1.8950E-07 -4.4580E-08 2.0050E-07 8.6740E-08 2.7200E-08 1.0440E-07
-6.4130E-08 1.3800E-07 -8.2350E-08 -7.7680E-08 2.8480E-07 -1.2630E-07
1.2660E-07 -1.4330E-06 4.2240E-07 -3.3240E-07 -1.3090E-07 -3.2950E-07 -
3.3330E-07 -8.1680E-07 -1.9890E-07 -4.2510E-07 9.9940E-07 -6.6300E-07
8.2940E-07 1.0870E-06 6.7300E-07 6.8770E-07 1.4690E-04 -6.1240E-05
30 -9.0090E-08 3.9850E-08 -8.5280E-08 -4.0970E-08 -5.3210E-09 -3.8470E-08
3.0500E-08 -6.1140E-08 5.1800E-08 3.6900E-08 -1.3030E-07 7.2330E-08 -
5.9700E-08 6.7950E-07 -1.8470E-07 1.5760E-07 5.7800E-08 1.7370E-07
1.5800E-07 3.7890E-07 1.1420E-07 2.0140E-07 -4.7460E-07 3.2950E-07 -
3.9350E-07 -4.8470E-07 -3.2190E-07 -7.8520E-07 -6.1240E-05 2.9940E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000022480	0.0000006877	-0.0000007852
0.0000006877	0.0001469000	-0.0000612400
-0.0000007852	-0.0000612400	0.0000299400

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000022512	-0.0000003050	-0.0000012915
-0.0000003050	0.0000059448	-0.0000191822
-0.0000012915	-0.0000191822	0.0001708920

Horizontal network accuracy = 0.00511 meters.
Vertical network accuracy = 0.02563 meters.

Vectors

To	From	X	Y	Z
eng5	qcfv	-5195.912	316.760	578.857
nola	qcfv	-22429.086	3374.006	5911.908
lwes	qcfv	-44571.263	1597.881	2636.437
dstr	qcfv	-47717.888	5171.263	8801.861
gris	qcfv	-6675.358	-33243.121	-58558.694
houm	qcfv	-80925.695	-15011.526	-27014.072
lmcn	qcfv	-75101.039	-33446.058	-59578.383
awes	qcfv	-105567.105	13382.014	21831.053
mspk	qcfv	71176.423	51280.828	86730.866

Covariance matrix of the 9 vectors
1 2.4260E-06 4.9858E-07 -7.4517E-07 2.1918E-06 4.9816E-07 -6.9367E-07
2.1973E-06 4.9394E-07 -6.8680E-07 2.1977E-06 4.8872E-07 -6.8525E-07
2.1904E-06 5.4991E-07 -7.0469E-07 2.2069E-06 5.0292E-07 -6.7747E-07
2.2070E-06 5.2719E-07 -6.8195E-07 2.2102E-06 4.6265E-07 -6.6568E-07
2.1650E-06 4.6173E-07 -7.1531E-07
2 4.9858E-07 1.5967E-04 -6.6660E-05 6.1787E-07 1.4535E-04 -6.0741E-05

7.6905E-07 1.4524E-04 -6.0551E-05 7.8259E-07 1.4509E-04 -6.0509E-05
5.7840E-07 1.4678E-04 -6.1039E-05 1.0379E-06 1.4549E-04 -6.0293E-05
1.0389E-06 1.4615E-04 -6.0413E-05 1.1306E-06 1.4438E-04 -5.9972E-05 -
1.2755E-07 1.4435E-04 -6.1341E-05
3 -7.4517E-07 -6.6660E-05 3.2661E-05 -7.5455E-07 -6.0788E-05 2.9762E-05
-8.2920E-07 -6.0731E-05 2.9668E-05 -8.3589E-07 -6.0660E-05 2.9647E-05 -
7.3504E-07 -6.1492E-05 2.9909E-05 -9.6198E-07 -6.0853E-05 2.9540E-05 -
9.6240E-07 -6.1183E-05 2.9600E-05 -1.0078E-06 -6.0306E-05 2.9381E-05 -
3.8641E-07 -6.0292E-05 3.0058E-05
4 2.1918E-06 6.1787E-07 -7.5455E-07 2.4422E-06 6.0576E-07 -7.9695E-07
2.2069E-06 5.9203E-07 -7.3333E-07 2.2076E-06 5.8480E-07 -7.3119E-07
2.1974E-06 6.6948E-07 -7.5808E-07 2.2203E-06 6.0452E-07 -7.2044E-07
2.2204E-06 6.3812E-07 -7.2663E-07 2.2249E-06 5.4880E-07 -7.0412E-07
2.1622E-06 5.4721E-07 -7.7273E-07
5 4.9816E-07 1.4535E-04 -6.0788E-05 6.0576E-07 1.5950E-04 -6.6490E-05
7.4459E-07 1.4517E-04 -6.0512E-05 7.5774E-07 1.4503E-04 -6.0471E-05
5.5950E-07 1.4667E-04 -6.0985E-05 1.0056E-06 1.4541E-04 -6.0261E-05
1.0065E-06 1.4606E-04 -6.0378E-05 1.0956E-06 1.4434E-04 -5.9950E-05 -
1.2582E-07 1.4431E-04 -6.1278E-05
6 -6.9367E-07 -6.0741E-05 2.9762E-05 -7.9695E-07 -6.6490E-05 3.2544E-05
-8.1440E-07 -6.0641E-05 2.9625E-05 -8.2080E-07 -6.0573E-05 2.9605E-05 -
7.2412E-07 -6.1370E-05 2.9857E-05 -9.4167E-07 -6.0758E-05 2.9503E-05 -
9.4206E-07 -6.1074E-05 2.9560E-05 -9.8555E-07 -6.0233E-05 2.9351E-05 -
3.8996E-07 -6.0220E-05 2.9999E-05
7 2.1973E-06 7.6905E-07 -8.2920E-07 2.2069E-06 7.4459E-07 -8.1440E-07
2.4635E-06 7.7674E-07 -8.7155E-07 2.2182E-06 7.2670E-07 -7.9837E-07
2.2042E-06 8.4319E-07 -8.3537E-07 2.2357E-06 7.5392E-07 -7.8360E-07
2.2358E-06 8.0016E-07 -7.9213E-07 2.2420E-06 6.7725E-07 -7.6115E-07
2.1557E-06 6.7473E-07 -8.5547E-07
8 4.9394E-07 1.4524E-04 -6.0731E-05 5.9203E-07 1.4517E-04 -6.0641E-05
7.7674E-07 1.5928E-04 -6.6233E-05 7.4961E-07 1.4493E-04 -6.0419E-05
5.5426E-07 1.4654E-04 -6.0926E-05 9.9383E-07 1.4530E-04 -6.0212E-05
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4.2296E-07 -5.9571E-05 2.9577E-05
  25   2.1650E-06 -1.2755E-07 -3.8641E-07 2.1622E-06 -1.2581E-07 -3.8996E-07
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2.4263E-06 -2.2117E-07 -3.3837E-07
  26   4.6173E-07 1.4435E-04 -6.0292E-05 5.4721E-07 1.4431E-04 -6.0220E-05
6.7473E-07 1.4421E-04 -6.0060E-05 6.8617E-07 1.4409E-04 -6.0024E-05
5.1377E-07 1.4551E-04 -6.0470E-05 9.0144E-07 1.4442E-04 -5.9841E-05
9.0219E-07 1.4498E-04 -5.9942E-05 9.7979E-07 1.4349E-04 -5.9571E-05 -
2.2117E-07 1.5696E-04 -6.6378E-05
  27 -7.1531E-07 -6.1341E-05 3.0058E-05 -7.7273E-07 -6.1278E-05 2.9999E-05
-8.5547E-07 -6.1215E-05 2.9895E-05 -8.6288E-07 -6.1136E-05 2.9872E-05 -
7.5111E-07 -6.2059E-05 3.0163E-05 -1.0026E-06 -6.1350E-05 2.9753E-05 -
1.0031E-06 -6.1716E-05 2.9820E-05 -1.0533E-06 -6.0743E-05 2.9577E-05 -
3.3837E-07 -6.6378E-05 3.3218E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 2.5333E-02 -8.3715E-02 9.0048E-01 2.5325E-02 -7.8069E-02
8.9879E-01 2.5127E-02 -7.7536E-02 8.9855E-01 2.4888E-02 -7.7416E-02
9.0106E-01 2.7639E-02 -7.8860E-02 8.9335E-01 2.5525E-02 -7.6777E-02
8.9348E-01 2.6617E-02 -7.7120E-02 8.9044E-01 2.3667E-02 -7.5824E-02
8.9237E-01 2.3662E-02 -7.9683E-02
   2   2.5333E-02 1.0000E+00 -9.2309E-01 3.1289E-02 9.1084E-01 -8.4262E-01
3.8776E-02 9.1072E-01 -8.4261E-01 3.9439E-02 9.1077E-01 -8.4262E-01
2.9328E-02 9.0934E-01 -8.4197E-01 5.1786E-02 9.1017E-01 -8.4224E-01
5.1842E-02 9.0955E-01 -8.4213E-01 5.6144E-02 9.1038E-01 -8.4202E-01 -
6.4803E-03 9.1183E-01 -8.4228E-01
   3 -8.3715E-02 -9.2309E-01 1.0000E+00 -8.4487E-02 -8.4223E-01 9.1288E-01
-9.2442E-02 -8.4200E-01 9.1283E-01 -9.3141E-02 -8.4190E-01 9.1284E-01 -
8.2407E-02 -8.4232E-01 9.1222E-01 -1.0613E-01 -8.4175E-01 9.1240E-01 -
1.0619E-01 -8.4188E-01 9.1231E-01 -1.1065E-01 -8.4077E-01 9.1211E-01 -
4.3407E-02 -8.4208E-01 9.1257E-01
   4   9.0048E-01 3.1289E-02 -8.4487E-02 1.0000E+00 3.0693E-02 -8.9393E-02
8.9973E-01 3.0017E-02 -8.2514E-02 8.9955E-01 2.9681E-02 -8.2330E-02
9.0093E-01 3.3537E-02 -8.4553E-02 8.9576E-01 3.0580E-02 -8.1375E-02
8.9590E-01 3.2110E-02 -8.1900E-02 8.9335E-01 2.7980E-02 -7.9935E-02
8.8824E-01 2.7950E-02 -8.5793E-02
   5   2.5325E-02 9.1084E-01 -8.4223E-01 3.0693E-02 1.0000E+00 -9.2288E-01
3.7563E-02 9.1082E-01 -8.4252E-01 3.8208E-02 9.1089E-01 -8.4255E-01
2.8385E-02 9.0915E-01 -8.4168E-01 5.0201E-02 9.1022E-01 -8.4226E-01
5.0255E-02 9.0948E-01 -8.4210E-01 5.4436E-02 9.1063E-01 -8.4216E-01 -
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   6 -7.8069E-02 -8.4262E-01 9.1288E-01 -8.9393E-02 -9.2288E-01 1.0000E+00
-9.0954E-02 -8.4226E-01 9.1315E-01 -9.1624E-02 -8.4219E-01 9.1318E-01 -
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   7   8.9879E-01 3.8776E-02 -9.2442E-02 8.9973E-01 3.7563E-02 -9.0954E-02

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8.9822E-01 4.0089E-02 -8.8894E-02 8.9633E-01 3.4380E-02 -8.6035E-02
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3.9211E-02 1.0000E+00 -9.2278E-01 3.7823E-02 9.1081E-01 -8.4239E-01
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-9.7640E-02 -9.2278E-01 1.0000E+00 -9.0410E-02 -8.4234E-01 9.1342E-01 -
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4.2055E-02 9.0893E-01 -8.4179E-01 4.2809E-02 9.0886E-01 -8.4172E-01
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1.0000E+00 5.8807E-02 -1.1196E-01 8.9926E-01 4.5542E-02 -9.6525E-02
8.6794E-01 4.5409E-02 -1.0975E-01
20 2.6617E-02 9.0955E-01 -8.4188E-01 3.2110E-02 9.0948E-01 -8.4188E-01
4.0089E-02 9.0932E-01 -8.4170E-01 4.0795E-02 9.0930E-01 -8.4167E-01
3.0024E-02 9.0856E-01 -8.4150E-01 5.3959E-02 9.0887E-01 -8.4110E-01
5.8807E-02 1.0000E+00 -9.2330E-01 5.8603E-02 9.0862E-01 -8.4057E-01 -
8.1213E-03 9.1002E-01 -8.4205E-01
21 -7.7120E-02 -8.4213E-01 9.1231E-01 -8.1900E-02 -8.4210E-01 9.1271E-01
-8.8894E-02 -8.4196E-01 9.1301E-01 -8.9508E-02 -8.4197E-01 9.1309E-01 -
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1.1196E-01 -9.2330E-01 1.0000E+00 -1.0487E-01 -8.4142E-01 9.1333E-01 -
4.5650E-02 -8.4275E-01 9.1134E-01
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8.9633E-01 5.3823E-02 -1.0636E-01 8.9650E-01 5.3062E-02 -1.0590E-01
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8.9926E-01 5.8603E-02 -1.0487E-01 1.0000E+00 5.5138E-02 -1.1197E-01
8.6215E-01 4.9074E-02 -1.1468E-01
23 2.3667E-02 9.1038E-01 -8.4077E-01 2.7980E-02 9.1063E-01 -8.4126E-01
3.4380E-02 9.1062E-01 -8.4163E-01 3.4947E-02 9.1080E-01 -8.4172E-01
2.6300E-02 9.0784E-01 -8.4000E-01 4.5496E-02 9.0984E-01 -8.4178E-01
4.5542E-02 9.0862E-01 -8.4142E-01 5.5138E-02 1.0000E+00 -9.2172E-01 -
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24 -7.5824E-02 -8.4202E-01 9.1211E-01 -7.9935E-02 -8.4216E-01 9.1278E-01
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7.8335E-02 -8.4007E-01 9.1109E-01 -9.6483E-02 -8.4147E-01 9.1386E-01 -
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4.8174E-02 -8.4359E-01 9.1044E-01
25 8.9237E-01 -6.4803E-03 -4.3407E-02 8.8824E-01 -6.3956E-03 -4.3884E-02
8.8172E-01 -6.1567E-03 -4.4934E-02 8.8105E-01 -5.8483E-03 -4.5174E-02
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8.6794E-01 -8.1213E-03 -4.5650E-02 8.6215E-01 -4.3187E-03 -4.8174E-02
1.0000E+00 -1.1333E-02 -3.7691E-02
26 2.3662E-02 9.1183E-01 -8.4208E-01 2.7950E-02 9.1209E-01 -8.4259E-01
3.4313E-02 9.1207E-01 -8.4296E-01 3.4878E-02 9.1226E-01 -8.4307E-01
2.6275E-02 9.0924E-01 -8.4130E-01 4.5365E-02 9.1127E-01 -8.4313E-01
4.5409E-02 9.1002E-01 -8.4275E-01 4.9074E-02 9.1254E-01 -8.4359E-01 -
1.1333E-02 1.0000E+00 -9.1929E-01
27 -7.9683E-02 -8.4228E-01 9.1257E-01 -8.5793E-02 -8.4188E-01 9.1241E-01
-9.4567E-02 -8.4156E-01 9.1208E-01 -9.5339E-02 -8.4136E-01 9.1202E-01 -
8.3499E-02 -8.4293E-01 9.1221E-01 -1.0968E-01 -8.4147E-01 9.1125E-01 -
1.0975E-01 -8.4205E-01 9.1134E-01 -1.1468E-01 -8.3973E-01 9.1044E-01 -
3.7691E-02 -9.1929E-01 1.0000E+00

G-FILE for the vectors

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C00100003 -445712626   15   15978806  126   26364371   56
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C00100008-1055671052   15  133820142  125  218310525   56
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D  2  7   387759  2  8  9107210  2  9 -8426118  2 10   394391  2 11  9107736
D  2 12 -8426241  2 13   293282  2 14  9093352  2 15 -8419651  2 16   517860
D  2 17  9101700  2 18 -8422438  2 19   518419  2 20  9095468  2 21 -8421331
D  2 22   561443  2 23  9103838  2 24 -8420196  2 25   -64802  2 26  9118345
D  2 27 -8422776  3  4  -844866  3  5 -8422329  3  6  9128755  3  7  -924420 D
3  8 -8420003  3  9  9128333  3 10  -931410  3 11 -8418958  3 12  9128396 D  3
13  -824065  3 14 -8423243  3 15  9122155  3 16 -1061275  3 17 -8417478 D  3
18  9124032  3 19 -1061870  3 20 -8418753  3 21  9123051  3 22 -1106500 D  3
23 -8407668  3 24  9121052  3 25  -434072  3 26 -8420838  3 27  9125714
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D  4 15  -845526  4 16  8957626  4 17   305796  4 18  -813745  4 19  8959013
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D  7 22  8963346  7 23   343795  7 24  -860349  7 25  8817194  7 26   343132
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D 10 13  8995953 10 14   428089 10 15  -934907 10 16  8981822 10 17   386261
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D 24 25 -481736 24 26 -8435881 24 27 9104440 25 26 -113332 25 27 -376905 D
26 27 -9192882

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	10825.050	-5535250.849	3158159.012
nola	10825.055	-5535250.789	3158158.982
lwes	10825.047	-5535250.767	3158158.984
dstr	10825.048	-5535250.768	3158158.972
gris	10825.050	-5535250.777	3158158.981
houm	10825.055	-5535250.753	3158158.962
lmcn	10825.047	-5535250.774	3158158.972
awes	10825.062	-5535250.747	3158158.966
mspk	10825.051	-5535250.827	3158159.005

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	-0.001	-0.018	0.007	-0.001	-0.003	0.019
nola	0.005	0.042	-0.022	0.005	0.002	-0.048
lwes	-0.003	0.064	-0.020	-0.003	0.014	-0.065
dstr	-0.002	0.063	-0.032	-0.002	0.003	-0.070

gris	0.000	0.054	-0.024	0.000	0.006	-0.058
houm	0.005	0.078	-0.042	0.005	0.002	-0.089
lmcn	-0.003	0.057	-0.032	-0.003	0.001	-0.066
awes	0.012	0.084	-0.039	0.013	0.008	-0.092
mspk	0.001	0.004	0.000	0.001	0.002	-0.004

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 502186.534
Easting (X) [feet] 3738916.427
Convergence [degrees] 0.72271415
Point Scale 0.99992822
Combined Factor 0.99993200

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 1.631 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.428
scatter (mean square distance from rover) is 6039.965
average edop for rover is 1.150
average ndop for rover is 1.050
average hdop for rover is 1.557
average vdop for rover is 2.560
average gdop for rover is 3.570

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:20 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA49.O00 OP1335489365351

FILE: QCFVA49.O00 OP1335489365351

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068v.12o TIME: 01:19:44 UTC

SOFTWARE: rsgps 1.37 RS11.prl 1.73 START: 2012/03/08 21:56:50
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 22:16:44
NAV FILE: brdc0680.12n OBS USED: 1593 / 2664 : 60%
ANT NAME: LEIAT502 NONE QUALITY IND. 8.88/ 1.15
ARP HEIGHT: 1.540 NORMALIZED RMS: 0.400

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18558)

X:	12514.154(m)	0.005(m)	12513.421(m)	0.005(m)
Y:	-5520593.910(m)	0.035(m)	-5520592.420(m)	0.035(m)
Z:	3183537.091(m)	0.021(m)	3183536.884(m)	0.021(m)

LAT:	30 8 14.40814	0.004(m)	30 8 14.42665	0.004(m)
E LON:	270 7 47.56294	0.005(m)	270 7 47.53568	0.005(m)
W LON:	89 52 12.43706	0.005(m)	89 52 12.46432	0.005(m)
EL HGT:	-23.911(m)	0.041(m)	-25.305(m)	0.041(m)
ORTHO HGT:	2.522(m)	0.043(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3337482.196	182389.502
Easting (X) [meters]	223507.631	1140971.175
Convergence [degrees]	-1.44193017	0.73162453
Point Scale	1.00054328	0.99992857
Combined Factor	1.00054703	0.99993232

US NATIONAL GRID DESIGNATOR: 16RBU2350737482(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DJ9601	ENG6 ENGLISH TURN 6 CORS ARP	N295245.044	W0895631.484	29447.2

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 32983.5
DH3836 MSSC STENNIS SPACE CTR CORS ARP N302230.794 W0893649.903 36105.8
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 43345.7
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 52969.3
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 97004.4
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 101407.5
DL8631 AWES AWES 147 BC ALWES CORS ARP N300600.962 W0905858.635 107321.7
DJ8941 MSGA GAUTIER CORS ARP N302340.464 W0883842.490 121275.2

NEAREST NGS PUBLISHED CONTROL POINT
BH2796 36A010 N300813.451 W0895213.458 40.2

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng6	5594.599	-5534921.925	3158759.202
nola	-11604.035	-5531876.833	3164070.907
mssc	37114.981	-5507204.518	3206321.901
covg	-9174.166	-5501675.367	3215950.520
dstr	-36892.835	-5530079.517	3166960.837
gris	4149.693	-5568493.943	3099600.308
gvms	-86907.679	-5510048.212	3200500.211
awes	-94742.050	-5521868.818	3179990.053
msga	130192.489	-5504708.304	3208174.553
qcfv	12513.421	-5520592.420	3183536.884

Covariance matrix of the stations:
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-2.1130E-08 2.1970E-08 -1.6300E-08 -2.4080E-08 1.1990E-08 -1.0440E-08 -
2.6670E-08 8.1510E-09 -1.2360E-08 -2.4790E-08 2.2410E-08 -2.4600E-08 -
2.9870E-08 -1.2400E-09 -5.0820E-09 -3.0710E-08 -1.5670E-09 -6.6010E-09 -
1.5700E-08 4.7340E-08 -2.9420E-08 1.8950E-08 4.9160E-08 -2.5310E-08
2 -1.2200E-07 1.4140E-05 -7.6430E-06 1.4360E-08 -1.7500E-06 9.5190E-07
2.0460E-08 -1.7930E-06 9.7920E-07 1.3670E-08 -1.7510E-06 9.5650E-07
1.1030E-08 -1.7290E-06 9.4040E-07 1.7680E-08 -1.7540E-06 9.4910E-07
4.4820E-09 -1.6890E-06 9.2050E-07 4.0210E-09 -1.6840E-06 9.1600E-07
3.6110E-08 -1.8830E-06 1.0300E-06 -1.3300E-08 6.9510E-08 -5.1940E-08
3 1.1970E-07 -7.6430E-06 4.4090E-06 -1.3400E-08 9.4740E-07 -5.2860E-07
-2.5130E-08 1.0090E-06 -5.7350E-07 -1.4040E-08 9.7000E-07 -5.5380E-07 -
7.7800E-09 9.2650E-07 -5.1750E-07 -1.6740E-08 9.1930E-07 -4.9880E-07
2.8930E-09 8.9690E-07 -5.0840E-07 4.3380E-09 8.8200E-07 -4.9540E-07 -
4.9770E-08 1.0920E-06 -6.2210E-07 6.5810E-09 -1.9800E-07 1.3810E-07
4 -2.4950E-08 1.4360E-08 -1.3400E-08 3.0910E-07 -7.7750E-08 9.8720E-08
-2.6500E-08 3.1440E-08 -2.6070E-08 -2.3920E-08 8.4860E-09 -1.3940E-08 -
2.2920E-08 -5.5920E-09 -3.0550E-09 -2.5280E-08 9.2350E-09 -6.9100E-09 -
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2.5670E-08 -1.8110E-06 9.9990E-07 7.1910E-09 -1.7410E-06 9.6340E-07 -

3.0070E-09 -1.6970E-06 9.2020E-07 1.2640E-08 -1.7240E-06 9.1200E-07 -
2.0870E-08 -1.6280E-06 8.9310E-07 -2.3350E-08 -1.6150E-06 8.7840E-07
6.6560E-08 -1.9510E-06 1.0810E-06 -4.6620E-10 2.3320E-09 1.5010E-09
   6 -1.4960E-08 9.5190E-07 -5.2860E-07 9.8720E-08 -7.5960E-06 4.3920E-06
-2.6490E-08 1.0150E-06 -5.8200E-07 -1.0670E-08 9.6490E-07 -5.5650E-07 -
1.3540E-09 9.1250E-07 -5.0920E-07 -1.3960E-08 9.0670E-07 -4.8390E-07
1.3900E-08 8.7110E-07 -4.9710E-07 1.6160E-08 8.5320E-07 -4.8000E-07 -
6.1360E-08 1.1200E-06 -6.4310E-07 -2.0920E-09 -1.1090E-07 7.5930E-08
   7 -2.1130E-08 2.0460E-08 -2.5130E-08 -2.6500E-08 2.5670E-08 -2.6490E-08
3.2030E-07 -2.4350E-07 2.0070E-07 -2.4140E-08 1.7930E-08 -2.4520E-09 -
3.4450E-08 3.6410E-08 -3.2040E-08 -2.3530E-08 4.9910E-08 -6.2490E-08 -
4.9130E-08 5.4540E-08 -3.1030E-08 -5.2050E-08 6.2170E-08 -4.3070E-08
2.1620E-08 -2.3460E-08 2.1900E-08 1.7770E-08 3.0920E-07 -1.7200E-07
   8   2.1970E-08 -1.7930E-06 1.0090E-06 3.1440E-08 -1.8110E-06 1.0150E-06
-2.4350E-07 1.4640E-05 -8.0780E-06 2.6510E-08 -1.7780E-06 9.5700E-07
4.5390E-08 -1.8350E-06 1.0270E-06 2.7040E-08 -1.8720E-06 1.0950E-06
7.0740E-08 -1.8680E-06 1.0230E-06 7.5950E-08 -1.8900E-06 1.0510E-06 -
5.5910E-08 -1.6810E-06 9.0110E-07 3.4240E-10 -9.2610E-07 5.3510E-07
   9 -1.6300E-08 9.7920E-07 -5.7350E-07 -2.6070E-08 9.9990E-07 -5.8200E-07
2.0070E-07 -8.0780E-06 4.7480E-06 -2.1880E-08 9.9270E-07 -5.4000E-07 -
4.0410E-08 1.0300E-06 -5.9750E-07 -2.0430E-08 1.0280E-06 -6.4140E-07 -
6.6540E-08 1.0870E-06 -6.0740E-07 -7.1700E-08 1.1010E-06 -6.3000E-07
6.2780E-08 8.6080E-07 -4.6480E-07 4.2740E-09 7.7190E-07 -4.2480E-07
  10 -2.4080E-08 1.3670E-08 -1.4040E-08 -2.3920E-08 7.1910E-09 -1.0670E-08
-2.4140E-08 2.6510E-08 -2.1880E-08 3.0510E-07 -8.0970E-08 9.9680E-08 -
2.3740E-08 -2.3670E-09 -5.5770E-09 -2.4660E-08 1.2520E-08 -1.2500E-08 -
2.3440E-08 -2.0370E-08 3.7470E-09 -2.3650E-08 -2.3010E-08 5.3550E-09 -
2.6480E-08 6.6840E-08 -4.4090E-08 1.2130E-08 -1.0940E-08 5.8390E-09
  11   1.1990E-08 -1.7510E-06 9.7000E-07 8.4860E-09 -1.7410E-06 9.6490E-07
1.7930E-08 -1.7780E-06 9.9270E-07 -8.0970E-08 1.4050E-05 -7.7390E-06
3.4190E-09 -1.7150E-06 9.5130E-07 1.2880E-08 -1.7590E-06 9.6500E-07 -
6.3060E-09 -1.6600E-06 9.2520E-07 -7.3650E-09 -1.6580E-06 9.2130E-07
4.0120E-08 -1.8760E-06 1.0480E-06 -3.5650E-09 -1.4820E-07 1.0540E-07
  12 -1.0440E-08 9.5650E-07 -5.5380E-07 -1.3940E-08 9.6340E-07 -5.5650E-07
-2.4520E-09 9.5700E-07 -5.4000E-07 9.9680E-08 -7.7390E-06 4.5590E-06 -
1.9080E-08 9.6930E-07 -5.5950E-07 -1.2560E-08 9.7080E-07 -5.7760E-07 -
2.8240E-08 9.8310E-07 -5.5890E-07 -3.0370E-08 9.8530E-07 -5.6590E-07
1.7310E-08 9.5360E-07 -5.3540E-07 7.2200E-09 3.9290E-07 -2.1580E-07
  13 -2.6670E-08 1.1030E-08 -7.7800E-09 -2.2920E-08 -3.0070E-09 -1.3540E-09
-3.4450E-08 4.5390E-08 -4.0410E-08 -2.3740E-08 3.4190E-09 -1.9080E-08
3.1670E-07 -3.0530E-08 7.6480E-08 -2.6050E-08 -1.0080E-08 1.9100E-08 -
7.4230E-09 -6.7040E-08 2.5260E-08 -5.8770E-09 -7.6380E-08 3.5770E-08 -
5.8440E-08 1.2710E-07 -8.7890E-08 7.8210E-09 -2.1720E-07 1.2040E-07
  14   8.1510E-09 -1.7290E-06 9.2650E-07 -5.5920E-09 -1.6970E-06 9.1250E-07
3.6410E-08 -1.8350E-06 1.0300E-06 -2.3670E-09 -1.7150E-06 9.6930E-07 -
3.0530E-08 1.3810E-05 -7.4890E-06 5.4940E-09 -1.6620E-06 8.4000E-07 -
6.3200E-08 -1.5140E-06 8.3950E-07 -6.9200E-08 -1.4870E-06 8.0670E-07
1.2110E-07 -2.0630E-06 1.1640E-06 -1.8230E-09 4.3460E-07 -2.3800E-07
  15 -1.2360E-08 9.4040E-07 -5.1750E-07 -3.0550E-09 9.2020E-07 -5.0920E-07
-3.2040E-08 1.0270E-06 -5.9750E-07 -5.5770E-09 9.5130E-07 -5.5950E-07
7.6480E-08 -7.4890E-06 4.3390E-06 -1.0130E-08 8.7400E-07 -4.4600E-07
3.6160E-08 8.1120E-07 -4.6880E-07 4.0270E-08 7.8590E-07 -4.4220E-07 -
8.9880E-08 1.1780E-06 -6.8670E-07 -1.2870E-09 -3.3780E-07 2.0150E-07
  16 -2.4790E-08 1.7680E-08 -1.6740E-08 -2.5280E-08 1.2640E-08 -1.3960E-08

-2.3530E-08 2.7040E-08 -2.0430E-08 -2.4660E-08 1.2880E-08 -1.2560E-08 -
2.6050E-08 5.4940E-09 -1.0130E-08 3.1310E-07 -1.1800E-07 1.1560E-07 -
2.7500E-08 -7.9620E-09 -1.9790E-09 -2.8010E-08 -9.5690E-09 -1.8400E-09 -
2.2030E-08 5.9840E-08 -3.8100E-08 1.1800E-08 2.9820E-08 -1.6550E-08
  17   2.2410E-08 -1.7540E-06 9.1930E-07 9.2350E-09 -1.7240E-06 9.0670E-07
4.9910E-08 -1.8720E-06 1.0280E-06 1.2520E-08 -1.7590E-06 9.7080E-07 -
1.0080E-08 -1.6620E-06 8.7400E-07 -1.1800E-07 1.4060E-05 -7.5070E-06 -
4.6160E-08 -1.5590E-06 8.4180E-07 -5.1890E-08 -1.5260E-06 8.0670E-07
1.3180E-07 -2.0950E-06 1.1600E-06 1.3270E-08 3.4930E-07 -2.1510E-07
  18 -2.4600E-08 9.4910E-07 -4.9880E-07 -6.9100E-09 9.1200E-07 -4.8390E-07
-6.2490E-08 1.0950E-06 -6.4140E-07 -1.2500E-08 9.6500E-07 -5.7760E-07
1.9100E-08 8.4000E-07 -4.4600E-07 1.1560E-07 -7.5070E-06 4.3360E-06
6.7400E-08 7.2360E-07 -4.1820E-07 7.5610E-08 6.7950E-07 -3.6900E-07 -
1.7110E-07 1.3430E-06 -7.9000E-07 -1.8250E-08 -7.8890E-07 4.6600E-07
  19 -2.9870E-08 4.4820E-09 2.8930E-09 -2.0760E-08 -2.0870E-08 1.3900E-08
-4.9130E-08 7.0740E-08 -6.6540E-08 -2.3440E-08 -6.3060E-09 -2.8240E-08 -
7.4230E-09 -6.3200E-08 3.6160E-08 -2.7500E-08 -4.6160E-08 6.7400E-08
3.5330E-07 5.6290E-09 4.3850E-08 2.1320E-08 -1.5880E-07 8.2550E-08 -
1.0540E-07 2.1430E-07 -1.5170E-07 1.9780E-09 -5.2770E-07 2.9290E-07
  20 -1.2400E-09 -1.6890E-06 8.9690E-07 -2.7940E-08 -1.6280E-06 8.7110E-07
5.4540E-08 -1.8680E-06 1.0870E-06 -2.0370E-08 -1.6600E-06 9.8310E-07 -
6.7040E-08 -1.5140E-06 8.1120E-07 -7.9620E-09 -1.5590E-06 7.2360E-07
5.6290E-09 1.3530E-05 -7.3730E-06 -1.5180E-07 -1.2570E-06 6.8600E-07
2.1710E-07 -2.2490E-06 1.3140E-06 -5.4510E-09 1.2180E-06 -6.6170E-07
  21 -5.0820E-09 9.2050E-07 -5.0840E-07 7.2130E-09 8.9310E-07 -4.9710E-07
-3.1030E-08 1.0230E-06 -6.0740E-07 3.7470E-09 9.2520E-07 -5.5890E-07
2.5260E-08 8.3950E-07 -4.6880E-07 -1.9790E-09 8.4180E-07 -4.1820E-07
4.3850E-08 -7.3730E-06 4.3000E-06 6.4390E-08 7.1980E-07 -4.1080E-07 -
1.0680E-07 1.2100E-06 -7.1880E-07 4.8750E-09 -5.3210E-07 3.0270E-07
  22 -3.0710E-08 4.0210E-09 4.3380E-09 -2.0630E-08 -2.3350E-08 1.6160E-08
-5.2050E-08 7.5950E-08 -7.1700E-08 -2.3650E-08 -7.3650E-09 -3.0370E-08 -
5.8770E-09 -6.9200E-08 4.0270E-08 -2.8010E-08 -5.1890E-08 7.5610E-08
2.1320E-08 -1.5180E-07 6.4390E-08 3.6490E-07 -7.0910E-09 6.5200E-08 -
1.1410E-07 2.3050E-07 -1.6360E-07 6.8470E-10 -5.8300E-07 3.2350E-07
  23 -1.5670E-09 -1.6840E-06 8.8200E-07 -3.1910E-08 -1.6150E-06 8.5320E-07
6.2170E-08 -1.8900E-06 1.1010E-06 -2.3010E-08 -1.6580E-06 9.8530E-07 -
7.6380E-08 -1.4870E-06 7.8590E-07 -9.5690E-09 -1.5260E-06 6.7950E-07 -
1.5880E-07 -1.2570E-06 7.1980E-07 -7.0910E-09 1.3550E-05 -7.3630E-06
2.4710E-07 -2.3180E-06 1.3560E-06 -3.7540E-09 1.4220E-06 -7.8290E-07
  24 -6.6010E-09 9.1600E-07 -4.9540E-07 1.0560E-08 8.7840E-07 -4.8000E-07
-4.3070E-08 1.0510E-06 -6.3000E-07 5.3550E-09 9.2130E-07 -5.6590E-07
3.5770E-08 8.0670E-07 -4.4220E-07 -1.8400E-09 8.0670E-07 -3.6900E-07
8.2550E-08 6.8600E-07 -4.1080E-07 6.5200E-08 -7.3630E-06 4.2810E-06 -
1.4830E-07 1.2970E-06 -7.7690E-07 8.3430E-10 -8.0810E-07 4.6050E-07
  25 -1.5700E-08 3.6110E-08 -4.9770E-08 -3.2990E-08 6.6560E-08 -6.1360E-08
2.1620E-08 -5.5910E-08 6.2780E-08 -2.6480E-08 4.0120E-08 1.7310E-08 -
5.8440E-08 1.2110E-07 -8.9880E-08 -2.2030E-08 1.3180E-07 -1.7110E-07 -
1.0540E-07 2.1710E-07 -1.0680E-07 -1.1410E-07 2.4710E-07 -1.4830E-07
4.6450E-07 -8.0370E-07 5.4670E-07 2.8980E-08 9.9970E-07 -5.5580E-07
  26   4.7340E-08 -1.8830E-06 1.0920E-06 7.9660E-08 -1.9510E-06 1.1200E-06
-2.3460E-08 -1.6810E-06 8.6080E-07 6.6840E-08 -1.8760E-06 9.5360E-07
1.2710E-07 -2.0630E-06 1.1780E-06 5.9840E-08 -2.0950E-06 1.3430E-06
2.1430E-07 -2.2490E-06 1.2100E-06 2.3050E-07 -2.3180E-06 1.2970E-06 -
8.0370E-07 1.6230E-05 -9.0550E-06 1.4800E-08 -2.3100E-06 1.3070E-06

27 -2.9420E-08 1.0300E-06 -6.2210E-07 -5.3120E-08 1.0810E-06 -6.4310E-07
2.1900E-08 9.0110E-07 -4.6480E-07 -4.4090E-08 1.0480E-06 -5.3540E-07 -
8.7890E-08 1.1640E-06 -6.8670E-07 -3.8100E-08 1.1600E-06 -7.9000E-07 -
1.5170E-07 1.3140E-06 -7.1880E-07 -1.6360E-07 1.3560E-06 -7.7690E-07
5.4670E-07 -9.0550E-06 5.3490E-06 -2.2120E-09 1.6110E-06 -8.9290E-07
28 1.8950E-08 -1.3300E-08 6.5810E-09 1.0960E-08 -4.6620E-10 -2.0920E-09
1.7770E-08 3.4240E-10 4.2740E-09 1.2130E-08 -3.5650E-09 7.2200E-09
7.8210E-09 -1.8230E-09 -1.2870E-09 1.1800E-08 1.3270E-08 -1.8250E-08
1.9780E-09 -5.4510E-09 4.8750E-09 6.8470E-10 -3.7540E-09 8.3430E-10
2.8980E-08 1.4800E-08 -2.2120E-09 2.9650E-06 -5.8410E-07 8.9970E-07
29 4.9160E-08 6.9510E-08 -1.9800E-07 -4.9060E-08 2.3320E-09 -1.1090E-07
3.0920E-07 -9.2610E-07 7.7190E-07 -1.0940E-08 -1.4820E-07 3.9290E-07 -
2.1720E-07 4.3460E-07 -3.3780E-07 2.9820E-08 3.4930E-07 -7.8890E-07 -
5.2770E-07 1.2180E-06 -5.3210E-07 -5.8300E-07 1.4220E-06 -8.0810E-07
9.9970E-07 -2.3100E-06 1.6110E-06 -5.8410E-07 1.5410E-04 -8.4940E-05
30 -2.5310E-08 -5.1940E-08 1.3810E-07 2.7070E-08 1.5010E-09 7.5930E-08
-1.7200E-07 5.3510E-07 -4.2480E-07 5.8390E-09 1.0540E-07 -2.1580E-07
1.2040E-07 -2.3800E-07 2.0150E-07 -1.6550E-08 -2.1510E-07 4.6600E-07
2.9290E-07 -6.6170E-07 3.0270E-07 3.2350E-07 -7.8290E-07 4.6050E-07 -
5.5580E-07 1.3070E-06 -8.9290E-07 8.9970E-07 -8.4940E-05 4.9390E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000029650 -0.0000005841 0.0000008997
-0.0000005841 0.0001541000 -0.0000849400
0.0000008997 -0.0000849400 0.0000493900

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000029631 0.0000004920 0.0000005625
0.0000004920 0.0000020033 -0.0000027680
0.0000005625 -0.0000027680 0.0002014886

Horizontal network accuracy = 0.00389 meters.
Vertical network accuracy = 0.02783 meters.

Vectors

To	From	X	Y	Z
eng6	qcfv	-6918.821	-14329.505	-24777.682
nola	qcfv	-24117.456	-11284.413	-19465.977
mssc	qcfv	24601.560	13387.902	22785.017
covg	qcfv	-21687.586	18917.053	32413.636
dstr	qcfv	-49406.256	-9487.097	-16576.047
gris	qcfv	-8363.728	-47901.523	-83936.576
gvms	qcfv	-99421.100	10544.208	16963.327
awes	qcfv	-107255.471	-1276.398	-3546.831
msga	qcfv	117679.068	15884.116	24637.669

Covariance matrix of the 9 vectors
1 3.2361E-06 -7.4196E-07 1.0381E-06 2.9101E-06 -6.1984E-07 9.1214E-07
2.9072E-06 -6.1163E-07 9.0444E-07 2.9098E-06 -6.1771E-07 9.0735E-07
2.9116E-06 -6.2329E-07 9.1394E-07 2.9095E-06 -6.2412E-07 9.1866E-07
2.9142E-06 -6.2905E-07 9.1505E-07 2.9147E-06 -6.3107E-07 9.1757E-07
2.9014E-06 -6.0072E-07 8.9780E-07
2 -7.4196E-07 1.6810E-04 -9.2333E-05 -5.0738E-07 1.5228E-04 -8.3825E-05

-8.5954E-07 1.5316E-04 -8.4681E-05 -5.4619E-07 1.5243E-04 -8.4324E-05 -
3.4257E-07 1.5187E-04 -8.3610E-05 -5.8294E-07 1.5193E-04 -8.3150E-05 -
3.8618E-08 1.5112E-04 -8.3435E-05 1.6221E-08 1.5092E-04 -8.3164E-05 -
1.5344E-06 1.5446E-04 -8.5469E-05
   3 1.0381E-06 -9.2333E-05 5.3523E-05 8.5265E-07 -8.3796E-05 4.8647E-05
1.0400E-06 -8.4268E-05 4.9103E-05 8.7324E-07 -8.3877E-05 4.8914E-05
7.6494E-07 -8.3577E-05 4.8533E-05 8.9293E-07 -8.3608E-05 4.8287E-05
6.0311E-07 -8.3183E-05 4.8441E-05 5.7396E-07 -8.3077E-05 4.8296E-05
1.3991E-06 -8.4957E-05 4.9523E-05
   4 2.9101E-06 -5.0738E-07 8.5265E-07 3.2522E-06 -6.1232E-07 9.7344E-07
2.9098E-06 -5.0394E-07 8.4229E-07 2.9180E-06 -5.2299E-07 8.5147E-07
2.9233E-06 -5.3881E-07 8.7086E-07 2.9170E-06 -5.3908E-07 8.8397E-07
2.9313E-06 -5.5753E-07 8.7497E-07 2.9327E-06 -5.6320E-07 8.8236E-07
2.8921E-06 -4.7018E-07 8.2172E-07
   5 -6.1984E-07 1.5228E-04 -8.3796E-05 -6.1232E-07 1.6813E-04 -9.2427E-05
-8.6716E-07 1.5321E-04 -8.4714E-05 -5.6550E-07 1.5250E-04 -8.4371E-05 -
3.6944E-07 1.5197E-04 -8.3684E-05 -6.0081E-07 1.5202E-04 -8.3241E-05 -
7.6804E-08 1.5125E-04 -8.3516E-05 -2.3984E-08 1.5106E-04 -8.3255E-05 -
1.5168E-06 1.5446E-04 -8.5472E-05
   6 9.1214E-07 -8.3825E-05 4.8647E-05 9.7344E-07 -9.2427E-05 5.3630E-05
1.0473E-06 -8.4349E-05 4.9157E-05 8.8528E-07 -8.3970E-05 4.8973E-05
7.8004E-07 -8.3679E-05 4.8603E-05 9.0438E-07 -8.3707E-05 4.8364E-05
6.2279E-07 -8.3296E-05 4.8514E-05 5.9445E-07 -8.3193E-05 4.8374E-05
1.3962E-06 -8.5016E-05 4.9564E-05
   7 2.9072E-06 -8.5954E-07 1.0400E-06 2.9098E-06 -8.6716E-07 1.0473E-06
3.2498E-06 -1.1371E-06 1.2681E-06 2.9110E-06 -8.7180E-07 1.0620E-06
2.9050E-06 -8.5507E-07 1.0409E-06 2.9119E-06 -8.5666E-07 1.0275E-06
2.8961E-06 -8.3331E-07 1.0358E-06 2.8945E-06 -8.2738E-07 1.0278E-06
2.9399E-06 -9.3156E-07 1.0958E-06
   8 -6.1163E-07 1.5316E-04 -8.4268E-05 -5.0394E-07 1.5321E-04 -8.4349E-05
-1.1371E-06 1.7059E-04 -9.4325E-05 -5.4699E-07 1.5340E-04 -8.4911E-05 -
3.2185E-07 1.5276E-04 -8.4110E-05 -5.8722E-07 1.5280E-04 -8.3591E-05
1.3998E-08 1.5194E-04 -8.3920E-05 7.4508E-08 1.5171E-04 -8.3616E-05 -
1.6401E-06 1.5566E-04 -8.6185E-05
   9 9.0444E-07 -8.4681E-05 4.9103E-05 8.4229E-07 -8.4714E-05 4.9157E-05
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1.3329E-06 1.5267E-04 -8.4412E-05
  24   9.1757E-07 -8.3164E-05 4.8296E-05 8.8236E-07 -8.3255E-05 4.8374E-05
1.0278E-06 -8.3616E-05 4.8724E-05 8.9838E-07 -8.3316E-05 4.8579E-05
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6.8852E-07 -8.2784E-05 4.8216E-05 6.4057E-07 -9.0712E-05 5.2750E-05
1.3064E-06 -8.4142E-05 4.9045E-05
  25   2.9014E-06 -1.5344E-06 1.3991E-06 2.8921E-06 -1.5168E-06 1.3962E-06
2.9399E-06 -1.6401E-06 1.5140E-06 2.8974E-06 -1.5401E-06 1.4656E-06
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3.3715E-06 -2.4023E-06 2.0044E-06
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-9.3156E-07 1.5566E-04 -8.6158E-05 -5.2112E-07 1.5468E-04 -8.5686E-05 -
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1.4310E-07 1.5294E-04 -8.4505E-05 2.1460E-07 1.5267E-04 -8.4142E-05 -
2.4023E-06 1.7495E-04 -9.6913E-05
  27   8.9780E-07 -8.5469E-05 4.9523E-05 8.2172E-07 -8.5472E-05 4.9564E-05
1.0958E-06 -8.6185E-05 5.0243E-05 8.5198E-07 -8.5608E-05 4.9963E-05
6.9362E-07 -8.5149E-05 4.9395E-05 8.8036E-07 -8.5176E-05 4.9027E-05
4.5731E-07 -8.4575E-05 4.9261E-05 4.1481E-07 -8.4412E-05 4.9045E-05
2.0044E-06 -9.6913E-05 5.6525E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -3.1812E-02 7.8881E-02 8.9705E-01 -2.6574E-02 6.9238E-02
8.9646E-01 -2.6032E-02 6.7801E-02 8.9783E-01 -2.6457E-02 6.8398E-02
8.9558E-01 -2.6808E-02 6.9572E-02 8.9652E-01 -2.6810E-02 7.0283E-02
8.8984E-01 -2.7207E-02 6.9815E-02 8.8808E-01 -2.7326E-02 7.0229E-02
8.7837E-01 -2.5247E-02 6.6382E-02
   2 -3.1812E-02 1.0000E+00 -9.7343E-01 -2.1700E-02 9.0581E-01 -8.8285E-01
-3.6775E-02 9.0446E-01 -8.8078E-01 -2.3383E-02 9.0583E-01 -8.8196E-01 -
1.4620E-02 9.0629E-01 -8.8309E-01 -2.4923E-02 9.0551E-01 -8.8264E-01 -
1.6361E-03 9.0688E-01 -8.8325E-01 6.8575E-04 9.0675E-01 -8.8316E-01 -
6.4452E-02 9.0067E-01 -8.7681E-01
   3   7.8881E-02 -9.7343E-01 1.0000E+00 6.4627E-02 -8.8336E-01 9.0800E-01
7.8856E-02 -8.8189E-01 9.0512E-01 6.6252E-02 -8.8337E-01 9.0665E-01
5.7856E-02 -8.8391E-01 9.0844E-01 6.7656E-02 -8.8312E-01 9.0838E-01
4.5282E-02 -8.8465E-01 9.0878E-01 4.3002E-02 -8.8456E-01 9.0893E-01
1.0416E-01 -8.7796E-01 9.0036E-01
   4   8.9705E-01 -2.1700E-02 6.4627E-02 1.0000E+00 -2.6186E-02 7.3709E-02
8.9505E-01 -2.1395E-02 6.2985E-02 8.9812E-01 -2.2345E-02 6.4027E-02
8.9696E-01 -2.3117E-02 6.6129E-02 8.9660E-01 -2.3100E-02 6.7462E-02
8.9284E-01 -2.4054E-02 6.6592E-02 8.9137E-01 -2.4327E-02 6.7367E-02
8.7339E-01 -1.9712E-02 6.0606E-02
   5 -2.6574E-02 9.0581E-01 -8.8336E-01 -2.6186E-02 1.0000E+00 -9.7337E-01
-3.7099E-02 9.0469E-01 -8.8106E-01 -2.4208E-02 9.0623E-01 -8.8238E-01 -
1.5766E-02 9.0682E-01 -8.8380E-01 -2.5685E-02 9.0602E-01 -8.8354E-01 -
3.2536E-03 9.0758E-01 -8.8404E-01 -1.0139E-03 9.0750E-01 -8.8406E-01 -
6.3707E-02 9.0060E-01 -8.7677E-01
   6   6.9238E-02 -8.8285E-01 9.0800E-01 7.3709E-02 -9.7337E-01 1.0000E+00
7.9331E-02 -8.8185E-01 9.0521E-01 6.7099E-02 -8.8346E-01 9.0685E-01
5.8939E-02 -8.8409E-01 9.0885E-01 6.8455E-02 -8.8329E-01 9.0892E-01
4.6713E-02 -8.8496E-01 9.0924E-01 4.4492E-02 -8.8490E-01 9.0948E-01
1.0383E-01 -8.7769E-01 9.0020E-01
   7   8.9646E-01 -3.6775E-02 7.8856E-02 8.9505E-01 -3.7099E-02 7.9331E-02

1.0000E+00 -4.8296E-02 9.4865E-02 8.9629E-01 -3.7262E-02 7.9889E-02
8.9167E-01 -3.6700E-02 7.9074E-02 8.9538E-01 -3.6722E-02 7.8442E-02
8.8245E-01 -3.5965E-02 7.8861E-02 8.8008E-01 -3.5751E-02 7.8500E-02
8.8815E-01 -3.9069E-02 8.0852E-02
   8 -2.6032E-02 9.0446E-01 -8.8189E-01 -2.1395E-02 9.0469E-01 -8.8185E-01
-4.8296E-02 1.0000E+00 -9.7390E-01 -2.3245E-02 9.0491E-01 -8.8158E-01 -
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6.8385E-02 9.0100E-01 -8.7767E-01
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9.4865E-02 -9.7390E-01 1.0000E+00 6.4950E-02 -8.8137E-01 9.0504E-01
5.4817E-02 -8.8110E-01 9.0518E-01 6.6645E-02 -8.8025E-01 9.0400E-01
3.9703E-02 -8.8097E-01 9.0518E-01 3.6975E-02 -8.8058E-01 9.0469E-01
1.1119E-01 -8.7843E-01 9.0120E-01
  10   8.9783E-01 -2.3383E-02 6.6252E-02 8.9812E-01 -2.4208E-02 6.7099E-02
8.9629E-01 -2.3245E-02 6.4950E-02 1.0000E+00 -2.7823E-02 7.4239E-02
8.9723E-01 -2.4638E-02 6.7616E-02 8.9731E-01 -2.4616E-02 6.8722E-02
8.9254E-01 -2.5397E-02 6.8010E-02 8.9096E-01 -2.5614E-02 6.8657E-02
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  12   6.8398E-02 -8.8196E-01 9.0665E-01 6.4027E-02 -8.8238E-01 9.0685E-01
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4.2557E-02 -8.8297E-01 9.0723E-01 4.0034E-02 -8.8270E-01 9.0702E-01
1.0824E-01 -8.7848E-01 9.0118E-01
  13   8.9558E-01 -1.4620E-02 5.7856E-02 8.9696E-01 -1.5766E-02 5.8939E-02
8.9167E-01 -1.3635E-02 5.4817E-02 8.9723E-01 -1.5345E-02 5.6502E-02
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7.9074E-02 -8.8186E-01 9.0518E-01 6.7616E-02 -8.8372E-01 9.0704E-01
6.4943E-02 -9.7323E-01 1.0000E+00 6.8880E-02 -8.8375E-01 9.0986E-01
4.8460E-02 -8.8570E-01 9.1001E-01 4.6368E-02 -8.8572E-01 9.1041E-01
1.0194E-01 -8.7724E-01 8.9969E-01
  16   8.9652E-01 -2.4923E-02 6.7656E-02 8.9660E-01 -2.5685E-02 6.8455E-02
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  17 -2.6810E-02 9.0551E-01 -8.8312E-01 -2.3100E-02 9.0602E-01 -8.8329E-01
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-3.5965E-02 9.0510E-01 -8.8097E-01 -2.5397E-02 9.0743E-01 -8.8297E-01 -
1.8447E-02 9.0861E-01 -8.8570E-01 -2.6586E-02 9.0771E-01 -8.8626E-01 -
1.9368E-03 1.0000E+00 -9.7304E-01 -6.2881E-03 9.1032E-01 -8.8683E-01 -
5.7680E-02 8.9965E-01 -8.7524E-01
21 6.9815E-02 -8.8325E-01 9.0878E-01 6.6592E-02 -8.8404E-01 9.0924E-01
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6.0733E-02 -8.8493E-01 9.1001E-01 6.9187E-02 -8.8403E-01 9.1054E-01
4.8685E-02 -9.7304E-01 1.0000E+00 4.7825E-02 -8.8636E-01 9.1116E-01
1.0045E-01 -8.7688E-01 8.9930E-01
22 8.8808E-01 6.8575E-04 4.3002E-02 8.9137E-01 -1.0139E-03 4.4492E-02
8.8008E-01 3.1268E-03 3.6975E-02 8.9096E-01 -2.0694E-04 4.0034E-02
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8.9831E-01 -6.2881E-03 4.7825E-02 1.0000E+00 -1.8944E-04 4.8342E-02
8.4217E-01 8.8930E-03 3.0242E-02
23 -2.7326E-02 9.0675E-01 -8.8456E-01 -2.4327E-02 9.0750E-01 -8.8490E-01
-3.5751E-02 9.0482E-01 -8.8058E-01 -2.5614E-02 9.0728E-01 -8.8270E-01 -
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25 8.7837E-01 -6.4452E-02 1.0416E-01 8.7339E-01 -6.3707E-02 1.0383E-01
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8.6481E-01 -6.1559E-02 1.0194E-01 8.7613E-01 -6.1666E-02 9.7639E-02
8.4618E-01 -5.7680E-02 1.0045E-01 8.4217E-01 -5.6547E-02 9.7958E-02
1.0000E+00 -9.8914E-02 1.4520E-01
26 -2.5247E-02 9.0067E-01 -8.7796E-01 -1.9712E-02 9.0060E-01 -8.7769E-01
-3.9069E-02 9.0100E-01 -8.7843E-01 -2.1868E-02 9.0106E-01 -8.7848E-01 -
1.0651E-02 9.0034E-01 -8.7724E-01 -2.3841E-02 8.9952E-01 -8.7524E-01
5.9427E-03 8.9965E-01 -8.7688E-01 8.8930E-03 8.9910E-01 -8.7588E-01 -
9.8914E-02 1.0000E+00 -9.7455E-01
27 6.6382E-02 -8.7681E-01 9.0036E-01 6.0606E-02 -8.7677E-01 9.0020E-01
8.0852E-02 -8.7767E-01 9.0120E-01 6.2900E-02 -8.7734E-01 9.0118E-01
5.1049E-02 -8.7629E-01 8.9969E-01 6.4908E-02 -8.7547E-01 8.9748E-01
3.3411E-02 -8.7524E-01 8.9930E-01 3.0242E-02 -8.7458E-01 8.9819E-01
1.4520E-01 -9.7455E-01 1.0000E+00

G-FILE for the vectors

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C00100004 -216875864   18  189170527  129  324136355   73
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C00100009 1176790680   18  158841157  132  246376690   75
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D  1 12   683977  1 13  8955764  1 14  -268080  1 15   695722  1 16  8965185
D  1 17  -268101  1 18   702832  1 19  8898358  1 20  -272067  1 21   698153
D  1 22  8880756  1 23  -273263  1 24   702294  1 25  8783710  1 26  -252466
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D  2  7  -367752  2  8  9044630  2  9 -8807795  2 10  -233827  2 11  9058324 D
2 12 -8819550  2 13  -146201  2 14  9062889  2 15 -8830857  2 16  -249227
D  2 17  9055095  2 18 -8826431  2 19   -16360  2 20  9068797  2 21 -8832451
D  2 22     6857  2 23  9067510  2 24 -8831588  2 25  -644520  2 26  9006724
D  2 27 -8768075  3  4   646269  3  5 -8833601  3  6  9079992  3  7   788558
D  3  8 -8818895  3  9  9051238  3 10   662522  3 11 -8833741  3 12  9066525
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D  3 18  9083838  3 19   452824  3 20 -8846472  3 21  9087776  3 22   430015
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D  7 22  8800775  7 23  -357512  7 24   785000  7 25  8881540  7 26  -390686
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D 15 23 -8857207 15 24 9104135 15 25 1019425 15 26 -8772368 15 27 8996867
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D 16 22 8885543 16 23 -267594 16 24   697254 16 25 8761320 16 26 -238408
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D 24 25   979578 24 26 -8758789 24 27 8981904 25 26 -989136 25 27 1451955
D 26 27 -9745531

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng6	12513.423	-5520592.379	3183536.857
nola	12513.428	-5520592.466	3183536.917
mssc	12513.412	-5520592.389	3183536.863
covg	12513.422	-5520592.395	3183536.870
dstr	12513.421	-5520592.454	3183536.907
gris	12513.419	-5520592.386	3183536.869
gvms	12513.429	-5520592.420	3183536.884
awes	12513.418	-5520592.437	3183536.892
msga	12513.418	-5520592.376	3183536.864

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng6	0.002	0.041	-0.027	0.002	-0.003	-0.049
nola	0.007	-0.046	0.033	0.007	0.006	0.056
mssc	-0.009	0.031	-0.021	-0.009	-0.002	-0.037
covg	0.001	0.025	-0.014	0.002	0.000	-0.029

dstr -0.000 -0.034 0.023 -0.000
0.003 0.041
gris -0.001 0.034 -0.015 -0.001
0.004 -0.036
gvms 0.008 -0.000 -0.000 0.008 -
0.000 0.000
awes -0.003 -0.017 0.008 -0.003 -
0.001 0.019
msga -0.003 0.044 -0.020 -0.003
0.005 -0.048

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 598389.559
Easting (X) [feet] 3743336.263
Convergence [degrees] 0.73162453
Point Scale 0.99992857
Combined Factor 0.99993232

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 2.412 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.351
scatter (mean square distance from rover) is 5984.321
average edop for rover is 0.630
average ndop for rover is 0.610
average hdop for rover is 0.877
average vdop for rover is 1.650
average gdop for rover is 2.120

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:20 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA53.O00 OP1335489412194

FILE: QCFVA53.O00 OP1335489412194

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068w.12o TIME: 01:20:08 UTC

SOFTWARE: rsgps 1.37 RS80.prl 1.73 START: 2012/03/08 22:03:48
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 22:25:27
NAV FILE: brdc0680.12n OBS USED: 2250 / 2700 : 83%
ANT NAME: LEIAT502 NONE QUALITY IND. 10.54/ 3.53
ARP HEIGHT: 1.612 NORMALIZED RMS: 0.405

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18559)

X:	15814.123(m)	0.005(m)	15813.391(m)	0.005(m)
Y:	-5531876.396(m)	0.016(m)	-5531874.903(m)	0.016(m)
Z:	3164010.681(m)	0.010(m)	3164010.473(m)	0.010(m)

LAT:	29 56 1.89498	0.003(m)	29 56 1.91335	0.003(m)
E LON:	270 9 49.65311	0.005(m)	270 9 49.62598	0.005(m)
W LON:	89 50 10.34689	0.005(m)	89 50 10.37402	0.005(m)
EL HGT:	-22.918(m)	0.019(m)	-24.318(m)	0.019(m)
ORTHO HGT:	3.003(m)	0.022(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3314839.629	159879.372
Easting (X) [meters]	226216.606	1144533.051
Convergence [degrees]	-1.41614930	0.74858193
Point Scale	1.00052492	0.99992642
Combined Factor	1.00052852	0.99993002

US NATIONAL GRID DESIGNATOR: 16RBU2621614839(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	11869.2

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 27417.5
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 49695.6
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 52819.3
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 65070.4
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 75004.4
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 78180.9
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 93805.4
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 109778.1

NEAREST NGS PUBLISHED CONTROL POINT
AT1334 DUPRE 2 N295615.814 W0894937.072 990.1

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.134	-5534934.117	3158737.881
nola	-11604.036	-5531876.835	3164070.908
lwes	-33746.216	-5533652.932	3160795.434
dstr	-36892.835	-5530079.524	3166960.840
covg	-9174.168	-5501675.361	3215950.516
gris	4149.692	-5568493.947	3099600.311
bvhs	57650.143	-5564331.467	3106490.843
houm	-70100.642	-5550262.344	3131144.922
lmcn	-64275.988	-5568696.884	3098580.621
qcfv	15813.391	-5531874.903	3164010.473

Covariance matrix of the stations:
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-1.7010E-08 5.1560E-08 -3.1930E-08 -1.7520E-08 5.2160E-08 -3.1110E-08 -
1.3580E-08 7.4140E-08 -3.4890E-08 -1.1260E-08 6.0740E-08 -4.8490E-08 -
3.6490E-09 8.0200E-08 -5.8290E-08 -2.2730E-08 4.0170E-08 -3.0950E-08 -
2.1810E-08 4.1450E-08 -3.7800E-08 1.7350E-08 1.5160E-07 -8.6240E-08
2 -4.5780E-07 1.9660E-05 -1.1280E-05 5.8180E-08 -2.4400E-06 1.4110E-06
5.4580E-08 -2.4290E-06 1.4040E-06 5.3930E-08 -2.4220E-06 1.4010E-06
5.7020E-08 -2.3900E-06 1.3880E-06 6.2320E-08 -2.4860E-06 1.4280E-06
7.1890E-08 -2.5090E-06 1.4430E-06 4.9160E-08 -2.4290E-06 1.4000E-06
5.0520E-08 -2.4500E-06 1.4080E-06 2.7890E-09 -2.2430E-07 1.4390E-07
3 3.0820E-07 -1.1280E-05 6.6740E-06 -3.8380E-08 1.4170E-06 -8.2310E-07
-3.8890E-08 1.4130E-06 -8.2100E-07 -3.8990E-08 1.4140E-06 -8.2130E-07 -
3.8520E-08 1.4290E-06 -8.2760E-07 -3.7600E-08 1.4020E-06 -8.1800E-07 -
3.6360E-08 1.4120E-06 -8.2320E-07 -3.9780E-08 1.4010E-06 -8.1570E-07 -
3.9530E-08 1.3940E-06 -8.1320E-07 1.5180E-09 2.4470E-07 -1.3030E-07
4 -1.3620E-08 5.8180E-08 -3.8380E-08 2.2620E-07 -3.8590E-07 2.6560E-07
-1.4510E-08 4.0010E-08 -2.7870E-08 -1.4570E-08 3.8660E-08 -2.6870E-08 -
1.3720E-08 5.2670E-08 -3.3370E-08 -1.3980E-08 5.9470E-08 -4.0920E-08 -
1.3360E-08 8.6340E-08 -5.5830E-08 -1.5720E-08 2.3630E-08 -1.9610E-08 -
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4.1220E-08 -2.4070E-06 1.3990E-06 3.9710E-08 -2.3960E-06 1.3950E-06

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8.2130E-08 -2.5290E-06 1.4460E-06 2.7260E-08 -2.3980E-06 1.3820E-06
3.0310E-08 -2.4250E-06 1.3840E-06 -7.1810E-11 -7.6810E-08 6.2410E-08
   6 -3.4750E-08 1.4110E-06 -8.2310E-07 2.6560E-07 -1.1230E-05 6.6570E-06
-3.2100E-08 1.4050E-06 -8.1970E-07 -3.1870E-08 1.4040E-06 -8.1960E-07 -
3.3610E-08 1.4120E-06 -8.2720E-07 -3.4710E-08 1.4050E-06 -8.1630E-07 -
3.8630E-08 1.4210E-06 -8.2600E-07 -2.9740E-08 1.3890E-06 -8.0930E-07 -
3.0150E-08 1.3850E-06 -8.0490E-07 2.8830E-09 2.0410E-07 -1.1160E-07
   7 -1.7010E-08 5.4580E-08 -3.8890E-08 -1.4510E-08 4.1220E-08 -3.2100E-08
2.2600E-07 -3.0660E-07 2.1660E-07 -1.1020E-08 2.1840E-08 -2.1430E-08 -
1.4030E-08 2.6080E-08 -3.1380E-08 -1.7470E-08 5.7600E-08 -3.1210E-08 -
2.5530E-08 9.3670E-08 -5.2460E-08 -7.1390E-09 2.9420E-09 -5.2950E-09 -
8.1740E-09 8.6630E-09 -3.7240E-09 1.0220E-08 -1.1230E-07 6.4110E-08
   8   5.1560E-08 -2.4290E-06 1.4130E-06 4.0010E-08 -2.4070E-06 1.4050E-06
-3.0660E-07 1.9380E-05 -1.1120E-05 2.3220E-08 -2.3630E-06 1.3810E-06
3.8030E-08 -2.3000E-06 1.3790E-06 5.3350E-08 -2.4820E-06 1.4010E-06
8.9700E-08 -2.5390E-06 1.4380E-06 3.1080E-09 -2.3570E-06 1.3530E-06
7.8010E-09 -2.3890E-06 1.3480E-06 -7.1820E-09 1.5330E-07 -7.1410E-08
   9 -3.1930E-08 1.4040E-06 -8.2100E-07 -2.7870E-08 1.3990E-06 -8.1970E-07
2.1660E-07 -1.1120E-05 6.5810E-06 -2.1820E-08 1.3820E-06 -8.1060E-07 -
2.7580E-08 1.3810E-06 -8.2240E-07 -3.1990E-08 1.4000E-06 -8.0360E-07 -
4.4990E-08 1.4280E-06 -8.2090E-07 -1.4460E-08 1.3630E-06 -7.9030E-07 -
1.5990E-08 1.3610E-06 -7.8120E-07 6.5080E-09 4.7460E-08 -2.0630E-08
  10 -1.7520E-08 5.3930E-08 -3.8990E-08 -1.4570E-08 3.9710E-08 -3.1870E-08
-1.1020E-08 2.3220E-08 -2.1820E-08 2.2640E-07 -2.9620E-07 2.0940E-07 -
1.4050E-08 2.1740E-08 -3.1030E-08 -1.8000E-08 5.7300E-08 -2.9740E-08 -
2.7420E-08 9.4800E-08 -5.1990E-08 -5.7650E-09 -3.6520E-10 -3.0780E-09 -
6.9700E-09 5.7760E-09 -7.9360E-10 9.8020E-09 -1.3550E-07 7.7340E-08
  11   5.2160E-08 -2.4220E-06 1.4140E-06 3.8660E-08 -2.3960E-06 1.4040E-06
2.1840E-08 -2.3630E-06 1.3820E-06 -2.9620E-07 1.9300E-05 -1.1090E-05
3.6450E-08 -2.2740E-06 1.3760E-06 5.4120E-08 -2.4800E-06 1.3970E-06
9.6390E-08 -2.5430E-06 1.4390E-06 -4.3790E-09 -2.3390E-06 1.3440E-06
1.0720E-09 -2.3740E-06 1.3370E-06 -7.1780E-09 2.6220E-07 -1.3040E-07
  12 -3.1110E-08 1.4010E-06 -8.2130E-07 -2.6870E-08 1.3950E-06 -8.1960E-07
-2.1430E-08 1.3810E-06 -8.1060E-07 2.0940E-07 -1.1090E-05 6.5820E-06 -
2.6530E-08 1.3750E-06 -8.2130E-07 -3.1240E-08 1.3990E-06 -8.0440E-07 -
4.4790E-08 1.4270E-06 -8.2230E-07 -1.2950E-08 1.3590E-06 -7.8980E-07 -
1.4550E-08 1.3580E-06 -7.8110E-07 7.4740E-09 3.2930E-08 -1.4370E-08
  13 -1.3580E-08 5.7020E-08 -3.8520E-08 -1.3720E-08 4.8630E-08 -3.3610E-08
-1.4030E-08 3.8030E-08 -2.7580E-08 -1.4050E-08 3.6450E-08 -2.6530E-08
2.2400E-07 -3.7280E-07 2.6400E-07 -1.3960E-08 5.9140E-08 -4.0790E-08 -
1.3940E-08 8.6610E-08 -5.6110E-08 -1.4870E-08 2.1550E-08 -1.8900E-08 -
1.4910E-08 2.5420E-08 -2.1930E-08 1.3080E-08 2.4390E-08 -1.5040E-08
  14   7.4140E-08 -2.3900E-06 1.4290E-06 5.2670E-08 -2.3460E-06 1.4120E-06
2.6080E-08 -2.3000E-06 1.3810E-06 2.1740E-08 -2.2740E-06 1.3750E-06 -
3.7280E-07 1.9050E-05 -1.1080E-05 7.7050E-08 -2.4750E-06 1.3970E-06
1.4350E-07 -2.5590E-06 1.4530E-06 -1.5520E-08 -2.2710E-06 1.3250E-06 -
6.8790E-09 -2.3250E-06 1.3120E-06 1.2650E-08 7.1850E-07 -3.6550E-07
  15 -3.4890E-08 1.3880E-06 -8.2760E-07 -3.3370E-08 1.3860E-06 -8.2720E-07
-3.1380E-08 1.3790E-06 -8.2240E-07 -3.1030E-08 1.3760E-06 -8.2130E-07
2.6400E-07 -1.1080E-05 6.7070E-06 -3.5330E-08 1.3980E-06 -8.2850E-07 -
4.0510E-08 1.4150E-06 -8.3870E-07 -2.8390E-08 1.3700E-06 -8.1490E-07 -
2.9080E-08 1.3740E-06 -8.1490E-07 3.4390E-09 1.4520E-07 -9.5320E-08
  16 -1.1260E-08 6.2320E-08 -3.7600E-08 -1.3980E-08 5.9100E-08 -3.4710E-08

-1.7470E-08 5.3350E-08 -3.1990E-08 -1.8000E-08 5.4120E-08 -3.1240E-08 -
1.3960E-08 7.7050E-08 -3.5330E-08 2.3520E-07 -4.7040E-07 2.9730E-07 -
3.6130E-09 8.0230E-08 -5.7660E-08 -2.3350E-08 4.1780E-08 -3.1070E-08 -
2.2390E-08 4.2480E-08 -3.7770E-08 1.4910E-08 1.5930E-07 -9.0810E-08
  17   6.0740E-08 -2.4860E-06 1.4020E-06 5.9470E-08 -2.4900E-06 1.4050E-06
5.7600E-08 -2.4820E-06 1.4000E-06 5.7300E-08 -2.4800E-06 1.3990E-06
5.9140E-08 -2.4750E-06 1.3980E-06 -4.7040E-07 1.9990E-05 -1.1210E-05
6.5970E-08 -2.5150E-06 1.4160E-06 5.4750E-08 -2.4730E-06 1.3930E-06
5.5290E-08 -2.4760E-06 1.3930E-06 6.6520E-09 -4.7480E-07 2.5350E-07
  18 -4.8490E-08 1.4280E-06 -8.1800E-07 -4.0920E-08 1.4210E-06 -8.1630E-07
-3.1210E-08 1.4010E-06 -8.0360E-07 -2.9740E-08 1.3970E-06 -8.0440E-07 -
4.0790E-08 1.3970E-06 -8.2850E-07 2.9730E-07 -1.1210E-05 6.4960E-06 -
7.1710E-08 1.4420E-06 -7.9930E-07 -1.5810E-08 1.3650E-06 -7.6800E-07 -
1.8510E-08 1.3540E-06 -7.4640E-07 -1.0810E-08 -7.6120E-08 7.1030E-08
  19 -3.6490E-09 7.1890E-08 -3.6360E-08 -1.3360E-08 8.2130E-08 -3.8630E-08
-2.5530E-08 8.9700E-08 -4.4990E-08 -2.7420E-08 9.6390E-08 -4.4790E-08 -
1.3940E-08 1.4350E-07 -4.0510E-08 -3.6130E-09 6.5970E-08 -7.1710E-08
2.8530E-07 -7.3080E-07 4.2750E-07 -4.5130E-08 9.3450E-08 -6.6350E-08 -
4.1530E-08 8.7970E-08 -8.4410E-08 2.1030E-08 5.2250E-07 -2.9900E-07
  20   8.0200E-08 -2.5090E-06 1.4120E-06 8.6340E-08 -2.5290E-06 1.4210E-06
9.3670E-08 -2.5390E-06 1.4280E-06 9.4800E-08 -2.5430E-06 1.4270E-06
8.6610E-08 -2.5590E-06 1.4150E-06 8.0230E-08 -2.5150E-06 1.4420E-06 -
7.3080E-07 2.0400E-05 -1.1450E-05 1.0530E-07 -2.5510E-06 1.4470E-06
1.0300E-07 -2.5460E-06 1.4590E-06 2.8560E-08 -8.7880E-07 4.8840E-07
  21 -5.8290E-08 1.4430E-06 -8.2320E-07 -5.5830E-08 1.4460E-06 -8.2600E-07
-5.2460E-08 1.4380E-06 -8.2090E-07 -5.1990E-08 1.4390E-06 -8.2230E-07 -
5.6110E-08 1.4530E-06 -8.3870E-07 -5.7660E-08 1.4160E-06 -7.9930E-07
4.2750E-07 -1.1450E-05 6.6340E-06 -4.7050E-08 1.4150E-06 -8.0320E-07 -
4.7820E-08 1.3990E-06 -7.8940E-07 -2.2210E-08 2.0070E-07 -8.9520E-08
  22 -2.2730E-08 4.9160E-08 -3.9780E-08 -1.5720E-08 2.7260E-08 -2.9740E-08
-7.1390E-09 3.1080E-09 -1.4460E-08 -5.7650E-09 -4.3790E-09 -1.2950E-08 -
1.4870E-08 -1.5520E-08 -2.8390E-08 -2.3350E-08 5.4750E-08 -1.5810E-08 -
4.5130E-08 1.0530E-07 -4.7050E-08 2.4250E-07 -1.9980E-07 1.6200E-07
3.3410E-09 -2.0020E-08 2.6300E-08 5.4440E-09 -3.4510E-07 1.9790E-07
  23   4.0170E-08 -2.4290E-06 1.4010E-06 2.3630E-08 -2.3980E-06 1.3890E-06
2.9420E-09 -2.3570E-06 1.3630E-06 -3.6520E-10 -2.3390E-06 1.3590E-06
2.1550E-08 -2.2710E-06 1.3700E-06 4.1780E-08 -2.4730E-06 1.3650E-06
9.3450E-08 -2.5510E-06 1.4150E-06 -1.9980E-07 1.9280E-05 -1.0950E-05 -
2.2970E-08 -2.3470E-06 1.2920E-06 -1.9450E-08 3.8990E-07 -2.2360E-07
  24 -3.0950E-08 1.4000E-06 -8.1570E-07 -1.9610E-08 1.3820E-06 -8.0930E-07
-5.2950E-09 1.3530E-06 -7.9030E-07 -3.0780E-09 1.3440E-06 -7.8980E-07 -
1.8900E-08 1.3250E-06 -8.1490E-07 -3.1070E-08 1.3930E-06 -7.6800E-07 -
6.6350E-08 1.4470E-06 -8.0320E-07 1.6200E-07 -1.0950E-05 6.4230E-06
1.3040E-08 1.3090E-06 -7.2040E-07 8.9030E-09 -3.1610E-07 1.9780E-07
  25 -2.1810E-08 5.0520E-08 -3.9530E-08 -1.5680E-08 3.0310E-08 -3.0150E-08
-8.1740E-09 7.8010E-09 -1.5990E-08 -6.9700E-09 1.0720E-09 -1.4550E-08 -
1.4910E-08 -6.8790E-09 -2.9080E-08 -2.2390E-08 5.5290E-08 -1.8510E-08 -
4.1530E-08 1.0300E-07 -4.7820E-08 3.3410E-09 -2.2970E-08 1.3040E-08
2.3930E-07 -2.1830E-07 1.8270E-07 6.1990E-09 -3.0020E-07 1.7240E-07
  26   4.1450E-08 -2.4500E-06 1.3940E-06 2.6940E-08 -2.4250E-06 1.3850E-06
8.6630E-09 -2.3890E-06 1.3610E-06 5.7760E-09 -2.3740E-06 1.3580E-06
2.5420E-08 -2.3250E-06 1.3740E-06 4.2480E-08 -2.4760E-06 1.3540E-06
8.7970E-08 -2.5460E-06 1.3990E-06 -2.0020E-08 -2.3470E-06 1.3090E-06 -
2.1830E-07 1.9440E-05 -1.0930E-05 -1.6680E-08 2.4210E-07 -1.5720E-07

27 -3.7800E-08 1.4080E-06 -8.1320E-07 -2.2730E-08 1.3840E-06 -8.0490E-07
-3.7240E-09 1.3480E-06 -7.8120E-07 -7.9360E-10 1.3370E-06 -7.8110E-07 -
2.1930E-08 1.3120E-06 -8.1490E-07 -3.7770E-08 1.3930E-06 -7.4640E-07 -
8.4410E-08 1.4590E-06 -7.8940E-07 2.6300E-08 1.2920E-06 -7.2040E-07
1.8270E-07 -1.0930E-05 6.3630E-06 2.2030E-09 -4.8320E-07 3.0430E-07
28 1.7350E-08 2.7890E-09 1.5180E-09 1.3020E-08 -7.1810E-11 2.8830E-09
1.0220E-08 -7.1820E-09 6.5080E-09 9.8020E-09 -7.1780E-09 7.4740E-09
1.3080E-08 1.2650E-08 3.4390E-09 1.4910E-08 6.6520E-09 -1.0810E-08
2.1030E-08 2.8560E-08 -2.2210E-08 5.4440E-09 -1.9450E-08 8.9030E-09
6.1990E-09 -1.6680E-08 2.2030E-09 2.1270E-06 -1.6090E-06 1.3800E-06
29 1.5160E-07 -2.2430E-07 2.4470E-07 3.4960E-08 -7.6810E-08 2.0410E-07
-1.1230E-07 1.5330E-07 4.7460E-08 -1.3550E-07 2.6220E-07 3.2930E-08
2.4390E-08 7.1850E-07 1.4520E-07 1.5930E-07 -4.7480E-07 -7.6120E-08
5.2250E-07 -8.7880E-07 2.0070E-07 -3.4510E-07 3.8990E-07 -3.1610E-07 -
3.0020E-07 2.4210E-07 -4.8320E-07 -1.6090E-06 1.1410E-04 -6.6170E-05
30 -8.6240E-08 1.4390E-07 -1.3030E-07 -2.0450E-08 6.2410E-08 -1.1160E-07
6.4110E-08 -7.1410E-08 -2.0630E-08 7.7340E-08 -1.3040E-07 -1.4370E-08 -
1.5040E-08 -3.6550E-07 -9.5320E-08 -9.0810E-08 2.5350E-07 7.1030E-08 -
2.9900E-07 4.8840E-07 -8.9520E-08 1.9790E-07 -2.2360E-07 1.9780E-07
1.7240E-07 -1.5720E-07 3.0430E-07 1.3800E-06 -6.6170E-05 4.0230E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000021270 -0.0000016090 0.0000013800
-0.0000016090 0.0001141000 -0.0000661700
0.0000013800 -0.0000661700 0.0000402300

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000021187 0.0000003938 0.0000017101
0.0000003938 0.0000014029 0.0000017110
0.0000017101 0.0000017110 0.0001529354

Horizontal network accuracy = 0.00329 meters.
Vertical network accuracy = 0.02425 meters.

Vectors

To	From	X	Y	Z
eng5	qcfv	-10184.257	-3059.214	-5272.592
nola	qcfv	-27417.427	-1.932	60.436
lwes	qcfv	-49559.607	-1778.029	-3215.039
dstr	qcfv	-52706.227	1795.379	2950.367
covg	qcfv	-24987.560	30199.541	51940.043
gris	qcfv	-11663.699	-36619.044	-64410.161
bvhs	qcfv	41836.752	-32456.564	-57519.630
houm	qcfv	-85914.033	-18387.441	-32865.551
lmcn	qcfv	-80089.380	-36821.981	-65429.852

Covariance matrix of the 9 vectors
1 2.3245E-06 -2.2212E-06 1.7729E-06 2.0830E-06 -1.7031E-06 1.4286E-06
2.0824E-06 -1.7019E-06 1.4278E-06 2.0823E-06 -1.7013E-06 1.4277E-06
2.0830E-06 -1.6991E-06 1.4279E-06 2.0835E-06 -1.7065E-06 1.4286E-06
2.0850E-06 -1.7090E-06 1.4302E-06 2.0815E-06 -1.7010E-06 1.4264E-06
2.0816E-06 -1.7025E-06 1.4262E-06
2 -2.2212E-06 1.3421E-04 -7.7839E-05 -1.5886E-06 1.1196E-04 -6.5107E-05

-1.4449E-06 1.1174E-04 -6.4957E-05 -1.4224E-06 1.1164E-04 -6.4946E-05 -
1.5792E-06 1.1122E-04 -6.5071E-05 -1.7088E-06 1.1231E-04 -6.4810E-05 -
2.0624E-06 1.1269E-04 -6.5072E-05 -1.2175E-06 1.1151E-04 -6.4598E-05 -
1.2611E-06 1.1163E-04 -6.4423E-05
   3 1.7729E-06 -7.7839E-05 4.7165E-05 1.3606E-06 -6.5060E-05 3.9649E-05
1.2755E-06 -6.4930E-05 3.9560E-05 1.2622E-06 -6.4870E-05 3.9553E-05
1.3550E-06 -6.4620E-05 3.9628E-05 1.4317E-06 -6.5266E-05 3.9471E-05
1.6411E-06 -6.5491E-05 3.9627E-05 1.1408E-06 -6.4790E-05 3.9347E-05
1.1666E-06 -6.4863E-05 3.9243E-05
   4 2.0830E-06 -1.5886E-06 1.3606E-06 2.3272E-06 -2.0298E-06 1.6632E-06
2.0892E-06 -1.5968E-06 1.3661E-06 2.0896E-06 -1.5981E-06 1.3661E-06
2.0872E-06 -1.6039E-06 1.3636E-06 2.0851E-06 -1.5911E-06 1.3703E-06
2.0796E-06 -1.5862E-06 1.3668E-06 2.0928E-06 -1.6009E-06 1.3719E-06
2.0921E-06 -1.6003E-06 1.3755E-06
   5 -1.7031E-06 1.1196E-04 -6.5060E-05 -2.0298E-06 1.3379E-04 -7.7667E-05
-1.4554E-06 1.1162E-04 -6.4881E-05 -1.4337E-06 1.1152E-04 -6.4870E-05 -
1.5847E-06 1.1111E-04 -6.4992E-05 -1.7091E-06 1.1216E-04 -6.4735E-05 -
2.0493E-06 1.1253E-04 -6.4987E-05 -1.2366E-06 1.1139E-04 -6.4534E-05 -
1.2784E-06 1.1151E-04 -6.4365E-05
   6 1.4286E-06 -6.5107E-05 3.9649E-05 1.6632E-06 -7.7667E-05 4.7110E-05
1.2809E-06 -6.4898E-05 3.9543E-05 1.2679E-06 -6.4840E-05 3.9536E-05
1.3585E-06 -6.4597E-05 3.9610E-05 1.4332E-06 -6.5223E-05 3.9454E-05
1.6375E-06 -6.5441E-05 3.9605E-05 1.1495E-06 -6.4761E-05 3.9335E-05
1.1746E-06 -6.4832E-05 3.9232E-05
   7 2.0824E-06 -1.4449E-06 1.2755E-06 2.0892E-06 -1.4554E-06 1.2809E-06
2.3326E-06 -1.7961E-06 1.5260E-06 2.0960E-06 -1.4677E-06 1.2870E-06
2.0897E-06 -1.4833E-06 1.2811E-06 2.0844E-06 -1.4458E-06 1.2955E-06
2.0702E-06 -1.4316E-06 1.2856E-06 2.1042E-06 -1.4743E-06 1.3017E-06
2.1024E-06 -1.4714E-06 1.3100E-06
   8 -1.7019E-06 1.1174E-04 -6.4930E-05 -1.5968E-06 1.1162E-04 -6.4898E-05
-1.7961E-06 1.3317E-04 -7.7266E-05 -1.4431E-06 1.1132E-04 -6.4751E-05 -
1.5882E-06 1.1093E-04 -6.4865E-05 -1.7078E-06 1.1194E-04 -6.4621E-05 -
2.0346E-06 1.1229E-04 -6.4861E-05 -1.2536E-06 1.1120E-04 -6.4429E-05 -
1.2938E-06 1.1132E-04 -6.4267E-05
   9 1.4278E-06 -6.4957E-05 3.9560E-05 1.3661E-06 -6.4881E-05 3.9543E-05
1.5260E-06 -7.7266E-05 4.6852E-05 1.2743E-06 -6.4705E-05 3.9454E-05
1.3610E-06 -6.4471E-05 3.9524E-05 1.4323E-06 -6.5071E-05 3.9376E-05
1.6275E-06 -6.5278E-05 3.9519E-05 1.1611E-06 -6.4631E-05 3.9263E-05
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1.3123E-06 1.1112E-04 -6.4171E-05
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1.2117E-06 -6.4388E-05 3.9008E-05
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1.5104E-06 1.3306E-04 -7.6460E-05
  27   1.4262E-06 -6.4423E-05 3.9243E-05 1.3755E-06 -6.4365E-05 3.9232E-05
1.3100E-06 -6.4267E-05 3.9165E-05 1.2997E-06 -6.4219E-05 3.9159E-05
1.3709E-06 -6.4009E-05 3.9206E-05 1.4308E-06 -6.4547E-05 3.9108E-05
1.5924E-06 -6.4716E-05 3.9226E-05 1.2062E-06 -6.4171E-05 3.9008E-05
1.3881E-06 -7.6460E-05 4.5984E-05

Correlation matrix of the 9 vectors
   1   1.0000E+00 -1.2576E-01 1.6932E-01 8.9560E-01 -9.6571E-02 1.3652E-01
8.9431E-01 -9.6727E-02 1.3682E-01 8.9403E-01 -9.6802E-02 1.3682E-01
8.9604E-01 -9.7105E-02 1.3643E-01 8.9480E-01 -9.6319E-02 1.3728E-01
8.8826E-01 -9.6026E-02 1.3676E-01 8.8895E-01 -9.6886E-02 1.3756E-01
8.8991E-01 -9.6805E-02 1.3795E-01
   2 -1.2576E-01 1.0000E+00 -9.7836E-01 -8.9888E-02 8.3552E-01 -8.1880E-01
-8.1665E-02 8.3583E-01 -8.1917E-01 -8.0369E-02 8.3600E-01 -8.1912E-01 -
8.9400E-02 8.3649E-01 -8.1820E-01 -9.6581E-02 8.3428E-01 -8.1966E-01 -
1.1563E-01 8.3336E-01 -8.1894E-01 -6.8432E-02 8.3586E-01 -8.1985E-01 -
7.0950E-02 8.3538E-01 -8.2006E-01
   3   1.6932E-01 -9.7836E-01 1.0000E+00 1.2987E-01 -8.1901E-01 8.4113E-01
1.2160E-01 -8.1928E-01 8.4155E-01 1.2030E-01 -8.1944E-01 8.4152E-01
1.2940E-01 -8.1987E-01 8.4054E-01 1.3650E-01 -8.1780E-01 8.4208E-01
1.5522E-01 -8.1695E-01 8.4126E-01 1.0816E-01 -8.1927E-01 8.4239E-01
1.1071E-01 -8.1880E-01 8.4265E-01
   4   8.9560E-01 -8.9888E-02 1.2987E-01 1.0000E+00 -1.1503E-01 1.5884E-01
8.9673E-01 -9.0703E-02 1.3083E-01 8.9664E-01 -9.0881E-02 1.3085E-01
8.9733E-01 -9.1614E-02 1.3021E-01 8.9498E-01 -8.9756E-02 1.3161E-01
8.8546E-01 -8.9076E-02 1.3063E-01 8.9328E-01 -9.1133E-02 1.3223E-01
8.9387E-01 -9.0946E-02 1.3297E-01
   5 -9.6571E-02 8.3552E-01 -8.1901E-01 -1.1503E-01 1.0000E+00 -9.7827E-01
-8.2385E-02 8.3618E-01 -8.1947E-01 -8.1136E-02 8.3639E-01 -8.1944E-01 -
8.9852E-02 8.3701E-01 -8.1847E-01 -9.6751E-02 8.3444E-01 -8.1998E-01 -
1.1508E-01 8.3341E-01 -8.1915E-01 -6.9610E-02 8.3628E-01 -8.2032E-01 -
7.2038E-02 8.3575E-01 -8.2059E-01
   6   1.3652E-01 -8.1880E-01 8.4113E-01 1.5884E-01 -9.7827E-01 1.0000E+00
1.2219E-01 -8.1934E-01 8.4167E-01 1.2092E-01 -8.1952E-01 8.4164E-01
1.2981E-01 -8.2005E-01 8.4063E-01 1.3673E-01 -8.1773E-01 8.4221E-01
1.5496E-01 -8.1680E-01 8.4129E-01 1.0905E-01 -8.1938E-01 8.4261E-01
1.1154E-01 -8.1887E-01 8.4291E-01
   7   8.9431E-01 -8.1665E-02 1.2160E-01 8.9673E-01 -8.2385E-02 1.2219E-01

1.0000E+00 -1.0191E-01 1.4597E-01 8.9833E-01 -8.3367E-02 1.2312E-01
8.9736E-01 -8.4623E-02 1.2219E-01 8.9364E-01 -8.1460E-02 1.2428E-01
8.8045E-01 -8.0301E-02 1.2273E-01 8.9710E-01 -8.3830E-02 1.2531E-01
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   8 -9.6727E-02 8.3583E-01 -8.1928E-01 -9.0703E-02 8.3618E-01 -8.1934E-01
-1.0191E-01 1.0000E+00 -9.7817E-01 -8.1857E-02 8.3685E-01 -8.1983E-01 -
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   9   1.3682E-01 -8.1917E-01 8.4155E-01 1.3083E-01 -8.1947E-01 8.4167E-01
1.4597E-01 -9.7817E-01 1.0000E+00 1.2187E-01 -8.2007E-01 8.4221E-01
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  10   8.9403E-01 -8.0369E-02 1.2030E-01 8.9664E-01 -8.1136E-02 1.2092E-01
8.9833E-01 -8.1857E-02 1.2187E-01 1.0000E+00 -1.0009E-01 1.4390E-01
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1.1291E-01 -8.1939E-01 8.4375E-01
  13   8.9604E-01 -8.9400E-02 1.2940E-01 8.9733E-01 -8.9852E-02 1.2981E-01
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6.8923E-02 8.3322E-01 -8.1757E-01
21 1.3676E-01 -8.1894E-01 8.4126E-01 1.3063E-01 -8.1915E-01 8.4129E-01
1.2273E-01 -8.1946E-01 8.4177E-01 1.2148E-01 -8.1962E-01 8.4171E-01
1.3015E-01 -8.2007E-01 8.4052E-01 1.3703E-01 -8.1813E-01 8.4270E-01
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22 8.8895E-01 -6.8432E-02 1.0816E-01 8.9328E-01 -6.9610E-02 1.0905E-01
8.9710E-01 -7.0734E-02 1.1046E-01 8.9763E-01 -7.1236E-02 1.1052E-01
8.9407E-01 -7.3307E-02 1.0910E-01 8.8823E-01 -6.8125E-02 1.1230E-01
8.6930E-01 -6.6222E-02 1.0986E-01 1.0000E+00 -8.1666E-02 1.2783E-01
8.9918E-01 -7.1534E-02 1.1582E-01
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-8.3830E-02 8.3680E-01 -8.1998E-01 -8.2677E-02 8.3706E-01 -8.1995E-01 -
9.0694E-02 8.3780E-01 -8.1873E-01 -9.7069E-02 8.3483E-01 -8.2074E-01 -
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1.2531E-01 -8.2089E-01 8.4338E-01 1.2422E-01 -8.2117E-01 8.4336E-01
1.3184E-01 -8.2202E-01 8.4198E-01 1.3775E-01 -8.1880E-01 8.4431E-01
1.5316E-01 -8.1741E-01 8.4287E-01 1.2783E-01 -9.7781E-01 1.0000E+00
1.1612E-01 -8.2072E-01 8.4577E-01
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8.9723E-01 -7.3075E-02 1.1285E-01 8.9769E-01 -7.3538E-02 1.1291E-01
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8.7138E-01 -6.8923E-02 1.1232E-01 8.9918E-01 -7.4280E-02 1.1612E-01
1.0000E+00 -8.5347E-02 1.3342E-01
26 -9.6805E-02 8.3538E-01 -8.1880E-01 -9.0946E-02 8.3575E-01 -8.1887E-01
-8.3519E-02 8.3624E-01 -8.1944E-01 -8.2344E-02 8.3647E-01 -8.1939E-01 -
9.0477E-02 8.3708E-01 -8.1811E-01 -9.7020E-02 8.3448E-01 -8.2032E-01 -
1.1413E-01 8.3322E-01 -8.1923E-01 -7.1534E-02 8.3658E-01 -8.2072E-01 -
8.5347E-02 1.0000E+00 -9.7748E-01
27 1.3795E-01 -8.2006E-01 8.4265E-01 1.3297E-01 -8.2059E-01 8.4291E-01
1.2648E-01 -8.2125E-01 8.4378E-01 1.2546E-01 -8.2156E-01 8.4375E-01
1.3259E-01 -8.2248E-01 8.4219E-01 1.3816E-01 -8.1911E-01 8.4498E-01
1.5253E-01 -8.1757E-01 8.4337E-01 1.1582E-01 -8.2179E-01 8.4577E-01
1.3342E-01 -9.7748E-01 1.0000E+00

G-FILE for the vectors

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12  1368191  1 13  8960368  1 14  -971051  1 15  1364264  1 16  8947977 D  1
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8187273 15 24 8419834 15 25 1115670 15 26 -8181124 15 27 8421913 D 16 17 -
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1158203 23 24 -9778097 23 25 -742802 23 26 8365793 23 27 -8217937 D 24 25
1161244 24 26 -8207207 24 27 8457699 25 26 -853466 25 27 1334198 D 26 27 -
9774844

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	15813.388	-5531874.886	3164010.456
nola	15813.395	-5531874.925	3164010.489
lwes	15813.386	-5531874.885	3164010.465
dstr	15813.393	-5531874.885	3164010.466
covg	15813.400	-5531874.917	3164010.479
gris	15813.390	-5531874.895	3164010.468
bvhs	15813.390	-5531874.891	3164010.462
houm	15813.389	-5531874.898	3164010.473
lmcn	15813.387	-5531874.890	3164010.465

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	-0.003	0.017	-0.017	-0.003	-0.006	-0.023
nola	0.004	-0.022	0.016	0.004	0.003	0.027
lwes	-0.005	0.017	-0.008	-0.005	0.002	-0.019
dstr	0.002	0.018	-0.007	0.002	0.003	-0.019

covg	0.009	-0.014	0.006	0.009	-
0.001	0.015				
gris	-0.001	0.008	-0.004	-0.001	
0.000	-0.009				
bvhs	-0.002	0.012	-0.010	-0.002	-
0.003	-0.016				
houm	-0.002	0.005	0.000	-0.002	
0.002	-0.004				
lmcn	-0.004	0.013	-0.008	-0.004	-
0.001	-0.015				

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 524537.572
Easting (X) [feet] 3755022.186
Convergence [degrees] 0.74858193
Point Scale 0.99992642
Combined Factor 0.99993002

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 2.945 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.487
scatter (mean square distance from rover) is 4774.832
average edop for rover is 0.670
average ndop for rover is 0.690
average hdop for rover is 0.962
average vdop for rover is 1.720
average gdop for rover is 2.250

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:19 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA54.O00 OP1335489446100

FILE: QCFVA54.O00 OP1335489446100

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068u.12o TIME: 01:18:49 UTC

SOFTWARE: rsgps 1.37 RS1.prl 1.73 START: 2012/03/08 20:10:03
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 20:30:15
NAV FILE: brdc0680.12n OBS USED: 1296 / 1737 : 75%
ANT NAME: LEIAT502 NONE QUALITY IND. 7.05/ 10.31
ARP HEIGHT: 1.605 NORMALIZED RMS: 0.360

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18538)

X:	21391.044(m)	0.006(m)	21390.312(m)	0.006(m)
Y:	-5535697.620(m)	0.024(m)	-5535696.126(m)	0.024(m)
Z:	3157328.223(m)	0.016(m)	3157328.014(m)	0.016(m)

LAT:	29 51 51.59522	0.004(m)	29 51 51.61354	0.004(m)
E LON:	270 13 17.04454	0.006(m)	270 13 17.01748	0.006(m)
W LON:	89 46 42.95546	0.006(m)	89 46 42.98252	0.006(m)
EL HGT:	-25.081(m)	0.029(m)	-26.483(m)	0.029(m)
ORTHO HGT:	0.618(m)	0.031(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3306994.789	152247.503
Easting (X) [meters]	231593.394	1150198.844
Convergence [degrees]	-1.38442627	0.77738703
Point Scale	1.00048895	0.99992857
Combined Factor	1.00049290	0.99993251

US NATIONAL GRID DESIGNATOR: 16RBU3159306994(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	15842.5

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 33892.2
DJ9603 LWES LAKEWOOD ELMENTRY CORS ARP N295401.295 W0902057.833 55283.2
DH3836 MSSC STENNIS SPACE CTR CORS ARP N302230.794 W0893649.903 58817.0
DH7121 GRIS GRAND ISLE CORS ARP N291555.883 W0895726.262 68596.1
DG6568 COVG COVINGTON CORS ARP N302833.269 W0900543.923 74351.8
DG5315 HOUM HOUMA CORS ARP N293532.109 W0904324.988 96272.1
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 108990.9
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 118390.8

NEAREST NGS PUBLISHED CONTROL POINT
AT0804 REGGIO 2 N295040.718 W0894532.431 2894.9

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.142	-5534934.105	3158737.877
nola	-11604.035	-5531876.846	3164070.921
lwes	-33746.218	-5533652.958	3160795.450
mssc	37114.971	-5507204.494	3206321.880
gris	4149.691	-5568493.940	3099600.307
covg	-9174.167	-5501675.358	3215950.511
houm	-70100.644	-5550262.336	3131144.918
lmcn	-64275.987	-5568696.892	3098580.623
mspk	82001.469	-5483970.028	3244889.881
qcfv	21390.312	-5535696.126	3157328.014

Covariance matrix of the stations:
1 4.7080E-07 -3.6750E-08 -7.2510E-08 -4.5130E-08 2.8540E-09 1.0270E-08
-4.7310E-08 -1.1860E-08 1.9870E-08 -4.0610E-08 3.5170E-08 -7.5600E-09 -
4.3450E-08 1.3700E-08 -3.1840E-09 -4.4860E-08 8.2500E-09 1.1650E-08 -
5.1090E-08 -3.8530E-08 3.4810E-08 -5.0440E-08 -3.5520E-08 2.9430E-08 -
3.6790E-08 6.2730E-08 -2.2820E-08 2.8650E-08 2.1850E-07 -1.4370E-07
2 -3.6750E-08 2.1850E-05 -1.3700E-05 3.2500E-09 -2.7290E-06 1.7210E-06
-1.1320E-08 -2.8410E-06 1.7930E-06 3.5190E-08 -2.4880E-06 1.5900E-06
1.1620E-08 -2.6380E-06 1.6130E-06 7.6620E-09 -2.6940E-06 1.7350E-06 -
3.7570E-08 -3.0430E-06 1.9050E-06 -3.4740E-08 -3.0180E-06 1.8630E-06
6.2610E-08 -2.2850E-06 1.4800E-06 2.5490E-08 1.0100E-06 -6.4130E-07
3 -7.2510E-08 -1.3700E-05 9.0390E-06 1.0200E-08 1.7220E-06 -1.1220E-06
2.0800E-08 1.7980E-06 -1.1720E-06 -1.2740E-08 1.5710E-06 -1.0430E-06
3.2280E-09 1.6310E-06 -1.0280E-06 7.6790E-09 1.7180E-06 -1.1470E-06
3.9380E-08 1.9250E-06 -1.2400E-06 3.6740E-08 1.8930E-06 -1.2010E-06 -
3.2740E-08 1.4420E-06 -9.7540E-07 -2.4200E-08 -8.0630E-07 5.3540E-07
4 -4.5130E-08 3.2500E-09 1.0200E-08 4.7470E-07 9.1250E-09 -1.0290E-07
-4.5550E-08 -8.7860E-09 1.8040E-08 -4.5250E-08 1.3250E-08 2.5380E-09 -
4.5040E-08 3.0930E-10 1.3450E-08 -4.5530E-08 5.7730E-10 1.0720E-08 -
4.5940E-08 -2.2060E-08 2.7270E-08 -4.5780E-08 -2.1190E-08 2.7300E-08 -
4.5420E-08 2.5510E-08 -6.5890E-09 8.1750E-09 -8.9130E-08 5.8210E-08
5 2.8540E-09 -2.7290E-06 1.7220E-06 9.1250E-09 2.2410E-05 -1.4080E-05
-8.1330E-09 -2.8810E-06 1.8220E-06 1.1840E-08 -2.6310E-06 1.6680E-06

7.8010E-10 -2.7500E-06 1.7210E-06 8.4070E-10 -2.7770E-06 1.7660E-06 -
2.0390E-08 -3.0270E-06 1.9100E-06 -1.9610E-08 -3.0140E-06 1.8920E-06
2.2740E-08 -2.4910E-06 1.5830E-06 -1.6180E-08 -4.6930E-07 3.1250E-07
   6 1.0270E-08 1.7210E-06 -1.1220E-06 -1.0290E-07 -1.4080E-05 9.2990E-06
1.7530E-08 1.8210E-06 -1.1880E-06 4.8560E-09 1.6750E-06 -1.0980E-06
1.0930E-08 1.7100E-06 -1.1070E-06 1.2310E-08 1.7750E-06 -1.1660E-06
2.5090E-08 1.9050E-06 -1.2380E-06 2.4040E-08 1.8810E-06 -1.2180E-06 -
2.1340E-09 1.5960E-06 -1.0510E-06 1.1280E-08 3.2480E-07 -1.9870E-07
   7 -4.7310E-08 -1.1320E-08 2.0800E-08 -4.5550E-08 -8.1330E-09 1.7530E-08
4.8380E-07 8.8640E-08 -1.5520E-07 -5.1180E-08 -1.5530E-08 1.5720E-08 -
4.7000E-08 -1.7140E-08 3.4970E-08 -4.6310E-08 -9.8080E-09 9.6450E-09 -
3.9180E-08 -9.1130E-10 1.7490E-08 -3.9620E-08 -2.7070E-09 2.4470E-08 -
5.6530E-08 -2.3200E-08 1.4580E-08 -6.9360E-09 -5.0260E-07 3.2670E-07
   8 -1.1860E-08 -2.8410E-06 1.7980E-06 -8.7860E-09 -2.8810E-06 1.8210E-06
8.8640E-08 2.3110E-05 -1.4530E-05 -1.7480E-08 -2.7980E-06 1.7550E-06 -
1.3030E-08 -2.8740E-06 1.8410E-06 -8.4430E-09 -2.8710E-06 1.7960E-06 -
2.2060E-10 -3.0000E-06 1.9070E-06 -1.8250E-09 -2.9970E-06 1.9160E-06 -
2.6770E-08 -2.7360E-06 1.7010E-06 -8.0990E-08 -2.1170E-06 1.3820E-06
   9 1.9870E-08 1.7930E-06 -1.1720E-06 1.8040E-08 1.8220E-06 -1.1880E-06
-1.5520E-07 -1.4530E-05 9.5910E-06 2.3830E-08 1.7830E-06 -1.1540E-06
1.9940E-08 1.7900E-06 -1.1840E-06 1.8430E-08 1.8360E-06 -1.1850E-06
1.2310E-08 1.8870E-06 -1.2370E-06 1.2770E-08 1.8700E-06 -1.2340E-06
2.9800E-08 1.7540E-06 -1.1260E-06 5.3050E-08 1.3820E-06 -8.8540E-07
  10 -4.0610E-08 3.5190E-08 -1.2740E-08 -4.5250E-08 1.1840E-08 4.8560E-09
-5.1180E-08 -1.7480E-08 2.3830E-08 4.7550E-07 -9.2350E-08 -2.6540E-08 -
4.1110E-08 3.8120E-08 -3.3590E-08 -4.4040E-08 2.3970E-08 1.3360E-08 -
6.1380E-08 -6.9920E-08 4.9830E-08 -5.9910E-08 -6.3500E-08 3.4560E-08 -
2.0920E-08 1.3440E-07 -5.3560E-08 4.1670E-08 8.3700E-07 -5.4290E-07
  11 3.5170E-08 -2.4880E-06 1.5710E-06 1.3250E-08 -2.6310E-06 1.6750E-06
-1.5530E-08 -2.7980E-06 1.7830E-06 -9.2350E-08 2.1190E-05 -1.3350E-05
3.0490E-08 -2.4890E-06 1.4770E-06 2.1700E-08 -2.5650E-06 1.7130E-06 -
6.6370E-08 -3.1000E-06 1.9370E-06 -6.0720E-08 -3.0660E-06 1.8600E-06
1.3380E-07 -1.9450E-06 1.3360E-06 1.3040E-07 3.2790E-06 -2.1070E-06
  12 -7.5600E-09 1.5900E-06 -1.0430E-06 2.5380E-09 1.6680E-06 -1.0980E-06
1.5720E-08 1.7550E-06 -1.1540E-06 -2.6540E-08 -1.3350E-05 8.8700E-06 -
5.7750E-09 1.5720E-06 -9.9030E-07 -9.8250E-10 1.6550E-06 -1.1250E-06
3.8900E-08 1.9010E-06 -1.2310E-06 3.5940E-08 1.8690E-06 -1.1870E-06 -
5.1880E-08 1.3420E-06 -9.3180E-07 -5.2830E-08 -1.2210E-06 7.9610E-07
  13 -4.3450E-08 1.1620E-08 3.2280E-09 -4.5040E-08 7.8010E-10 1.0930E-08
-4.7000E-08 -1.3030E-08 1.9940E-08 -4.1110E-08 3.0490E-08 -5.7750E-09
4.7040E-07 -1.8450E-08 -8.3670E-08 -4.4940E-08 4.8750E-09 1.2340E-08 -
5.0340E-08 -3.7690E-08 3.3980E-08 -4.9680E-08 -3.4370E-08 2.8960E-08 -
3.7810E-08 5.5770E-08 -2.0050E-08 1.8370E-08 1.8250E-07 -1.1910E-07
  14 1.3700E-08 -2.6380E-06 1.6310E-06 3.0930E-10 -2.7500E-06 1.7100E-06
-1.7140E-08 -2.8740E-06 1.7900E-06 3.8120E-08 -2.4890E-06 1.5720E-06 -
1.8450E-08 2.2000E-05 -1.3650E-05 4.5670E-09 -2.7210E-06 1.7360E-06 -
4.7910E-08 -3.0910E-06 1.9070E-06 -4.3830E-08 -3.0560E-06 1.8540E-06
7.0870E-08 -2.2670E-06 1.4560E-06 4.7360E-08 1.2250E-06 -8.1570E-07
  15 -3.1840E-09 1.6130E-06 -1.0280E-06 1.3450E-08 1.7210E-06 -1.1070E-06
3.4970E-08 1.8410E-06 -1.1840E-06 -3.3590E-08 1.4770E-06 -9.9030E-07 -
8.3670E-08 -1.3650E-05 8.9630E-06 8.7650E-09 1.7050E-06 -1.1570E-06
7.1990E-08 2.0390E-06 -1.2830E-06 6.6510E-08 1.9920E-06 -1.2120E-06 -
7.5370E-08 1.2660E-06 -8.9030E-07 -8.8040E-08 -2.4160E-06 1.5980E-06
  16 -4.4860E-08 7.6620E-09 7.6790E-09 -4.5530E-08 8.4070E-10 1.2310E-08

-4.6310E-08 -8.4430E-09 1.8430E-08 -4.4040E-08 2.1700E-08 -9.8250E-10 -
4.4940E-08 4.5670E-09 8.7650E-09 4.7510E-07 -1.3860E-08 -9.1860E-08 -
4.7760E-08 -2.6210E-08 2.9630E-08 -4.7530E-08 -2.5310E-08 2.8340E-08 -
4.2950E-08 3.9080E-08 -1.2230E-08 1.1690E-08 1.4980E-08 -8.7120E-09
  17   8.2500E-09 -2.6940E-06 1.7180E-06 5.7730E-10 -2.7770E-06 1.7750E-06
-9.8080E-09 -2.8710E-06 1.8360E-06 2.3970E-08 -2.5650E-06 1.6550E-06
4.8750E-09 -2.7210E-06 1.7050E-06 -1.3860E-08 2.2210E-05 -1.4100E-05 -
2.9460E-08 -3.0500E-06 1.9390E-06 -2.8440E-08 -3.0390E-06 1.9140E-06
4.3650E-08 -2.3880E-06 1.5550E-06 1.2780E-08 2.9540E-07 -1.6260E-07
  18   1.1650E-08 1.7350E-06 -1.1470E-06 1.0720E-08 1.7660E-06 -1.1660E-06
9.6450E-09 1.7960E-06 -1.1850E-06 1.3360E-08 1.7130E-06 -1.1250E-06
1.2340E-08 1.7360E-06 -1.1570E-06 -9.1860E-08 -1.4100E-05 9.4220E-06
8.6230E-09 1.8470E-06 -1.2220E-06 9.1790E-09 1.8330E-06 -1.2180E-06
1.6490E-08 1.6720E-06 -1.0920E-06 3.6990E-08 1.0880E-06 -7.0750E-07
  19 -5.1090E-08 -3.7570E-08 3.9380E-08 -4.5940E-08 -2.0390E-08 2.5090E-08
-3.9180E-08 -2.2060E-10 1.2310E-08 -6.1380E-08 -6.6370E-08 3.8900E-08 -
5.0340E-08 -4.7910E-08 7.1990E-08 -4.7760E-08 -2.9460E-08 8.6230E-09
5.1160E-07 2.8210E-07 -2.6770E-07 -2.9140E-08 2.7820E-08 1.9960E-08 -
7.5590E-08 -1.0830E-07 5.1520E-08 -3.2860E-08 -1.2120E-06 7.8720E-07
  20 -3.8530E-08 -3.0430E-06 1.9250E-06 -2.2060E-08 -3.0270E-06 1.9050E-06
-9.1130E-10 -3.0000E-06 1.8870E-06 -6.9920E-08 -3.1000E-06 1.9010E-06 -
3.7690E-08 -3.0910E-06 2.0390E-06 -2.6210E-08 -3.0500E-06 1.8470E-06
2.8210E-07 2.4570E-05 -1.5360E-05 2.8490E-08 -2.9700E-06 1.9500E-06 -
1.1460E-07 -3.1740E-06 1.9020E-06 -1.9620E-07 -5.0370E-06 3.2670E-06
  21   3.4810E-08 1.9050E-06 -1.2400E-06 2.7270E-08 1.9100E-06 -1.2380E-06
1.7490E-08 1.9070E-06 -1.2370E-06 4.9830E-08 1.9370E-06 -1.2310E-06
3.3980E-08 1.9070E-06 -1.2830E-06 2.9630E-08 1.9390E-06 -1.2220E-06 -
2.6770E-07 -1.5360E-05 1.0050E-05 3.3100E-09 1.8840E-06 -1.2620E-06
7.0940E-08 1.9670E-06 -1.2270E-06 1.0590E-07 2.6540E-06 -1.7040E-06
  22 -5.0440E-08 -3.4740E-08 3.6740E-08 -4.5780E-08 -1.9610E-08 2.4040E-08
-3.9620E-08 -1.8250E-09 1.2770E-08 -5.9910E-08 -6.0720E-08 3.5940E-08 -
4.9680E-08 -4.3830E-08 6.6510E-08 -4.7530E-08 -2.8440E-08 9.1790E-09 -
2.9140E-08 2.8490E-08 3.3100E-09 5.0610E-07 2.5860E-07 -2.3540E-07 -
7.2930E-08 -9.8250E-08 4.6860E-08 -2.9350E-08 -1.1210E-06 7.2720E-07
  23 -3.5520E-08 -3.0180E-06 1.8930E-06 -2.1190E-08 -3.0140E-06 1.8810E-06
-2.7070E-09 -2.9970E-06 1.8700E-06 -6.3500E-08 -3.0660E-06 1.8690E-06 -
3.4370E-08 -3.0560E-06 1.9920E-06 -2.5310E-08 -3.0390E-06 1.8330E-06
2.7820E-08 -2.9700E-06 1.8840E-06 2.5860E-07 2.4390E-05 -1.5090E-05 -
1.0310E-07 -3.1230E-06 1.8640E-06 -1.8180E-07 -4.6670E-06 3.0110E-06
  24   2.9430E-08 1.8630E-06 -1.2010E-06 2.7300E-08 1.8920E-06 -1.2180E-06
2.4470E-08 1.9160E-06 -1.2340E-06 3.4560E-08 1.8600E-06 -1.1870E-06
2.8960E-08 1.8540E-06 -1.2120E-06 2.8340E-08 1.9140E-06 -1.2180E-06
1.9960E-08 1.9500E-06 -1.2620E-06 -2.3540E-07 -1.5090E-05 9.8040E-06
4.1830E-08 1.8380E-06 -1.1620E-06 6.6620E-08 1.5720E-06 -9.9190E-07
  25 -3.6790E-08 6.2610E-08 -3.2740E-08 -4.5420E-08 2.2740E-08 -2.1340E-09
-5.6530E-08 -2.6770E-08 2.9800E-08 -2.0920E-08 1.3380E-07 -5.1880E-08 -
3.7810E-08 7.0870E-08 -7.5370E-08 -4.2950E-08 4.3650E-08 1.6490E-08 -
7.5590E-08 -1.1460E-07 7.0940E-08 -7.2930E-08 -1.0310E-07 4.1830E-08
5.0000E-07 -8.8800E-08 3.0270E-09 7.1670E-08 1.6720E-06 -1.0850E-06
  26   6.2730E-08 -2.2850E-06 1.4420E-06 2.5510E-08 -2.4910E-06 1.5960E-06
-2.3200E-08 -2.7360E-06 1.7540E-06 1.3440E-07 -1.9450E-06 1.3420E-06
5.5770E-08 -2.2670E-06 1.2660E-06 3.9080E-08 -2.3880E-06 1.6720E-06 -
1.0830E-07 -3.1740E-06 1.9670E-06 -9.8250E-08 -3.1230E-06 1.8380E-06 -
8.8800E-08 2.0520E-05 -1.2880E-05 2.5920E-07 6.5920E-06 -4.2460E-06

27 -2.2820E-08 1.4800E-06 -9.7540E-07 -6.5890E-09 1.5830E-06 -1.0510E-06
1.4580E-08 1.7010E-06 -1.1260E-06 -5.3560E-08 1.3360E-06 -9.3180E-07 -
2.0050E-08 1.4560E-06 -8.9030E-07 -1.2230E-08 1.5550E-06 -1.0920E-06
5.1520E-08 1.9020E-06 -1.2270E-06 4.6860E-08 1.8640E-06 -1.1620E-06
3.0270E-09 -1.2880E-05 8.5670E-06 -1.0880E-07 -2.5780E-06 1.6700E-06
28 2.8650E-08 2.5490E-08 -2.4200E-08 8.1750E-09 -1.6180E-08 1.1280E-08
-6.9360E-09 -8.0990E-08 5.3050E-08 4.1670E-08 1.3040E-07 -5.2830E-08
1.8370E-08 4.7360E-08 -8.8040E-08 1.1690E-08 1.2780E-08 3.6990E-08 -
3.2860E-08 -1.9620E-07 1.0590E-07 -2.9350E-08 -1.8180E-07 6.6620E-08
7.1670E-08 2.5920E-07 -1.0880E-07 4.7370E-06 2.0930E-06 -2.3280E-06
29 2.1850E-07 1.0100E-06 -8.0630E-07 -8.9130E-08 -4.6930E-07 3.2480E-07
-5.0260E-07 -2.1170E-06 1.3820E-06 8.3700E-07 3.2790E-06 -1.2210E-06
1.8250E-07 1.2250E-06 -2.4160E-06 1.4980E-08 2.9540E-07 1.0880E-06 -
1.2120E-06 -5.0370E-06 2.6540E-06 -1.1210E-06 -4.6670E-06 1.5720E-06
1.6720E-06 6.5920E-06 -2.5780E-06 2.0930E-06 3.0330E-04 -1.9200E-04
30 -1.4370E-07 -6.4130E-07 5.3540E-07 5.8210E-08 3.1250E-07 -1.9870E-07
3.2670E-07 1.3820E-06 -8.8540E-07 -5.4290E-07 -2.1070E-06 7.9610E-07 -
1.1910E-07 -8.1570E-07 1.5980E-06 -8.7120E-09 -1.6260E-07 -7.0750E-07
7.8720E-07 3.2670E-06 -1.7040E-06 7.2720E-07 3.0110E-06 -9.9190E-07 -
1.0850E-06 -4.2460E-06 1.6700E-06 -2.3280E-06 -1.9200E-04 1.2600E-04

Covariance Matrix for the xyz OPUS Rover Position (meters^2).
0.0000047370 0.0000020930 -0.0000023280
0.0000020930 0.0003033000 -0.0001920000
-0.0000023280 -0.0001920000 0.0001260000

Covariance Matrix for the enu OPUS Position (meters^2).
0.0000047576 -0.0000010582 -0.0000043411
-0.0000010582 0.0000042661 0.0000214463
-0.0000043411 0.0000214463 0.0004250133

Horizontal network accuracy = 0.00523 meters.
Vertical network accuracy = 0.04042 meters.

		Vectors		
To	From	X	Y	Z
eng5	qcfv	-15761.169	762.021	1409.863
nola	qcfv	-32994.346	3819.279	6742.907
lwes	qcfv	-55136.529	2043.168	3467.435
mssc	qcfv	15724.660	28491.632	48993.866
gris	qcfv	-17240.620	-32797.814	-57727.707
covg	qcfv	-30564.479	34020.768	58622.497
houm	qcfv	-91490.956	-14566.211	-26183.096
lmcn	qcfv	-85666.299	-33000.766	-58747.391
mspk	qcfv	60611.158	51726.097	87561.867

Covariance matrix of the 9 vectors
1 5.1505E-06 1.8123E-06 -2.2326E-06 4.6550E-06 1.8935E-06 -2.1853E-06
4.6680E-06 1.9436E-06 -2.2175E-06 4.6261E-06 1.7793E-06 -2.1390E-06
4.6465E-06 1.8408E-06 -2.0994E-06 4.6518E-06 1.8700E-06 -2.2096E-06
4.6901E-06 2.0322E-06 -2.2554E-06 4.6873E-06 2.0208E-06 -2.2215E-06
4.5999E-06 1.6780E-06 -2.0983E-06
2 1.8123E-06 3.2313E-04 -2.0425E-04 2.1599E-06 3.0003E-04 -1.8996E-04

2.5588E-06 3.0157E-04 -1.9095E-04 1.2657E-06 2.9652E-04 -1.8855E-04
1.8966E-06 2.9843E-04 -1.8733E-04 2.0602E-06 2.9930E-04 -1.9071E-04
3.2419E-06 3.0428E-04 -1.9211E-04 3.1538E-06 3.0394E-04 -1.9107E-04
4.5812E-07 2.9341E-04 -1.8730E-04
3 -2.2326E-06 -2.0425E-04 1.3397E-04 -2.3518E-06 -1.8978E-04 1.2454E-04
-2.6097E-06 -1.9078E-04 1.2518E-04 -1.7736E-06 -1.8752E-04 1.2363E-04 -
2.1815E-06 -1.8875E-04 1.2284E-04 -2.2874E-06 -1.8931E-04 1.2503E-04 -
3.0516E-06 -1.9254E-04 1.2593E-04 -2.9943E-06 -1.9231E-04 1.2526E-04 -
1.2515E-06 -1.8551E-04 1.2282E-04
4 4.6550E-06 2.1599E-06 -2.3518E-06 5.1953E-06 2.2074E-06 -2.5004E-06
4.6902E-06 2.2543E-06 -2.4212E-06 4.6419E-06 2.0650E-06 -2.3308E-06
4.6654E-06 2.1351E-06 -2.2847E-06 4.6716E-06 2.1699E-06 -2.4125E-06
4.7157E-06 2.3563E-06 -2.4648E-06 4.7124E-06 2.3427E-06 -2.4255E-06
4.6117E-06 1.9484E-06 -2.2840E-06
5 1.8935E-06 3.0003E-04 -1.8978E-04 2.2074E-06 3.2665E-04 -2.0672E-04
2.6036E-06 3.0301E-04 -1.9187E-04 1.2840E-06 2.9786E-04 -1.8942E-04
1.9275E-06 2.9979E-04 -1.8818E-04 2.0950E-06 3.0070E-04 -1.9163E-04
3.3008E-06 3.0578E-04 -1.9306E-04 3.2106E-06 3.0542E-04 -1.9199E-04
4.5992E-07 2.9469E-04 -1.8815E-04
6 -2.1853E-06 -1.8996E-04 1.2454E-04 -2.5004E-06 -2.0672E-04 1.3570E-04
-2.6485E-06 -1.9189E-04 1.2590E-04 -1.7915E-06 -1.8854E-04 1.2430E-04 -
2.2093E-06 -1.8980E-04 1.2349E-04 -2.3183E-06 -1.9039E-04 1.2574E-04 -
3.1014E-06 -1.9369E-04 1.2666E-04 -3.0424E-06 -1.9345E-04 1.2597E-04 -
1.2564E-06 -1.8648E-04 1.2348E-04
7 4.6680E-06 2.5588E-06 -2.6097E-06 4.6902E-06 2.6036E-06 -2.6485E-06
5.2347E-06 2.7652E-06 -2.8629E-06 4.6511E-06 2.4497E-06 -2.5861E-06
4.6786E-06 2.5311E-06 -2.5317E-06 4.6859E-06 2.5730E-06 -2.6820E-06
4.7376E-06 2.7909E-06 -2.7431E-06 4.7337E-06 2.7747E-06 -2.6968E-06
4.6157E-06 2.3132E-06 -2.5313E-06
8 1.9436E-06 3.0157E-04 -1.9078E-04 2.2543E-06 3.0301E-04 -1.9189E-04
2.7652E-06 3.3064E-04 -2.0929E-04 1.3195E-06 2.9934E-04 -1.9041E-04
1.9785E-06 3.0132E-04 -1.8913E-04 2.1506E-06 3.0225E-04 -1.9267E-04
3.3858E-06 3.0745E-04 -1.9413E-04 3.2932E-06 3.0709E-04 -1.9304E-04
4.7522E-07 2.9609E-04 -1.8910E-04
9 -2.2175E-06 -1.9095E-04 1.2518E-04 -2.4212E-06 -1.9187E-04 1.2590E-04
-2.8629E-06 -2.0929E-04 1.3736E-04 -1.8143E-06 -1.8949E-04 1.2494E-04 -
2.2420E-06 -1.9078E-04 1.2410E-04 -2.3539E-06 -1.9138E-04 1.2641E-04 -
3.1559E-06 -1.9476E-04 1.2735E-04 -3.0955E-06 -1.9452E-04 1.2664E-04 -
1.2663E-06 -1.8738E-04 1.2409E-04
10 4.6261E-06 1.2657E-06 -1.7736E-06 4.6419E-06 1.2840E-06 -1.7915E-06
4.6511E-06 1.3195E-06 -1.8143E-06 5.1292E-06 1.0333E-06 -1.7588E-06
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4.6091E-06 1.7071E-06 -2.1201E-06
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4.6859E-06 2.1506E-06 -2.3539E-06 4.6396E-06 1.9693E-06 -2.2674E-06
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4.9970E-07 2.9825E-04 -1.9057E-04
  24 -2.2215E-06 -1.9107E-04 1.2526E-04 -2.4255E-06 -1.9199E-04 1.2597E-04
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1.2678E-06 -1.8749E-04 1.2416E-04
  25   4.5999E-06 4.5812E-07 -1.2515E-06 4.6117E-06 4.5992E-07 -1.2564E-06
4.6157E-06 4.7522E-07 -1.2662E-06 4.6027E-06 4.2440E-07 -1.2421E-06
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4.6226E-06 5.0260E-07 -1.2780E-06 4.6217E-06 4.9970E-07 -1.2678E-06
5.0937E-06 7.3000E-08 -1.1312E-06
  26   1.6780E-06 2.9341E-04 -1.8551E-04 1.9484E-06 2.9469E-04 -1.8648E-04
2.3132E-06 2.9609E-04 -1.8738E-04 1.1312E-06 2.9148E-04 -1.8519E-04
1.7071E-06 2.9322E-04 -1.8407E-04 1.8579E-06 2.9402E-04 -1.8717E-04
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7.3000E-08 3.1064E-04 -1.9806E-04
  27 -2.0983E-06 -1.8730E-04 1.2282E-04 -2.2840E-06 -1.8815E-04 1.2348E-04
-2.5313E-06 -1.8910E-04 1.2409E-04 -1.7299E-06 -1.8598E-04 1.2260E-04 -
2.1201E-06 -1.8715E-04 1.2184E-04 -2.2227E-06 -1.8770E-04 1.2395E-04 -
2.9549E-06 -1.9079E-04 1.2481E-04 -2.8995E-06 -1.9057E-04 1.2416E-04 -
1.1312E-06 -1.9806E-04 1.3123E-04

Correlation matrix of the 9 vectors
   1   1.0000E+00 4.4423E-02 -8.4994E-02 8.9989E-01 4.6164E-02 -8.2662E-02
8.9900E-01 4.7099E-02 -8.3369E-02 9.0005E-01 4.3969E-02 -8.1642E-02
9.0039E-01 4.5143E-02 -8.0589E-02 8.9984E-01 4.5711E-02 -8.3233E-02
8.9647E-01 4.8709E-02 -8.4154E-02 8.9698E-01 4.8502E-02 -8.3390E-02
8.9807E-01 4.1952E-02 -8.0712E-02
   2   4.4423E-02 1.0000E+00 -9.8170E-01 5.2715E-02 9.2350E-01 -9.0718E-01
6.2216E-02 9.2260E-01 -9.0634E-01 3.1090E-02 9.2513E-01 -9.0856E-01
4.6400E-02 9.2395E-01 -9.0785E-01 5.0314E-02 9.2370E-01 -9.0696E-01
7.8233E-02 9.2081E-01 -9.0497E-01 7.6196E-02 9.2102E-01 -9.0551E-01
1.1292E-02 9.2611E-01 -9.0958E-01
   3 -8.4994E-02 -9.8170E-01 1.0000E+00 -8.9144E-02 -9.0723E-01 9.2369E-01
-9.8547E-02 -9.0646E-01 9.2277E-01 -6.7661E-02 -9.0859E-01 9.2518E-01 -
8.2885E-02 -9.0757E-01 9.2455E-01 -8.6759E-02 -9.0739E-01 9.2341E-01 -
1.1437E-01 -9.0487E-01 9.2130E-01 -1.1235E-01 -9.0505E-01 9.2191E-01 -
4.7910E-02 -9.0935E-01 9.2630E-01
   4   8.9989E-01 5.2715E-02 -8.9144E-02 1.0000E+00 5.3585E-02 -9.4171E-02
8.9937E-01 5.4391E-02 -9.0635E-02 8.9922E-01 5.0809E-02 -8.8578E-02
9.0014E-01 5.2132E-02 -8.7322E-02 8.9976E-01 5.2814E-02 -9.0480E-02
8.9747E-01 5.6234E-02 -9.1571E-02 8.9789E-01 5.5987E-02 -9.0655E-02
8.9648E-01 4.8501E-02 -8.7474E-02
   5   4.6164E-02 9.2350E-01 -9.0723E-01 5.3585E-02 1.0000E+00 -9.8187E-01
6.2965E-02 9.2200E-01 -9.0581E-01 3.1370E-02 9.2428E-01 -9.0785E-01
4.6900E-02 9.2317E-01 -9.0703E-01 5.0889E-02 9.2300E-01 -9.0642E-01
7.9223E-02 9.2033E-01 -9.0453E-01 7.7149E-02 9.2051E-01 -9.0498E-01
1.1275E-02 9.2511E-01 -9.0877E-01
   6 -8.2662E-02 -9.0718E-01 9.2369E-01 -9.4171E-02 -9.8187E-01 1.0000E+00
-9.9372E-02 -9.0590E-01 9.2214E-01 -6.7907E-02 -9.0773E-01 9.2432E-01 -
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1.1549E-01 -9.0447E-01 9.2077E-01 -1.1343E-01 -9.0462E-01 9.2127E-01 -
4.7790E-02 -9.0830E-01 9.2532E-01
   7   8.9900E-01 6.2216E-02 -9.8547E-02 8.9937E-01 6.2965E-02 -9.9372E-02

1.0000E+00 6.6467E-02 -1.0677E-01 8.9761E-01 6.0048E-02 -9.7911E-02
8.9928E-01 6.1569E-02 -9.6397E-02 8.9913E-01 6.2389E-02 -1.0021E-01
8.9824E-01 6.6355E-02 -1.0153E-01 8.9855E-01 6.6060E-02 -1.0042E-01
8.9388E-01 5.7364E-02 -9.6581E-02
   8 4.7099E-02 9.2260E-01 -9.0646E-01 5.4391E-02 9.2200E-01 -9.0590E-01
6.6467E-02 1.0000E+00 -9.8207E-01 3.2041E-02 9.2325E-01 -9.0703E-01
4.7849E-02 9.2224E-01 -9.0608E-01 5.1921E-02 9.2214E-01 -9.0582E-01
8.0771E-02 9.1977E-01 -9.0404E-01 7.8654E-02 9.1992E-01 -9.0439E-01
1.1580E-02 9.2388E-01 -9.0783E-01
   9 -8.3369E-02 -9.0634E-01 9.2277E-01 -9.0635E-02 -9.0581E-01 9.2214E-01
-1.0677E-01 -9.8207E-01 1.0000E+00 -6.8353E-02 -9.0676E-01 9.2336E-01 -
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  13 9.0039E-01 4.6400E-02 -8.2885E-02 9.0014E-01 4.6900E-02 -8.3404E-02
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21 -8.4154E-02 -9.0497E-01 9.2130E-01 -9.1571E-02 -9.0453E-01 9.2077E-01
-1.0153E-01 -9.0404E-01 9.2014E-01 -6.8841E-02 -9.0523E-01 9.2184E-01 -
8.4937E-02 -9.0453E-01 9.2081E-01 -8.9054E-02 -9.0456E-01 9.2072E-01 -
1.2815E-01 -9.8244E-01 1.0000E+00 -1.1613E-01 -9.0306E-01 9.1930E-01 -
4.7949E-02 -9.0537E-01 9.2258E-01
22 8.9698E-01 7.6196E-02 -1.1235E-01 8.9789E-01 7.7149E-02 -1.1343E-01
8.9855E-01 7.8654E-02 -1.1471E-01 8.9453E-01 7.3628E-02 -1.1159E-01
8.9734E-01 7.5480E-02 -1.0974E-01 8.9746E-01 7.6444E-02 -1.1446E-01
8.9865E-01 8.1238E-02 -1.1613E-01 1.0000E+00 8.6452E-02 -1.2421E-01
8.8936E-01 7.0389E-02 -1.0993E-01
23 4.8502E-02 9.2102E-01 -9.0505E-01 5.5987E-02 9.2051E-01 -9.0462E-01
6.6060E-02 9.1992E-01 -9.0408E-01 3.3054E-02 9.2144E-01 -9.0555E-01
4.9298E-02 9.2065E-01 -9.0447E-01 5.3435E-02 9.2057E-01 -9.0462E-01
8.3047E-02 9.1866E-01 -9.0306E-01 8.6452E-02 1.0000E+00 -9.8227E-01
1.2060E-02 9.2178E-01 -9.0617E-01
24 -8.3390E-02 -9.0551E-01 9.2191E-01 -9.0655E-02 -9.0498E-01 9.2127E-01
-1.0042E-01 -9.0439E-01 9.2054E-01 -6.8354E-02 -9.0589E-01 9.2248E-01 -
8.4167E-02 -9.0512E-01 9.2162E-01 -8.8172E-02 -9.0503E-01 9.2113E-01 -
1.1685E-01 -9.0315E-01 9.1930E-01 -1.2421E-01 -9.8227E-01 1.0000E+00 -
4.7855E-02 -9.0624E-01 9.2335E-01
25 8.9807E-01 1.1292E-02 -4.7910E-02 8.9648E-01 1.1275E-02 -4.7790E-02
8.9388E-01 1.1580E-02 -4.7871E-02 9.0049E-01 1.0546E-02 -4.7670E-02
8.9812E-01 1.0961E-02 -4.7490E-02 8.9685E-01 1.1107E-02 -4.7858E-02
8.8848E-01 1.2114E-02 -4.7949E-02 8.8936E-01 1.2060E-02 -4.7855E-02
1.0000E+00 1.8352E-03 -4.3752E-02
26 4.1952E-02 9.2611E-01 -9.0935E-01 4.8501E-02 9.2511E-01 -9.0830E-01
5.7364E-02 9.2388E-01 -9.0713E-01 2.8339E-02 9.2752E-01 -9.1015E-01
4.2594E-02 9.2589E-01 -9.0983E-01 4.6277E-02 9.2549E-01 -9.0784E-01
7.2298E-02 9.2151E-01 -9.0537E-01 7.0389E-02 9.2178E-01 -9.0624E-01
1.8352E-03 1.0000E+00 -9.8096E-01
27 -8.0712E-02 -9.0958E-01 9.2630E-01 -8.7474E-02 -9.0877E-01 9.2532E-01
-9.6581E-02 -9.0783E-01 9.2425E-01 -6.6677E-02 -9.1051E-01 9.2706E-01 -
8.1392E-02 -9.0924E-01 9.2658E-01 -8.5181E-02 -9.0902E-01 9.2495E-01 -
1.1189E-01 -9.0597E-01 9.2258E-01 -1.0993E-01 -9.0617E-01 9.2335E-01 -
4.3752E-02 -9.8096E-01 1.0000E+00

G-FILE for the vectors

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C00100003 -551365291 22 20431678 181 34674354 117
C00100004 157246597 22 284916318 178 489938656 115
C00100005 -172406202 22 -327978142 179 -577277070 114
C00100006 -305644787 22 340207678 180 586224970 116
C00100007 -914909556 23 -145662106 183 -261830955 118
C00100008 -856662986 23 -330007661 183 -587473914 117
C00100009 606111575 22 517260973 176 875618669 114
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D 1 7 8989989 1 8 470986 1 9 -833685 1 10 9000453 1 11 439693
D 1 12 -816419 1 13 9003908 1 14 451430 1 15 -805890 1 16 8998419
D 1 17 457111 1 18 -832329 1 19 8964692 1 20 487094 1 21 -841540
D 1 22 8969798 1 23 485024 1 24 -833900 1 25 8980650 1 26 419516
D 1 27 -807115 2 3 -9816974 2 4 527151 2 5 9234982 2 6 -9071833
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3 8 -9064553 3 9 9227714 3 10 -676614 3 11 -9085935 3 12 9251843 D 3
13 -828849 3 14 -9075672 3 15 9245505 3 16 -867586 3 17 -9073860 D 3
18 9234100 3 19 -1143683 3 20 -9048738 3 21 9213015 3 22 -1123510 D 3
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D 11 27 -9105109 12 13 -823517 12 14 -9082000 12 15 9252593 12 16 -862237 D
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D 19 20 892739 19 21 -1281535 19 22 8986472 19 23 830470 19 24 -1168458
D 19 25 8884796 19 26 722983 19 27 -1118933 20 21 -9824446 20 22 812379
D 20 23 9186636 20 24 -9031493 20 25 121139 20 26 9215085 20 27 -9059720
D 21 22 -1161314 21 23 -9030637 21 24 9193013 21 25 -479491 21 26 -9053735
D 21 27 9225833 22 23 864517 22 24 -1242117 22 25 8893645 22 26 703889
D 22 27 -1099273 23 24 -9822672 23 25 120604 23 26 9217795 23 27 -9061711
D 24 25 -478549 24 26 -9062378 24 27 9233457 25 26 18351 25 27 -437524
D 26 27 -9809582

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	21390.308	-5535696.134	3157328.009
nola	21390.311	-5535696.101	3157327.993
lwes	21390.312	-5535696.074	3157327.985
mssc	21390.314	-5535696.130	3157328.019
gris	21390.312	-5535696.125	3157328.013
covg	21390.317	-5535696.122	3157328.012
houm	21390.317	-5535696.096	3157327.996
lmcn	21390.309	-5535696.123	3157328.014
mspk	21390.324	-5535696.147	3157328.032

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	-0.004	-0.008	-0.005	-0.004	-0.008	0.005
nola	-0.001	0.025	-0.021	-0.001	-0.006	-0.032
lwes	0.000	0.051	-0.029	0.000	-0.000	-0.059
mssc	0.002	-0.004	0.005	0.002	0.002	0.007

gris 0.000 0.001 -0.001 0.000 -
0.000 -0.001
covg 0.005 0.004 -0.002 0.005
0.000 -0.004
houm 0.006 0.029 -0.018 0.006 -
0.001 -0.034
lmcn -0.002 0.003 -0.000 -0.002
0.001 -0.003
mspk 0.013 -0.022 0.017 0.013
0.005 0.027

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 499498.684
Easting (X) [feet] 3773610.706
Convergence [degrees] 0.77738703
Point Scale 0.99992857
Combined Factor 0.99993251

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 0.568 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.492
scatter (mean square distance from rover) is 5923.246
average edop for rover is 0.700
average ndop for rover is 1.070
average hdop for rover is 1.279
average vdop for rover is 1.540
average gdop for rover is 2.250

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

From: opus [opus@NGS.NOAA.GOV]
Sent: Thursday, April 26, 2012 8:22 PM
To: hakimbrough@theatlgrp.com
Subject: OPUS-RS solution : QCFVA55.O00 OP1335489481459

FILE: QCFVA55.O00 OP1335489481459

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: http://www.ngs.noaa.gov/OPUS/about.html#accuracy

USER: hakimbrough@theatlgrp.com DATE: April 27, 2012
RINEX FILE: qcfv068v.12o TIME: 01:21:23 UTC

SOFTWARE: rsgps 1.37 RS2.prl 1.73 START: 2012/03/08 21:00:22
EPHEMERIS: igs16784.eph [precise] STOP: 2012/03/08 21:25:06
NAV FILE: brdc0680.12n OBS USED: 2511 / 2934 : 86%
ANT NAME: LEIAT502 NONE QUALITY IND. 11.29/ 25.16
ARP HEIGHT: 1.624 NORMALIZED RMS: 0.399

REF FRAME: NAD_83(CORS96)(EPOCH:2002.0000) ITRF00 (EPOCH:2012.18548)

X:	22460.716(m)	0.005(m)	22459.984(m)	0.005(m)
Y:	-5534190.446(m)	0.028(m)	-5534188.952(m)	0.028(m)
Z:	3159949.534(m)	0.016(m)	3159949.326(m)	0.016(m)

LAT:	29 53 29.72559	0.003(m)	29 53 29.74396	0.003(m)
E LON:	270 13 57.12873	0.005(m)	270 13 57.10167	0.005(m)
W LON:	89 46 2.87127	0.005(m)	89 46 2.89833	0.005(m)
EL HGT:	-22.432(m)	0.032(m)	-23.834(m)	0.032(m)
ORTHO HGT:	3.362(m)	0.034(m)	[NAVD88 (Computed using GEOID09)]	

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (1702 LA S))
Northing (Y) [meters]	3309991.024	155283.259
Easting (X) [meters]	232742.163	1151233.165
Convergence [degrees]	-1.38001380	0.78295442
Point Scale	1.00048136	0.99992755
Combined Factor	1.00048488	0.99993108

US NATIONAL GRID DESIGNATOR: 16RBU3274209991(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DK3577	ENG5 ENGLISH TURN 5 CORS ARP	N295244.246	W0895630.197	16890.8

DH9599 NOLA LOYOLA UNIVERSITY CORS ARP N295603.732 W0900712.646 34390.3
DH9596 DSTR DESTRAHAN H.S. CORS ARP N295752.395 W0902256.007 59906.7
DE8091 BVHS BOOTHVILLE CORS ARP N292012.489 W0892423.010 70744.1
DF5771 LMCN LUMCON CORS ARP N291517.904 W0903940.653 111714.1
DK3340 MSPK PERKINSTON CORS ARP N304644.796 W0890835.937 115247.7
DL8635 GVMS GALVEZ MIDDLE SCH CORS ARP N301851.796 W0905413.030 119115.2
DF8160 SJB1 SJB GROUP COOP CORS ARP N302345.830 W0910625.854 140666.9
DI1694 MSHT HATTIESBURG CORS ARP N311939.140 W0892010.627 164470.4

NEAREST NGS PUBLISHED CONTROL POINT
AT1270 LUCE N295315.204 W0894324.817 4261.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

eng5	5629.134	-5534934.109	3158737.876
nola	-11604.031	-5531876.865	3164070.930
dstr	-36892.840	-5530079.533	3166960.849
bvhs	57650.148	-5564331.474	3106490.846
lmcn	-64275.989	-5568696.889	3098580.619
mspk	82001.478	-5483970.054	3244889.901
gvms	-86907.678	-5510048.252	3200500.239
sjb1	-106395.202	-5505141.417	3208320.240
msht	63168.382	-5452887.531	3297001.956
qcfv	22459.984	-5534188.952	3159949.326

Covariance matrix of the stations:
1 2.4790E-07 -8.2200E-07 5.1270E-07 -1.6350E-08 9.7840E-08 -6.3880E-08
-1.8340E-08 9.1390E-08 -5.9760E-08 -1.2480E-08 1.2020E-07 -8.3710E-08 -
2.1220E-08 8.1720E-08 -6.3360E-08 -9.9940E-09 1.3210E-07 -7.4200E-08 -
2.2610E-08 8.3920E-08 -5.0870E-08 -2.4440E-08 8.1520E-08 -4.8370E-08 -
1.1280E-08 1.3330E-07 -6.8670E-08 8.0960E-09 9.8130E-08 -6.1030E-08
2 -8.2200E-07 9.2810E-06 -5.4030E-06 1.0340E-07 -1.1520E-06 6.8220E-07
1.0500E-07 -1.1430E-06 6.7660E-07 1.0460E-07 -1.2160E-06 7.2410E-07
1.1150E-07 -1.1720E-06 7.0190E-07 9.1440E-08 -1.1440E-06 6.6630E-07
1.0740E-07 -1.1150E-06 6.5640E-07 1.0890E-07 -1.1080E-06 6.5140E-07
8.9560E-08 -1.1200E-06 6.4440E-07 1.5730E-08 -1.9280E-07 1.2560E-07
3 5.1270E-07 -5.4030E-06 3.3510E-06 -6.4940E-08 6.8300E-07 -4.0590E-07
-6.1550E-08 6.7600E-07 -4.0260E-07 -7.5110E-08 7.0440E-07 -4.0770E-07 -
5.8860E-08 6.7440E-07 -3.9090E-07 -7.4930E-08 6.8700E-07 -4.2050E-07 -
5.4500E-08 6.5720E-07 -3.9770E-07 -5.1930E-08 6.5020E-07 -3.9510E-07 -
7.0750E-08 6.7060E-07 -4.1950E-07 -7.9450E-10 -2.3730E-08 3.2080E-08
4 -1.6350E-08 1.0340E-07 -6.4940E-08 2.3840E-07 -7.7300E-07 4.8900E-07
-1.5110E-08 8.9450E-08 -5.6930E-08 -1.9160E-08 1.2550E-07 -7.7070E-08 -
1.5280E-08 8.4450E-08 -5.4200E-08 -1.7770E-08 1.2040E-07 -7.5540E-08 -
1.3840E-08 7.2700E-08 -4.7010E-08 -1.3540E-08 6.6870E-08 -4.3490E-08 -
1.6230E-08 1.1030E-07 -6.9780E-08 1.1060E-08 2.1760E-08 -1.2990E-08
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9.7600E-08 -1.1340E-06 6.7290E-07 1.0370E-07 -1.2150E-06 7.1940E-07

1.0240E-07 -1.1670E-06 6.9450E-07 9.1080E-08 -1.1310E-06 6.6590E-07
9.6380E-08 -1.0990E-06 6.5130E-07 9.6510E-08 -1.0900E-06 6.4540E-07
8.7290E-08 -1.0980E-06 6.4320E-07 1.7520E-08 -2.8630E-07 1.8020E-07
   6 -6.3880E-08 6.8220E-07 -4.0590E-07 4.8900E-07 -5.3750E-06 3.3460E-06
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2.3200E-07 -7.0610E-07 4.5390E-07 -2.9100E-08 1.3330E-07 -6.7100E-08 -
6.6250E-09 8.8580E-08 -4.0540E-08 -2.9360E-08 1.0330E-07 -7.7400E-08 -
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2.3660E-08 7.6440E-08 -7.1370E-08 1.8970E-08 -1.0520E-07 6.6510E-08
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-7.0610E-07 9.0710E-06 -5.3150E-06 1.0260E-07 -1.2110E-06 7.0920E-07
8.9030E-08 -1.1580E-06 6.8030E-07 9.0900E-08 -1.1100E-06 6.6270E-07
8.0140E-08 -1.0760E-06 6.4130E-07 7.8220E-08 -1.0620E-06 6.3420E-07
8.4290E-08 -1.0650E-06 6.3920E-07 4.7120E-09 -1.9350E-07 1.2400E-07
   9 -5.9760E-08 6.7660E-07 -4.0260E-07 -5.6930E-08 6.7290E-07 -4.0180E-07
4.5390E-07 -5.3150E-06 3.3190E-06 -6.9670E-08 6.9860E-07 -4.0380E-07 -
4.9160E-08 6.6480E-07 -3.8450E-07 -6.9620E-08 6.7430E-07 -4.1810E-07 -
4.3750E-08 6.4140E-07 -3.9180E-07 -4.0480E-08 6.3290E-07 -3.8850E-07 -
6.4410E-08 6.5320E-07 -4.1640E-07 2.4720E-09 2.9980E-08 -3.0140E-09
  10 -1.2480E-08 1.0460E-07 -7.5110E-08 -1.9160E-08 1.0370E-07 -7.1830E-08
-2.9100E-08 1.0260E-07 -6.9670E-08 3.0590E-07 -1.0240E-06 5.7620E-07 -
3.9970E-08 7.8590E-08 -9.1710E-08 1.1820E-08 1.7270E-07 -7.2030E-08 -
4.9890E-08 1.2310E-07 -6.4080E-08 -5.8010E-08 1.3100E-07 -6.4660E-08
2.0950E-09 2.0810E-07 -6.7460E-08 -1.1670E-08 3.6910E-07 -2.2790E-07
  11   1.2020E-07 -1.2160E-06 7.0440E-07 1.2550E-07 -1.2150E-06 7.0170E-07
1.3330E-07 -1.2110E-06 6.9860E-07 -1.0240E-06 9.8780E-06 -5.5480E-06
1.4530E-07 -1.2250E-06 7.3490E-07 9.5390E-08 -1.2350E-06 6.7970E-07
1.4850E-07 -1.2100E-06 6.8440E-07 1.5490E-07 -1.2120E-06 6.8270E-07
1.0050E-07 -1.2410E-06 6.6220E-07 5.9000E-08 -6.0050E-07 3.4970E-07
  12 -8.3710E-08 7.2410E-07 -4.0770E-07 -7.7070E-08 7.1940E-07 -4.0800E-07
-6.7100E-08 7.0920E-07 -4.0380E-07 5.7620E-07 -5.5480E-06 3.3630E-06 -
5.7290E-08 7.1610E-07 -3.7430E-07 -1.0810E-07 6.9570E-07 -4.3240E-07 -
4.6500E-08 6.7100E-07 -3.9870E-07 -3.8680E-08 6.5660E-07 -3.9420E-07 -
9.7320E-08 6.5470E-07 -4.3340E-07 -6.6490E-09 -1.1390E-07 1.0500E-07
  13 -2.1220E-08 1.1150E-07 -5.8860E-08 -1.5280E-08 1.0240E-07 -5.5760E-08
-6.6250E-09 8.9030E-08 -4.9160E-08 -3.9970E-08 1.4530E-07 -5.7290E-08
2.4000E-07 -6.6270E-07 4.4310E-07 -4.2120E-08 9.1480E-08 -8.0590E-08
1.1110E-08 4.5240E-08 -3.6530E-08 1.7710E-08 2.9330E-08 -3.0070E-08 -
3.2270E-08 4.8200E-08 -7.4670E-08 2.6170E-08 -2.2940E-07 1.4660E-07
  14   8.1720E-08 -1.1720E-06 6.7440E-07 8.4450E-08 -1.1670E-06 6.7040E-07
8.8580E-08 -1.1580E-06 6.6480E-07 7.8590E-08 -1.2250E-06 7.1610E-07 -
6.6270E-07 9.4570E-06 -5.3070E-06 6.5800E-08 -1.1800E-06 6.5770E-07
9.6340E-08 -1.1390E-06 6.4550E-07 9.9860E-08 -1.1350E-06 6.4120E-07
6.6870E-08 -1.1680E-06 6.3750E-07 1.1880E-08 -4.4330E-07 2.5260E-07
  15 -6.3360E-08 7.0190E-07 -3.9090E-07 -5.4200E-08 6.9450E-07 -3.9040E-07
-4.0540E-08 6.8030E-07 -3.8450E-07 -9.1710E-08 7.3490E-07 -3.7430E-07
4.4310E-07 -5.3070E-06 3.2410E-06 -9.6730E-08 6.6010E-07 -4.2220E-07 -
1.2370E-08 6.2660E-07 -3.7600E-07 -1.6960E-09 6.0650E-07 -3.6940E-07 -
8.1990E-08 6.0200E-07 -4.2190E-07 2.2600E-08 -2.5220E-07 1.9060E-07
  16 -9.9940E-09 9.1440E-08 -7.4930E-08 -1.7770E-08 9.1080E-08 -7.1500E-08

-2.9360E-08 9.0900E-08 -6.9620E-08 1.1820E-08 9.5390E-08 -1.0810E-07 -
4.2120E-08 6.5800E-08 -9.6730E-08 3.0730E-07 -8.8250E-07 6.1220E-07 -
5.3480E-08 1.1600E-07 -6.3950E-08 -6.2900E-08 1.2570E-07 -6.5000E-08
7.3840E-09 2.0640E-07 -6.2730E-08 -1.3420E-08 4.1030E-07 -2.6000E-07
  17 1.3210E-07 -1.1440E-06 6.8700E-07 1.2040E-07 -1.1310E-06 6.8380E-07
1.0330E-07 -1.1100E-06 6.7430E-07 1.7270E-07 -1.2350E-06 6.9570E-07
9.1480E-08 -1.1800E-06 6.6010E-07 -8.8250E-07 8.8340E-06 -5.3400E-06
6.6500E-08 -1.0160E-06 6.4640E-07 5.3070E-08 -9.8490E-07 6.3440E-07
1.4320E-07 -9.2100E-07 6.5840E-07 9.3400E-09 2.7460E-07 -1.4300E-07
  18 -7.4200E-08 6.6630E-07 -4.2050E-07 -7.5540E-08 6.6590E-07 -4.1990E-07
-7.7400E-08 6.6270E-07 -4.1810E-07 -7.2030E-08 6.7970E-07 -4.3240E-07 -
8.0590E-08 6.5770E-07 -4.2220E-07 6.1220E-07 -5.3400E-06 3.4720E-06 -
8.1040E-08 6.6060E-07 -4.1430E-07 -8.2590E-08 6.6020E-07 -4.1360E-07 -
6.9140E-08 6.8730E-07 -4.1960E-07 -2.7500E-08 2.2080E-07 -1.3990E-07
  19 -2.2610E-08 1.0740E-07 -5.4500E-08 -1.3840E-08 9.6380E-08 -5.1380E-08
-1.0040E-09 8.0140E-08 -4.3750E-08 -4.9890E-08 1.4850E-07 -4.6500E-08
1.1110E-08 9.6340E-08 -1.2370E-08 -5.3480E-08 6.6500E-08 -8.1040E-08
2.4470E-07 -6.0040E-07 3.8530E-07 3.5350E-08 5.4020E-11 -2.1110E-08 -
3.9150E-08 4.8680E-09 -7.4320E-08 3.5160E-08 -3.6920E-07 2.3120E-07
  20 8.3920E-08 -1.1150E-06 6.5720E-07 7.2700E-08 -1.0990E-06 6.5260E-07
5.6370E-08 -1.0760E-06 6.4140E-07 1.2310E-07 -1.2100E-06 6.7100E-07
4.5240E-08 -1.1390E-06 6.2660E-07 1.1600E-07 -1.0160E-06 6.6060E-07 -
6.0040E-07 8.6230E-06 -5.1410E-06 8.7290E-09 -9.4810E-07 5.9770E-07
9.4680E-08 -9.1020E-07 6.3380E-07 -3.6300E-08 2.7270E-07 -1.5410E-07
  21 -5.0870E-08 6.5640E-07 -3.9770E-07 -4.7010E-08 6.5130E-07 -3.9650E-07
-4.1240E-08 6.4130E-07 -3.9180E-07 -6.4080E-08 6.8440E-07 -3.9870E-07 -
3.6530E-08 6.4550E-07 -3.7600E-07 -6.3950E-08 6.4640E-07 -4.1430E-07
3.8530E-07 -5.1410E-06 3.2760E-06 -2.4800E-08 5.9960E-07 -3.7920E-07 -
5.6950E-08 6.1700E-07 -4.1090E-07 1.4650E-08 -3.4160E-08 2.7950E-08
  22 -2.4440E-08 1.0890E-07 -5.1930E-08 -1.3540E-08 9.6510E-08 -4.8850E-08
2.4230E-09 7.8220E-08 -4.0480E-08 -5.8010E-08 1.5490E-07 -3.8680E-08
1.7710E-08 9.9860E-08 -1.6960E-09 -6.2900E-08 5.3070E-08 -8.2590E-08
3.5350E-08 8.7290E-09 -2.4800E-08 2.5980E-07 -5.7850E-07 3.6510E-07 -
4.5280E-08 -2.1800E-08 -7.5660E-08 4.1170E-08 -4.6960E-07 2.9410E-07
  23 8.1520E-08 -1.1080E-06 6.5020E-07 6.6870E-08 -1.0900E-06 6.4550E-07
4.5480E-08 -1.0620E-06 6.3290E-07 1.3100E-07 -1.2120E-06 6.5660E-07
2.9330E-08 -1.1350E-06 6.0650E-07 1.2570E-07 -9.8490E-07 6.6020E-07
5.4020E-11 -9.4810E-07 5.9960E-07 -5.7850E-07 8.5070E-06 -5.0850E-06
9.9030E-08 -8.5710E-07 6.3240E-07 -5.1140E-08 4.4220E-07 -2.5720E-07
  24 -4.8370E-08 6.5140E-07 -3.9510E-07 -4.3490E-08 6.4540E-07 -3.9370E-07
-3.6230E-08 6.3420E-07 -3.8850E-07 -6.4660E-08 6.8270E-07 -3.9420E-07 -
3.0070E-08 6.4120E-07 -3.6940E-07 -6.5000E-08 6.3440E-07 -4.1360E-07 -
2.1110E-08 5.9770E-07 -3.7920E-07 3.6510E-07 -5.0850E-06 3.2550E-06 -
5.6360E-08 5.9820E-07 -4.0970E-07 2.0740E-08 -8.6230E-08 5.8420E-08
  25 -1.1280E-08 8.9560E-08 -7.0750E-08 -1.6230E-08 8.7290E-08 -6.7310E-08
-2.3660E-08 8.4290E-08 -6.4410E-08 2.0950E-09 1.0050E-07 -9.7320E-08 -
3.2270E-08 6.6870E-08 -8.1990E-08 7.3840E-09 1.4320E-07 -6.9140E-08 -
3.9150E-08 9.4680E-08 -5.6950E-08 -4.5280E-08 9.9030E-08 -5.6360E-08
2.6910E-07 -7.6530E-07 5.6400E-07 -4.3610E-09 2.7350E-07 -1.7600E-07
  26 1.3330E-07 -1.1200E-06 6.7060E-07 1.1030E-07 -1.0980E-06 6.6710E-07
7.6440E-08 -1.0650E-06 6.5320E-07 2.0810E-07 -1.2410E-06 6.5470E-07
4.8200E-08 -1.1680E-06 6.0200E-07 2.0640E-07 -9.2100E-07 6.8730E-07
4.8680E-09 -9.1020E-07 6.1700E-07 -2.1800E-08 -8.5710E-07 5.9820E-07 -
7.6530E-07 8.4920E-06 -5.1510E-06 -3.0720E-08 8.3870E-07 -4.7830E-07

27 -6.8670E-08 6.4440E-07 -4.1950E-07 -6.9780E-08 6.4320E-07 -4.1870E-07
-7.1370E-08 6.3920E-07 -4.1640E-07 -6.7460E-08 6.6220E-07 -4.3340E-07 -
7.4670E-08 6.3750E-07 -4.2190E-07 -6.2730E-08 6.5840E-07 -4.1960E-07 -
7.4320E-08 6.3380E-07 -4.1090E-07 -7.5660E-08 6.3240E-07 -4.0970E-07
5.6400E-07 -5.1510E-06 3.4610E-06 -2.1730E-08 1.9420E-07 -1.3620E-07
28 8.0960E-09 1.5730E-08 -7.9450E-10 1.1060E-08 1.7520E-08 -3.8780E-09
1.8970E-08 4.7120E-09 2.4720E-09 -1.1670E-08 5.9000E-08 -6.6490E-09
2.6170E-08 1.1880E-08 2.2600E-08 -1.3420E-08 9.3400E-09 -2.7500E-08
3.5160E-08 -3.6300E-08 1.4650E-08 4.1170E-08 -5.1140E-08 2.0740E-08 -
4.3610E-09 -3.0720E-08 -2.1730E-08 2.5790E-06 -9.8490E-06 6.1380E-06
29 9.8130E-08 -1.9280E-07 -2.3730E-08 2.1760E-08 -2.8630E-07 6.4900E-08
-1.0520E-07 -1.9350E-07 2.9980E-08 3.6910E-07 -6.0050E-07 -1.1390E-07 -
2.2940E-07 -4.4330E-07 -2.5220E-07 4.1030E-07 2.7460E-07 2.2080E-07 -
3.6920E-07 2.7270E-07 -3.4160E-08 -4.6960E-07 4.4220E-07 -8.6230E-08
2.7350E-07 8.3870E-07 1.9420E-07 -9.8490E-06 1.0680E-04 -6.2560E-05
30 -6.1030E-08 1.2560E-07 3.2080E-08 -1.2990E-08 1.8020E-07 -2.3650E-08
6.6510E-08 1.2400E-07 -3.0140E-09 -2.2790E-07 3.4970E-07 1.0500E-07
1.4660E-07 2.5260E-07 1.9060E-07 -2.6000E-07 -1.4300E-07 -1.3990E-07
2.3120E-07 -1.5410E-07 2.7950E-08 2.9410E-07 -2.5720E-07 5.8420E-08 -
1.7600E-07 -4.7830E-07 -1.3620E-07 6.1380E-06 -6.2560E-05 3.8530E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000025790	-0.0000098490	0.0000061380
-0.0000098490	0.0001068000	-0.0000625600
0.0000061380	-0.0000625600	0.0000385300

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000025008	0.0000004361	0.0000111030
0.0000004361	0.0000014369	0.0000023793
0.0000111030	0.0000023793	0.0001439713

Horizontal network accuracy = 0.00349 meters.
Vertical network accuracy = 0.02353 meters.

Vectors

To	From	X	Y	Z
eng5	qcfv	-16830.850	-745.157	-1211.450
nola	qcfv	-34064.015	2312.087	4121.604
dstr	qcfv	-59352.825	4109.419	7011.523
bvhs	qcfv	35190.164	-30142.522	-53458.480
lmcn	qcfv	-86735.973	-34507.937	-61368.707
mspk	qcfv	59541.494	50218.898	84940.575
gvms	qcfv	-109367.662	24140.700	40550.913
sjb1	qcfv	-128855.186	29047.534	48370.914
msht	qcfv	40708.398	81301.421	137052.631

Covariance matrix of the 9 vectors
1 2.8107E-06 -1.0785E-05 6.7125E-06 2.5435E-06 -9.8668E-06 6.1390E-06
2.5336E-06 -9.8605E-06 6.1368E-06 2.5701E-06 -9.8859E-06 6.1220E-06
2.5235E-06 -9.8773E-06 6.1131E-06 2.5743E-06 -9.8244E-06 6.1523E-06
2.5131E-06 -9.8269E-06 6.1335E-06 2.5053E-06 -9.8145E-06 6.1299E-06
2.5640E-06 -9.7831E-06 6.1521E-06
2 -1.0785E-05 1.1647E-04 -6.8065E-05 -9.7831E-06 1.0613E-04 -6.2068E-05

-9.6545E-06 1.0604E-04 -6.2039E-05 -1.0129E-05 1.0638E-04 -6.1848E-05 -
9.5238E-06 1.0626E-04 -6.1732E-05 -1.0184E-05 1.0557E-04 -6.2240E-05 -
9.3881E-06 1.0561E-04 -6.1995E-05 -9.2862E-06 1.0544E-04 -6.1948E-05 -
1.0049E-05 1.0503E-04 -6.2235E-05
   3 6.7125E-06 -6.8065E-05 4.1817E-05 6.0868E-06 -6.2033E-05 3.8116E-05
6.0107E-06 -6.1984E-05 3.8098E-05 6.2916E-06 -6.2182E-05 3.7985E-05
5.9333E-06 -6.2114E-05 3.7916E-05 6.3239E-06 -6.1706E-05 3.8217E-05
5.8531E-06 -6.1725E-05 3.8072E-05 5.7928E-06 -6.1629E-05 3.8044E-05
6.2440E-06 -6.1387E-05 3.8215E-05
   4 2.5435E-06 -9.7831E-06 6.0868E-06 2.7953E-06 -1.0661E-05 6.6439E-06
2.5339E-06 -9.7860E-06 6.0916E-06 2.5605E-06 -9.8043E-06 6.0806E-06
2.5265E-06 -9.7982E-06 6.0742E-06 2.5636E-06 -9.7597E-06 6.1030E-06
2.5189E-06 -9.7618E-06 6.0893E-06 2.5132E-06 -9.7528E-06 6.0868E-06
2.5561E-06 -9.7297E-06 6.1029E-06
   5 -9.8668E-06 1.0613E-04 -6.2033E-05 -1.0661E-05 1.1657E-04 -6.8180E-05
-9.6637E-06 1.0615E-04 -6.2097E-05 -1.0132E-05 1.0647E-04 -6.1907E-05 -
9.5347E-06 1.0636E-04 -6.1794E-05 -1.0186E-05 1.0568E-04 -6.2295E-05 -
9.4009E-06 1.0571E-04 -6.2055E-05 -9.3004E-06 1.0555E-04 -6.2009E-05 -
1.0053E-05 1.0515E-04 -6.2291E-05
   6 6.1390E-06 -6.2068E-05 3.8116E-05 6.6439E-06 -6.8180E-05 4.1923E-05
6.0170E-06 -6.2077E-05 3.8155E-05 6.2979E-06 -6.2273E-05 3.8041E-05
5.9395E-06 -6.2207E-05 3.7973E-05 6.3304E-06 -6.1798E-05 3.8274E-05
5.8593E-06 -6.1818E-05 3.8129E-05 5.7989E-06 -6.1722E-05 3.8102E-05
6.2506E-06 -6.1479E-05 3.8271E-05
   7 2.5336E-06 -9.6545E-06 6.0107E-06 2.5339E-06 -9.6637E-06 6.0170E-06
2.7731E-06 -1.0455E-05 6.5229E-06 2.5426E-06 -9.6695E-06 6.0110E-06
2.5272E-06 -9.6671E-06 6.0084E-06 2.5441E-06 -9.6498E-06 6.0216E-06
2.5239E-06 -9.6511E-06 6.0156E-06 2.5213E-06 -9.6472E-06 6.0145E-06
2.5407E-06 -9.6366E-06 6.0219E-06
   8 -9.8605E-06 1.0604E-04 -6.1984E-05 -9.7860E-06 1.0615E-04 -6.2077E-05
-1.0455E-05 1.1626E-04 -6.8029E-05 -1.0120E-05 1.0638E-04 -6.1861E-05 -
9.5353E-06 1.0628E-04 -6.1751E-05 -1.0173E-05 1.0561E-04 -6.2242E-05 -
9.4044E-06 1.0564E-04 -6.2009E-05 -9.3059E-06 1.0549E-04 -6.1964E-05 -
1.0043E-05 1.0509E-04 -6.2239E-05
   9 6.1368E-06 -6.2039E-05 3.8098E-05 6.0916E-06 -6.2097E-05 3.8155E-05
6.5229E-06 -6.8029E-05 4.1855E-05 6.2938E-06 -6.2241E-05 3.8024E-05
5.9398E-06 -6.2178E-05 3.7958E-05 6.3259E-06 -6.1773E-05 3.8255E-05
5.8606E-06 -6.1794E-05 3.8113E-05 5.8009E-06 -6.1700E-05 3.8086E-05
6.2471E-06 -6.1458E-05 3.8253E-05
  10 2.5701E-06 -1.0129E-05 6.2916E-06 2.5605E-06 -1.0132E-05 6.2979E-06
2.5426E-06 -1.0120E-05 6.2938E-06 2.9082E-06 -1.1301E-05 6.9487E-06
2.5245E-06 -1.0151E-05 6.2516E-06 2.6159E-06 -1.0055E-05 6.3214E-06
2.5056E-06 -1.0059E-05 6.2872E-06 2.4915E-06 -1.0036E-05 6.2805E-06
2.5971E-06 -9.9793E-06 6.3202E-06
  11 -9.8859E-06 1.0638E-04 -6.2182E-05 -9.8043E-06 1.0647E-04 -6.2273E-05
-9.6695E-06 1.0638E-04 -6.2241E-05 -1.1301E-05 1.1788E-04 -6.8344E-05 -
9.5333E-06 1.0662E-04 -6.1923E-05 -1.0223E-05 1.0589E-04 -6.2451E-05 -
9.3903E-06 1.0592E-04 -6.2191E-05 -9.2835E-06 1.0575E-04 -6.2141E-05 -
1.0081E-05 1.0532E-04 -6.2442E-05
  12 6.1220E-06 -6.1848E-05 3.7985E-05 6.0806E-06 -6.1907E-05 3.8041E-05
6.0110E-06 -6.1861E-05 3.8024E-05 6.9487E-06 -6.8344E-05 4.1683E-05
5.9408E-06 -6.1983E-05 3.7860E-05 6.2965E-06 -6.1607E-05 3.8133E-05
5.8669E-06 -6.1621E-05 3.7998E-05 5.8119E-06 -6.1532E-05 3.7972E-05
6.2233E-06 -6.1313E-05 3.8128E-05

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1.0857E-05 1.1361E-04 -6.7427E-05
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5.9385E-06 -6.2369E-05 3.8054E-05 6.3570E-06 -6.1953E-05 3.8386E-05
5.8542E-06 -6.1966E-05 3.8227E-05 5.7900E-06 -6.1865E-05 3.8198E-05
6.8997E-06 -6.7427E-05 4.2263E-05

Correlation matrix of the 9 vectors
  1 1.0000E+00 -5.9608E-01 6.1916E-01 9.0742E-01 -5.4510E-01 5.6554E-01
9.0751E-01 -5.4548E-01 5.6580E-01 8.9893E-01 -5.4311E-01 5.6559E-01
9.0494E-01 -5.4434E-01 5.6677E-01 8.9965E-01 -5.4625E-01 5.6436E-01
9.0339E-01 -5.4688E-01 5.6620E-01 9.0007E-01 -5.4727E-01 5.6643E-01
9.0483E-01 -5.4746E-01 5.6446E-01
  2 -5.9608E-01 1.0000E+00 -9.7532E-01 -5.4220E-01 9.1082E-01 -8.8826E-01
-5.3722E-01 9.1132E-01 -8.8857E-01 -5.5038E-01 9.0788E-01 -8.8765E-01 -
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5.2426E-01 9.1299E-01 -8.8905E-01 -5.1828E-01 9.1340E-01 -8.8925E-01 -
5.5089E-01 9.1309E-01 -8.8706E-01
  3 6.1916E-01 -9.7532E-01 1.0000E+00 5.6299E-01 -8.8850E-01 9.1033E-01
5.5818E-01 -8.8899E-01 9.1066E-01 5.7052E-01 -8.8566E-01 9.0983E-01
5.5163E-01 -8.8748E-01 9.1139E-01 5.7296E-01 -8.8950E-01 9.0888E-01
5.4548E-01 -8.9057E-01 9.1118E-01 5.3955E-01 -8.9095E-01 9.1141E-01
5.7128E-01 -8.9061E-01 9.0902E-01
  4 9.0742E-01 -5.4220E-01 5.6299E-01 1.0000E+00 -5.9061E-01 6.1373E-01
9.1010E-01 -5.4285E-01 5.6318E-01 8.9803E-01 -5.4011E-01 5.6332E-01
9.0850E-01 -5.4147E-01 5.6471E-01 8.9837E-01 -5.4415E-01 5.6137E-01
9.0797E-01 -5.4475E-01 5.6367E-01 9.0541E-01 -5.4533E-01 5.6399E-01
9.0452E-01 -5.4597E-01 5.6149E-01
  5 -5.4510E-01 9.1082E-01 -8.8850E-01 -5.9061E-01 1.0000E+00 -9.7529E-01
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  7 9.0751E-01 -5.3722E-01 5.5818E-01 9.1010E-01 -5.3749E-01 5.5805E-01

1.0000E+00 -5.8226E-01 6.0546E-01 8.9533E-01 -5.3482E-01 5.5910E-01
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5.7130E-01 -8.9123E-01 9.0951E-01
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  13   9.0494E-01 -5.3056E-01 5.5163E-01 9.0850E-01 -5.3093E-01 5.5150E-01
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5.7164E-01 -8.9234E-01 9.1024E-01
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8.9461E-01 -5.5153E-01 5.7159E-01 8.8979E-01 -5.5157E-01 5.7164E-01
1.0000E+00 -6.0264E-01 6.2793E-01
26 -5.4746E-01 9.1309E-01 -8.9061E-01 -5.4597E-01 9.1368E-01 -8.9081E-01
-5.4291E-01 9.1439E-01 -8.9123E-01 -5.4899E-01 9.1008E-01 -8.9096E-01 -
5.3813E-01 9.1220E-01 -8.9286E-01 -5.5089E-01 9.1621E-01 -8.8898E-01 -
5.3397E-01 9.1714E-01 -8.9195E-01 -5.2950E-01 9.1794E-01 -8.9234E-01 -
6.0264E-01 1.0000E+00 -9.7305E-01
27 5.6446E-01 -8.8706E-01 9.0902E-01 5.6149E-01 -8.8746E-01 9.0920E-01
5.5625E-01 -8.8791E-01 9.0951E-01 5.7007E-01 -8.8466E-01 9.0841E-01
5.4918E-01 -8.8640E-01 9.0985E-01 5.7291E-01 -8.8832E-01 9.0807E-01
5.4269E-01 -8.8932E-01 9.1005E-01 5.3644E-01 -8.8962E-01 9.1024E-01
6.2793E-01 -9.7305E-01 1.0000E+00

G-FILE for the vectors

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C00100002 -340640153   16   23120871  107   41216044   64
C00100003 -593528245   16   41094185  107   70115233   64
C00100004  351901638   17 -301425219  108 -534584799   64
C00100005 -867359728   16 -345079373  108 -613687065   64
C00100006  595414943   17  502188978  107  849405749   65
C00100007-1093676615   16  241406996  107  405509133   64
C00100008-1288551859   16  290475343  106  483709143   64
C00100009  407083981   16  813014213  106 1370526306   65
D  1  2 -5960819  1  3  6191593  1  4  9074238  1  5 -5450977  1  6  5655409 D
1  7  9075060  1  8 -5454783  1  9  5657963  1 10  8989303  1 11 -5431145 D  1
12  5655926  1 13  9049403  1 14 -5443405  1 15  5667673  1 16  8996543 D  1
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22  9000673  1 23 -5472718  1 24  5664280  1 25  9048279  1 26 -5474595 D  1
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7 -5372183  2  8  9113204  2  9 -8885669  2 10 -5503774  2 11  9078833 D  2 12
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9045210  4 26 -5459734  4 27  5614928  5  6 -9752936  5  7 -5374897 D  5  8
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9730471

ITRF position of qcfv as determined by individual baselines

	X	Y	Z
eng5	22459.986	-5534188.956	3159949.323
nola	22459.986	-5534188.937	3159949.316
dstr	22459.983	-5534188.950	3159949.329
bvhs	22459.978	-5534188.912	3159949.299
lmcn	22459.982	-5534188.938	3159949.320
mspk	22459.978	-5534188.938	3159949.319
gvms	22459.989	-5534188.898	3159949.296
sjb1	22459.993	-5534188.979	3159949.337
msht	22459.983	-5534188.971	3159949.340

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
eng5	0.002	-0.005	-0.003	0.002	-0.005	0.002
nola	0.002	0.014	-0.010	0.002	0.001	-0.017
dstr	-0.001	0.002	0.004	-0.001	0.004	0.000
bvhs	-0.006	0.040	-0.027	-0.006	0.003	-0.048

lmcn	-0.002	0.014	-0.006	-0.002	0.002	-0.015	
mspk	-0.006	0.014	-0.007	-0.006	0.001	-0.016	
gvms	0.005	0.054	-0.030	0.005	0.001	-0.062	
sjb1	0.009	-0.027	0.011	0.009	- 0.003	0.029	
msht	-0.001	-0.019	0.014	-0.001	0.003	0.024	

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (1702 LA S)
Northing (Y) [feet] 509458.492
Easting (X) [feet] 3777004.142
Convergence [degrees] 0.78295442
Point Scale 0.99992755
Combined Factor 0.99993108

** Orthometric Heights Above Future Geopotential Datum.

Prototype orthometric heights are now being made available as a precursor to the completion of GRAV-D and the replacement of NAVD 88 with a new geopotential reference system. The following height reflects the current best estimate of the true orthometric height, based on the existing gravimetric geoid model. This height is subject to change as data and modeling for the gravimetric geoid change throughout the lifetime of the GRAV-D project, or as new realizations of the ITRF are adopted. However, at the completion of GRAV-D, these heights will supersede the NAVD 88 heights

APPROX ORTHO HGT: 3.308 (m) [PROTOTYPE (Computed using USGG2009,GRS80,ITRF2000)]

dop from interpolation is 0.418
scatter (mean square distance from rover) is 10759.618
average edop for rover is 0.700
average ndop for rover is 0.730
average hdop for rover is 1.011
average vdop for rover is 1.970
average gdop for rover is 2.540

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

Appendix I: PHOTOGRAPHS

A 148_1_20FEB2012

A 148_2_20FEB2012


A 148_3-E_20FEB2012


A 148_3-N_20FEB2012

A 148_3-S_20FEB2012

A 148_3-W_20FEB2012

B 369_1_22FEB2012

B 369_2_22FEB2012


42902 0750
B 369_3-E_22FEB2012


B 369_3-N_22FEB2012

B 369_3-S_22FEB2012

B 369_3-W_22FEB2012


BS2_1_23FEB2012


BS2_2_23FEB2012


BS2_3-E_23FEB2012


BS2_3-N_23FEB2012

BS2_3-S_23FEB2012

BS2_3-W_23FEB2012


C 189_1_24FEB2012


C 189_3-E_19FEB2012


C 189_3-N_19FEB2012


C 189_3-S_19FEB2012


C 189_3-W_19FEB2012


C 189_2_19FEB2012

G 95_1_21FEB2012

G 95_2_21FEB2012


G 95_3-N_21FEB2012


G 95_3-S_21FEB2012


G 95_3-W_21FEB2012


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L 278_3-N_20FEB2012


L 278_3-N_24FEB2012


L 278_3-S_20FEB2012


L 278_3-S_24FEB2012


L 278_3-W_20FEB2012


L 278_3-W_24FEB2012


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L FVA1_2_22FEB2012


L FVA1_3-E_22FEB2012

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L FVA1_3-S_22FEB2012

L FVA1_3-W_22FEB2012

L FVA2_1_22FEB2012


L FVA2_2_22FEB2012


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L FVA2_3-N_22FEB2012


L FVA2_3-S_22FEB2012


L FVA2_3-W_22FEB2012


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L FVA3_3-S_24FEB2012

L FVA3_3-W_24FEB2012

L FVA4_1_21FEB2012


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L FVA4_3-W_21FEB2012


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L FVA5_2_21FEB2012


L FVA5_2_21FEB2012


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L FVA5_3-W_21FEB2012


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L FVA6_2_21FEB2012


L FVA6_3-E_21FEB2012


L FVA6_3-N_21FEB2012


L FVA6_3-S_21FEB2012


L FVA6_3-W_21FEB2012

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L FVA7_2_2MARCH2012

L FVA7_3-E_2MARCH2012

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L FVA7_3-S_2MARCH2012


L FVA7_3-W_2MARCH2012


L FVA8_1_21FEB2012
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L FVA8_3-N_21FEB2012


L FVA8_3-S_21FEB2012


L FVA8_3-W_21FEB2012


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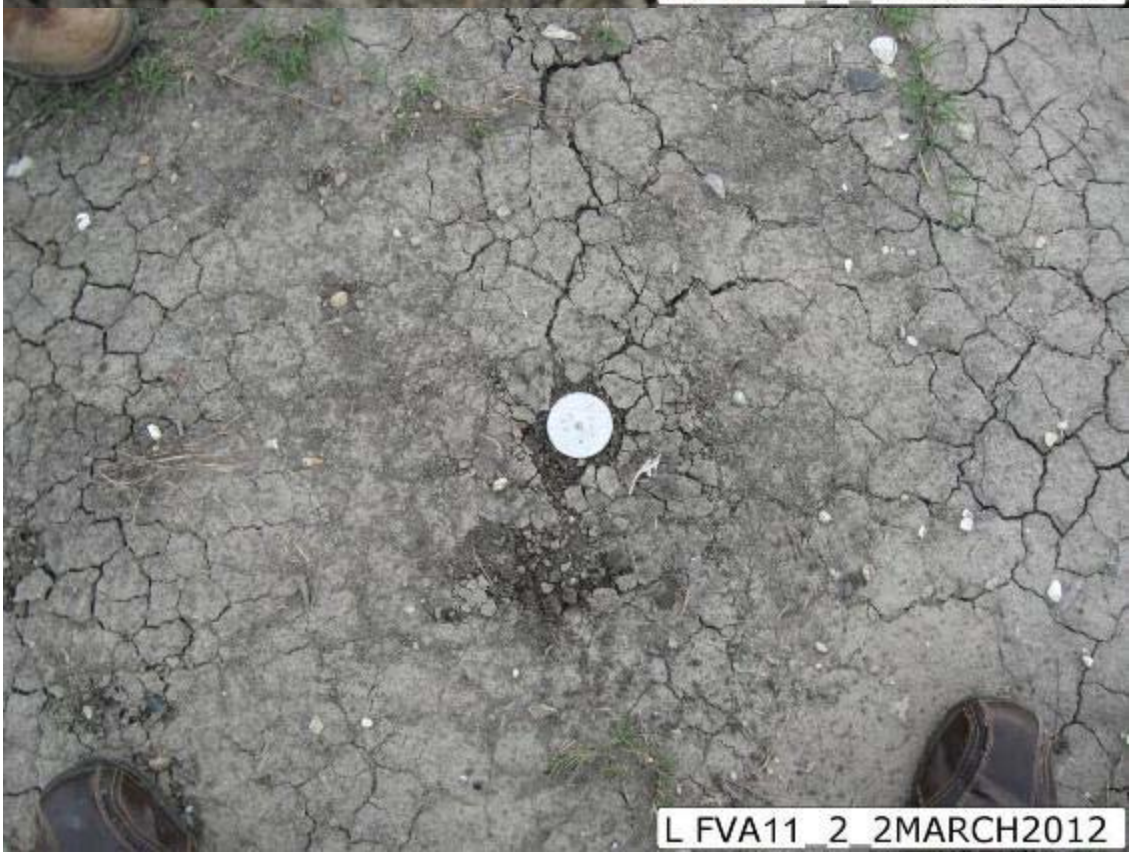
L FVA10_3-W_22FEB2012

L FVA 11 _1_ 2MARCH2012



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L FVA11_3-S_2MARCH2012


L FVA11_3-W_2MARCH2012

L FVA12_1_24FEB2012

L FVA12_2_24FEB2012


L FVA12_3-E_24FEB2012

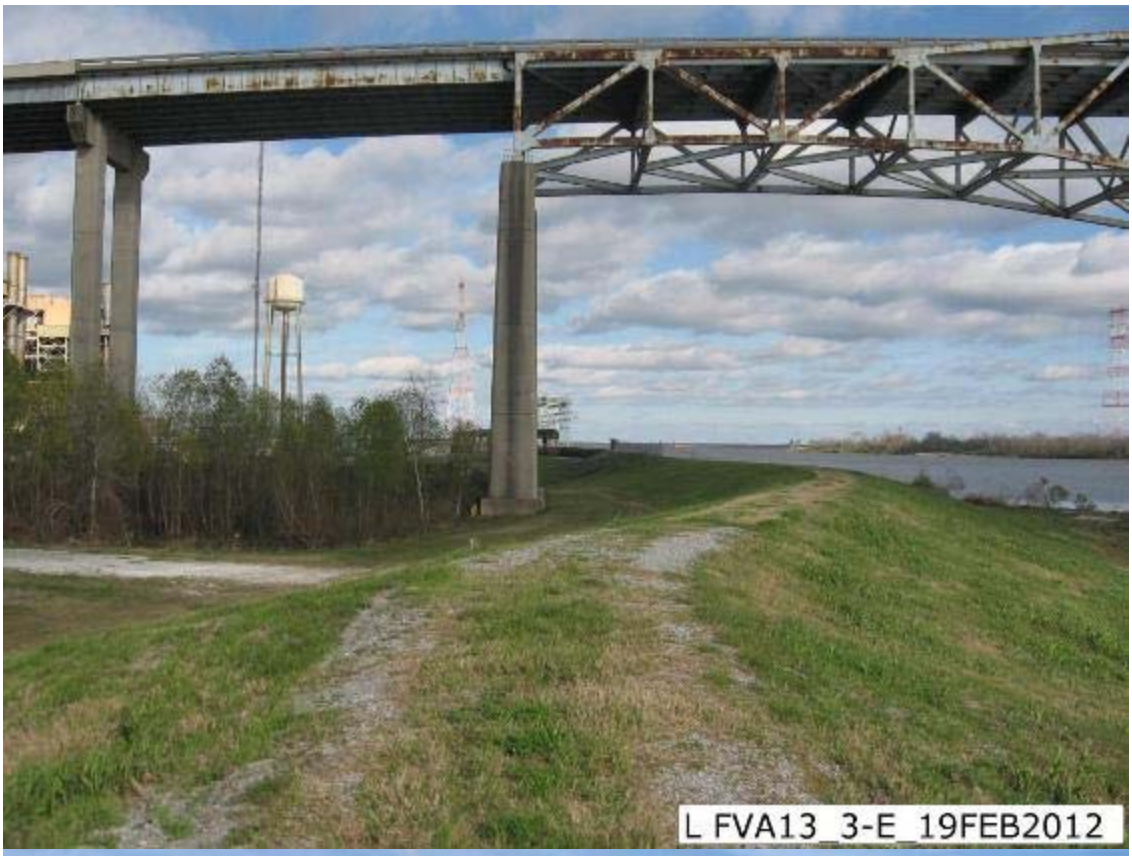

L FVA12_3-N_24FEB2012


L FVA12_3-S_24FEB2012


L FVA12_3-W_24FEB2012


L FVA13_1_19FEB2012


L FVA13_2_19FEB2012



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L FVA14_1_19FEB2012

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L FVA14_3-W_19FEB2012


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L FVA34_2_28FEB2012


L FVA34_3-E_28FEB2012


L FVA34_3-N_28FEB2012


L FVA34_3-S_28FEB2012


L FVA34_3-W_28FEB2012


35
L FVA35_1_28FEB2012


L FVA35_2_28FEB2012


L FVA35_3-E_28FEB2012


L FVA35_3-N_28FEB2012


L FVA35_3-S_28FEB2012


L FVA35_3-W_28FEB2012


L FVA36_1_28FEB2012


L FVA36_2_28FEB2012


L FVA36_3-E_28FEB2012


L FVA36_3-N_28FEB2012


L FVA36_3-S_28FEB2012

L FVA36_3-W_28FEB2012

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L FVA37_3-W_1MARCH2012

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L FVA38_3-S_1MARCH2012

L FVA38_3-W_1MARCH2012

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FVA39
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L FVA39_3-S_1MARCH2012

L FVA39_3-W_1MARCH2012

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L FVA40_3-W_2MARCH2012

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L FVA42_1_2MARCH2012

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L FVA42_3-N_2MARCH2012


L FVA42_3-S_2MARCH2012

L FVA42_3-W_2MARCH2012

L FVA43_1_2MARCH2012


L FVA43_2_2MARCH2012


L FVA43_3-E_2MARCH2012

L FVA43_3-N_2MARCH2012

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L FVA43_3-W_2MARCH2012

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L FVA44_3-S_3MARCH2012

L FVA44_3-W_3MARCH2012

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L FVA45_3-E_3MARCH2012


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L FVA45_3-S_3MARCH2012

L FVA45_3-W_3MARCH2012

L FVA46_1_3MARCH2012


L FVA46_2_3MARCH2012


L FVA46_3-E_3MARCH2012

L FVA46_3-N_3MARCH2012

L FVA46_3-S_3MARCH2012

L FVA46_3-W_3MARCH2012

L FVA47_1_4MARCH2012

L FVA47_2_4MARCH2012

L FVA47_3-E_4MARCH2012


L FVA47_3-N_4MARCH2012


L FVA47_3-S_4MARCH2012

L FVA47_3-W_4MARCH2012

L FVA48_1_4MARCH2012


L FVA48_2_4MARCH2012


L FVA48_3-E_4MARCH2012


L FVA48_3-N_4MARCH2012


L FVA48_3-S_4MARCH2012

L FVA48_3-W_4MARCH2012

L FVA49_1_4MARCH2012

L FVA49_2_4MARCH2012

L FVA49_3-E_4MARCH2012


L FVA49_3-N_4MARCH2012


L FVA49_3-S_4MARCH2012

L FVA49_3-W_4MARCH2012

L FVA50_1_4MARCH2012

L FVA50_2_4MARCH2012

L FVA50_3-E_4MARCH2012


L FVA50_3-N_4MARCH2012


L FVA50_3-S_4MARCH2012


L FVA50_3-W_4MARCH2012
QC FVA1_2_9MARCH2012


QC FVA1_3-E_9MARCH2012


QC FVA1_3-N_9MARCH2012


QC FVA1_3-S_9MARCH2012


QC FVA1_3-W_9MARCH2012

QC FVA2_1_9MARCH2012

QC FVA2_2_9MARCH2012


QC FVA2_3-E_9MARCH2012


QC FVA2_3-N_9MARCH2012


QC FVA2_3-S_9MARCH2012


QC FVA2_3-W_9MARCH2012


QC FVA3_1_9MARCH2012


QC FVA3_2_9MARCH2012


Coca-Cola
QC FVA3_3-E_9MARCH2012


QC FVA3_3-N_9MARCH2012


QC FVA3_3-S_9MARCH2012


QC FVA3_3-W_9MARCH2012

QC FVA4_1_9MARCH2012

QC FVA4_2_9MARCH2012

QC FVA4_3-E_9MARCH2012

QC FVA4_3-N_9MARCH2012


QC FVA4_3-S_9MARCH2012


QC FVA4_3-W_9MARCH2012


QC FVA5_1_9MARCH2012


QC FVA5_2_9MARCH2012


QC FVA5_3-E_9MARCH2012


QC FVA5_3-N_9MARCH2012


SWEPI ROAD
QC FVA5_3-S_9MARCH2012


QC FVA5_3-W_9MARCH2012

QC FVA6_1_10MARCH2012

QC FVA6_2_10MARCH2012

QC FVA6_3-E_10MARCH2012

QC FVA6_3-N_10MARCH2012


QC FVA6_3-S_10MARCH2012


QC FVA6_3-W_10MARCH2012


QC FVA7_1_10MARCH2012


QC FVA7_2_10MARCH2012


QC FVA7_3-E_10MARCH2012


QC FVA7_3-N_10MARCH2012


QC FVA7_3-S_10MARCH2012


QC FVA7_3-W_10MARCH2012


QC FVA8_1_10MARCH2012


QC FVA8_2_10MARCH2012


QC FVA8_3-E_10MARCH2012


QC FVA8_3-N_10MARCH2012


QC FVA8_3-S_10MARCH2012


FOR SALE
WWW.LATTER-BLUM.COM
LATTER & BLUM
INC/REALTORS
(504) 443-3300
QC FVA8_3-W_10MARCH2012


QC FVA9_1_9MARCH2012


QC FVA9_2_9MARCH2012


QC FVA9_3-E_9MARCH2012


QC FVA9_3-N_9MARCH2012

QC FVA9_3-S_9MARCH2012

QC FVA9_3-W_9MARCH2012


QC FVA10_1_10MARCH2012


QC FVA10_2_10MARCH2012


QC FVA10_3-E_10MARCH2012


QC FVA10_3-N_10MARCH2012


QC FVA10_3-S_10MARCH2012


QC FVA10_3-W_10MARCH2012

QC FVA11_1_10MARCH2012

QC FVA11_2_10MARCH2012


QC FVA11_3-E_10MARCH2012


QC FVA11_3-N_10MARCH2012

QC FVA11_3-S_10MARCH2012

QC FVA11_3-W_10MARCH2012


QC FVA12_1_9MARCH2012
QC FVA12_2_9MARCH2012

QC FVA12_3-E_9MARCH2012

QC FVA12_3-N_9MARCH2012

QC FVA12_3-S_9MARCH2012

QC FVA12_3-W_9MARCH2012

QC FVA13_1_9MARCH2012

QC FVA13_2_9MARCH2012


QC FVA13_3-E_9MARCH2012


QC FVA13_3-N_9MARCH2012


QC FVA13_3-S_9MARCH2012


QC FVA13_3-W_9MARCH2012


QC FVA14_1_9MARCH2012


QC FVA14_2_9MARCH2012


QC FVA14_3-E_9MARCH2012


QC FVA14_3-N_9MARCH2012

QC FVA14_3-S_9MARCH2012

QC FVA14_3-W_9MARCH2012


QC FVA15_1_10MARCH2012


QC FVA15_2_10MARCH2012

QC FVA15_3-E_10MARCH2012

QC FVA15_3-N_10MARCH2012

QC FVA15_3-S_10MARCH2012

QC FVA15_3-W_10MARCH2012

QC FVA16_1_10MARCH2012

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QC FVA16_3-E_10MARCH2012

QC FVA16_3-N_10MARCH2012

QC FVA16_3-S_10MARCH2012

QC FVA16_3-W_10MARCH2012


QC FVA17_1_10MARCH2012


QC FVA17_2_10MARCH2012


QC FVA17_3-E_10MARCH2012


QC FVA17_3-N_10MARCH2012


QC FVA17_3-S_10MARCH2012


QC FVA17_3-W_10MARCH2012

QC FVA18_1_9MARCH2012

QC FVA18_2_9MARCH2012


QC FVA18_3-E_9MARCH2012


QC FVA18_3-N_9MARCH2012


QC FVA18_3-S_9MARCH2012


QC FVA18_3-W_9MARCH2012


QC FVA19_1_9MARCH2012


QC FVA19_2_9MARCH2012

QC FVA19_3-E_9MARCH2012

QC FVA19_3-N_9MARCH2012


QC FVA19_3-S_9MARCH2012


STOP
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QC FVA20_2_9MARCH2012


QC FVA20_3-E_9MARCH2012


QC FVA20_3-N_9MARCH2012


QC FVA20_3-S_9MARCH2012


QC FVA20_3-W_9MARCH2012


QC FVA21_1_8MARCH2012


QC FVA21_2_8MARCH2012


QC FVA21_3-E_8MARCH2012


QC FVA21_3-N_8MARCH2012


QC FVA21_3-S_8MARCH2012


QC FVA21_3-W_8MARCH2012


QC FVA22_1_9MARCH2012


QC FVA22_2_9MARCH2012


QC FVA22_3-E_9MARCH2012


QC FVA22_3-N_9MARCH2012


QC FVA22_3-S_9MARCH2012


QC FVA22_3-W_9MARCH2012


QC FVA24_1_9MARCH2012


QC FVA24_2_9MARCH2012


QC FVA24_3-E_9MARCH2012


QC FVA24_3-N_9MARCH2012


QC FVA24_3-S_9MARCH2012


QC FVA24_3-W_9MARCH2012


QC FVA25_1_9MARCH2012
QC FVA25_2_9MARCH2012


QC FVA25_3-E_9MARCH2012


QC FVA25_3-N_9MARCH2012


QC FVA25_3-S_9MARCH2012


QC FVA25_3-W_9MARCH2012


QC FVA26_1_9MARCH2012


QC FVA26_2_9MARCH2012


QC FVA26_3-E_9MARCH2012


QC FVA26_3-N_9MARCH2012


QC FVA26_3-S_9MARCH2012


QC FVA26_3-W_9MARCH2012


QC FVA27_1_9MARCH2012


QC FVA27_2_9MARCH2012


QC FVA27_3-E_9MARCH2012


QC FVA27_3-N_9MARCH2012


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QC FVA27_3-W_9MARCH2012


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QC FVA28_2_9MARCH2012


90
10
QC FVA28_3-E_9MARCH2012


QC FVA28_3-N_9MARCH2012


TO
10
QC FVA28_3-S_9MARCH2012


QC FVA28_3-W_9MARCH2012


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QC FVA29_3-S_9MARCH2012


QC FVA29_3-W_9MARCH2012


QC FVA30_1_9MARCH2012


QC FVA30_2_9MARCH2012

QC FVA30_3-E_9MARCH2012

QC FVA30_3-N_9MARCH2012

QC FVA30_3-S_9MARCH2012

QC FVA30_3-W_9MARCH2012

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QC FVA31_2_9MARCH2012


QC FVA31_3-E_9MARCH2012


QC FVA31_3-N_9MARCH2012

QC FVA31_3-S_9MARCH2012

QC FVA31_3-W_9MARCH2012

QC FVA32_1_9MARCH2012

QC FVA32_2_9MARCH2012

QC FVA32_3-E_9MARCH2012

QC FVA32_3-N_9MARCH2012

QC FVA32_3-S_9MARCH2012

QC FVA32_3-W_9MARCH2012

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QC FVA33_2_9MARCH2012

QC FVA33_3-E_9MARCH2012

QC FVA33_3-N_9MARCH2012


QC FVA33_3-W_9MARCH2012

QC FVA34_1_9MARCH2012

QC FVA34_2_9MARCH2012

QC FVA34_3-N_9MARCH2012

QC FVA34_3-S_9MARCH2012

QC FVA34_3-W_9MARCH2012

QC FVA35_1_9MARCH2012

QC FVA35_2_9MARCH2012

QC FVA35_3-E_9MARCH2012

QC FVA35_3-N_9MARCH2012

QC FVA35_3-S_9MARCH2012

QC FVA35_3-W_9MARCH2012

QC FVA36_1_9MARCH2012


QC FVA36_2_9MARCH2012


QC FVA36_3-E_9MARCH2012


QC FVA36_3-N_9MARCH2012


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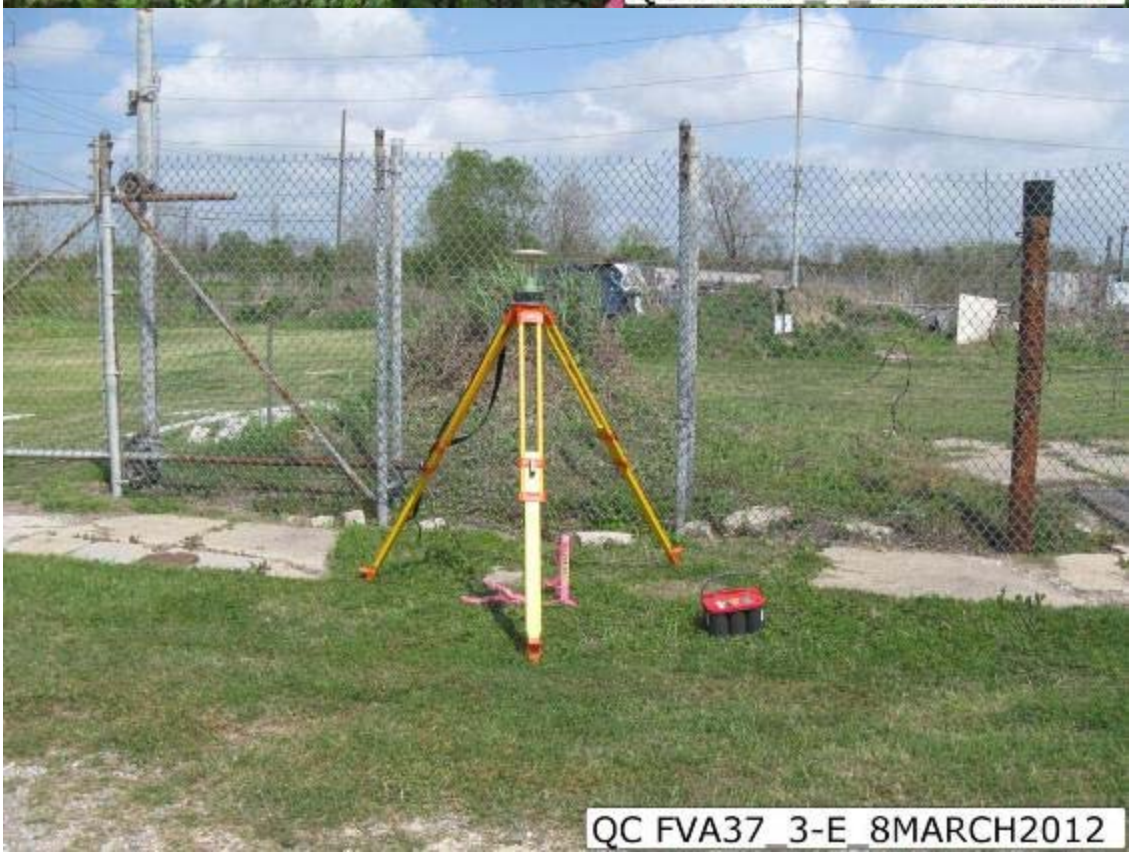

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QC FVA39_2_8MARCH2012


QC FVA39_3-E_8MARCH2012


QC FVA39_3-N_8MARCH2012


QC FVA39_3-S_8MARCH2012

QC FVA39_3-W_8MARCH2012

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QC FVA40_2_8MARCH2012

QC FVA40_3-E_8MARCH2012

QC FVA40_3-N_8MARCH2012

QC FVA40_3-S_8MARCH2012

QC FVA40_3-W_8MARCH2012

QC FVA43_1_8MARCH2012


QC FVA43_2_8MARCH2012


QC FVA43_3-E_8MARCH2012


QC FVA43_3-N_8MARCH2012


QC FVA43_3-S_8MARCH2012


QC FVA43_3-W_8MARCH2012


QC FVA44_1_8MARCH2012

QC FVA44_2_8MARCH2012

QC FVA44_3-E_8MARCH2012

QC FVA44_3-N_8MARCH2012


QC FVA44_3-S_8MARCH2012

QC FVA44_3-W_8MARCH2012

QC FVA45_1_8MARCH2012

QC FVA45_2_8MARCH2012

QC FVA45_3-E_8MARCH2012

QC FVA45_3-N_8MARCH2012

QC FVA45_3-S_8MARCH2012

QC FVA45_3-W_8MARCH2012

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QC FVA46_2_8MARCH2012

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QC FVA46_3-S_8MARCH2012

QC FVA46_3-W_8MARCH2012

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QC FVA48_3-N_8MARCH2012

QC FVA48_3-S_8MARCH2012

QC FVA48_3-W_8MARCH2012

QC FVA49_1_8MARCH2012


QC FVA49_2_8MARCH2012


QC FVA49_3-E_8MARCH2012


QC FVA49_3-N_8MARCH2012


ROADWAY
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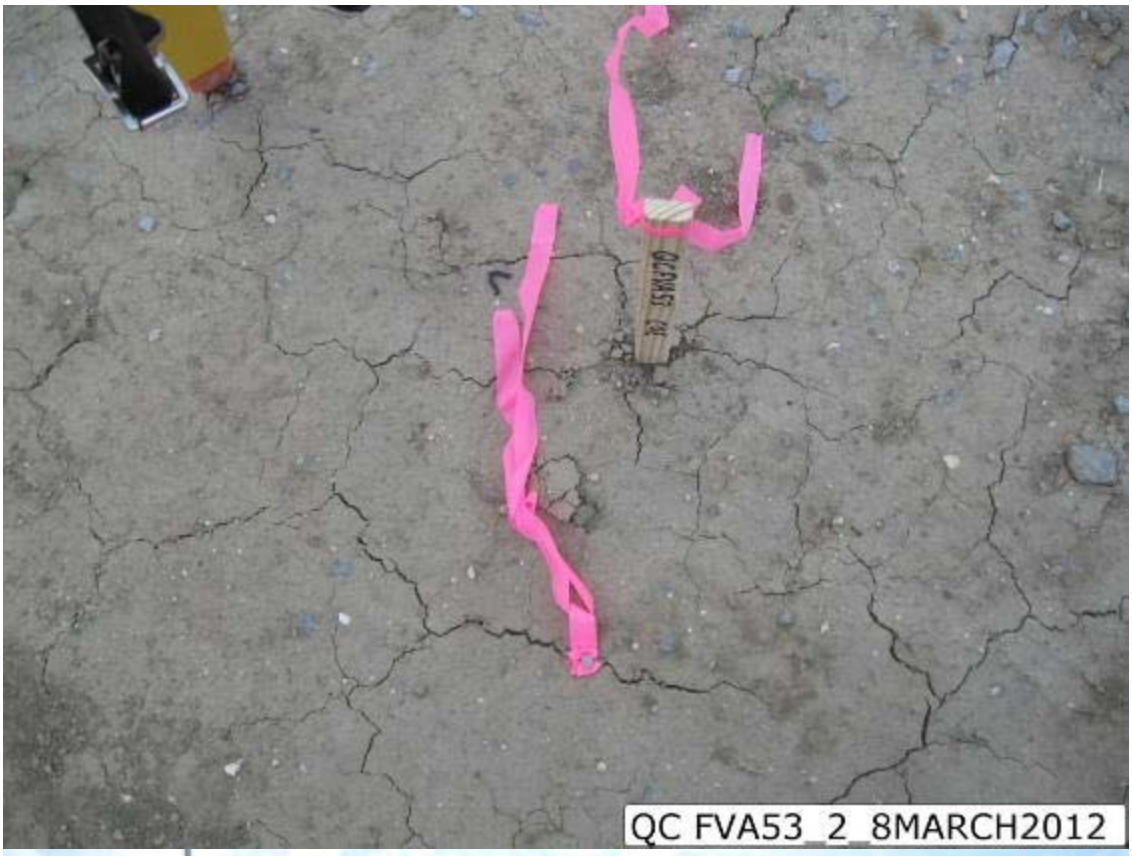
QC FVA53_1_8MARCH2012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QC FVA53_3-N_8MARCH2012

QC FVA53_3-S_8MARCH2012

QC FVA53_3-W_8MARCH2012

QC FVA54_1_8MARCH2012


QC FVA54_2_8MARCH2012


QC FVA54_3-E_8MARCH2012


QC FVA54_3-N_8MARCH2012


QC FVA54_3-S_8MARCH2012

QC FVA54_3-W_8MARCH2012

QC FVA55_1_8MARCH2012

QC FVA55_2_8MARCH2012

QC FVA55_3-E_8MARCH2012

QC FVA55_3-N_8MARCH2012

QC FVA55_3-S_8MARCH2012

QC FVA55_3-W_8MARCH2012

URBAN1_1_20FEB2012

URBAN1_2_20FEB2012

URBAN1_3-E_20FEB2012


URBAN1_3-N_20FEB2012


URBAN1_3-S_20FEB2012

URBAN1_3-W_20FEB2012

V 375_1_24FEB2012


V 375_2_24FEB2012


V 375_3-E_24FEB2012

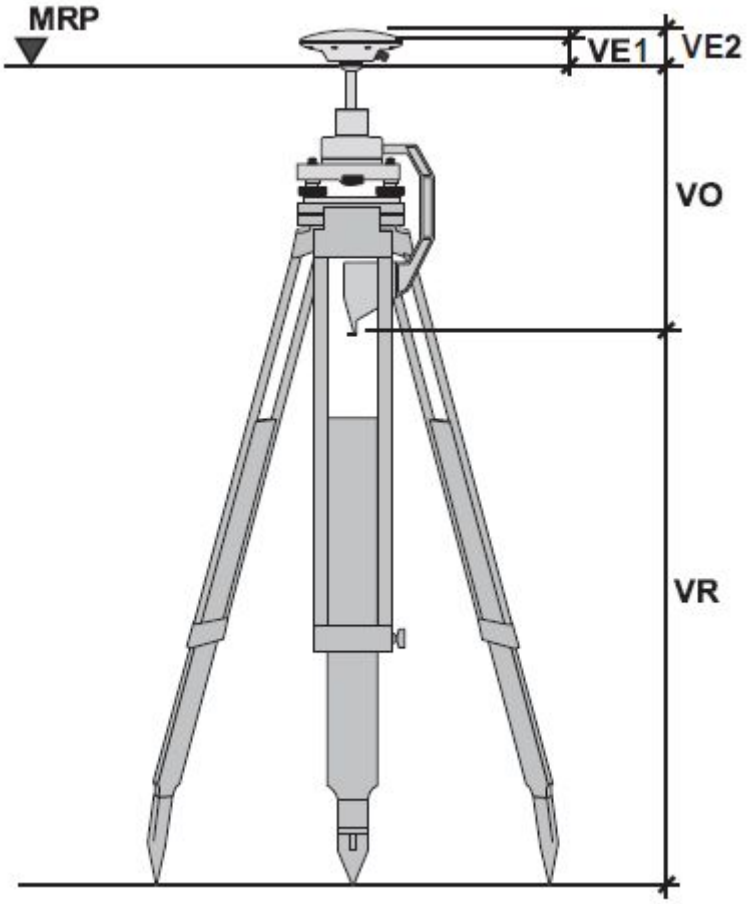

V 375_3-N_24FEB2012


ALGIERS LOCK
V 375_3-S_24FEB2012


V 375_3-W_24FEB2012

Appendix J: GPS TRIPOD AND ROD SETUP DIAGRAMS

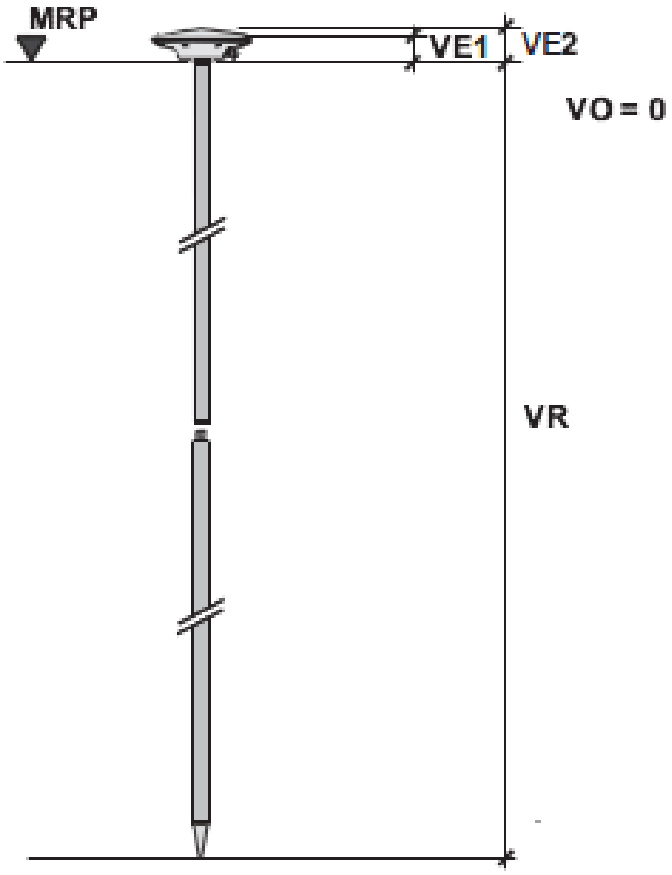
Leica Tripod Setup



VO Vertical Offset
VR Vertical Height Reading
VE1 Vertical Phase Center Eccentricity for L1.
VE2 Vertical Phase Center Eccentricity for L2
MRP Mechanical Reference Plane

Although an AT502 Antenna is shown, the same principles apply to the AX1202 and SR399 Antennas.
The Vertical Height Reading (VR) value is measured using the Height Hook.
The Vertical Offset (VO) value is stored in the Antenna Setup record and for a Tripod Setup with the Height Hook as shown is 0.36m for AT502 and AX1202 Antennas. For the SR399 Antenna, an offset of 0.441m was added to the Height Hook bringing the true height to the VE1.
The Vertical Phase Center Eccentricities are stored in the Receiver for all Leica System Antennas.

Leica Rod Setup



VO Vertical Offset
VR Vertical Height Reading
VE1 Vertical Phase Center Eccentricity for L1.
VE2 Vertical Phase Center Eccentricity for L2
MRP Mechanical Reference Plane

Although an AT501/502 Antenna is shown, the same principles apply to the AT504 and AT303. The Vertical Height Reading (VR) value fixed at the height of the pole. With a standard Leica System 500 pole this is 2.0m.. Additional 1.00 m pole sections may be easily added or subtracted. In some special cases where the lower half of the pole alone is used, the height will be 1.00m. The Vertical Offset (VO) value is zero in this case. The Vertical Phase Center Eccentricities are stored in the Receiver for all Leica System 500 Antennas and any non-Leica Antenna that you define.

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