GROUND CONTROL SURVEY REPORT

Services provided by:

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Ground Control Survey in Support of Topographic LIDAR, RGB Imagery and Hyperspectral Imagery of The Gulf Coast Region of Texas and Louisiana Contract # W91278-09-D-0010 Task Order 003

Services provided for:

U. S. ARMY CORPS OF ENGINEERS
MOBILE DISTRICT
POST OFFICE BOX 2288
MOBILE, AL 36628-0001

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ABSTRACT

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This report documents the GPS ground surveys conducted in support of LIDAR, RGB Imagery and Hyperspectral Imagery data collection for the US Army Corps of Engineers, Mobile District. The data was collected between March 03, 2009 and March 11, 2009. The ground control stations were established utilizing two Trimble 5700 GPS receiver, three Trimble 4700 series GPS receivers and five Trimble 4000 series GPS receiver, three Trimble micro-centered L1/L2 antenna, two Trimble Zephyr Geodetic, and five Trimble Compact L1/L2 antennas with ground plane GPS antennas. There were no problems encountered during this survey.

Following the control network surveys, surveys were conducted at 18 LIDAR Check sites and 43 Photo control points 13 were used as both utilizing the base stations established in the static network. These surveys established “Ground Truth” data and or a Photo Control point at each site. The Ground truth sites were surveyed on different surface types, including asphalt, limestone, dirt, thick cut grass, trees and brush, mowed grass and gravel.

Statistical comparisons were made between ground truth points collected in the survey and airborne LIDAR points which fell within 1 meter of the ground truth points. These statistics can be seen on pages 11-15. Comparisons were also made between the survey points and the LIDAR derived terrain surface. These comparisons provide an additional verification of the LIDAR data against the survey data.

The horizontal and vertical datums used for this project are listed below:

Coordinate System: UTM
Zone: 16 North
Horizontal Datum: NAD83
Vertical Datum: NAVD88
Geoid Model: Geoid03
Units: Meters

SURVEY METHODOLOGY

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Prior to beginning the survey collection, a reconnaissance was done of the existing control in the project area, and surrounding areas. Based on the results of the findings, the controls to be included in the network were selected based on their locations, horizontal and vertical orders, and their accessibility. In addition to the survey control, several Continuously Operating Reference Stations (CORS) were included into the GPS network. Control monuments were tied together with several sessions, and these monuments were tied to the secondary control monuments and newly established monuments. All control monuments and CORS can be found in the Fully-Constrained Adjustment table, found in Section 4-B, and can also be seen on the GPS Control Layout Map shown in Section 4-A.

After the static GPS network was completed, the ground truth data points were collected using a total station and data collector. The ground truth points can be seen in Section 5. This data was collected from stations that were tied into the static GPS network, and additional “check-in” points were collected and compared to positions established in the static network. The ground truth data was then processed and used to verify the LIDAR positions. The LIDAR point comparisons can be seen on pages 33-49.

MAIN REPORT

STATIC GPS SUMMARY

The Standard Operating Procedure for the data collection includes a geodetic control network plan designed to maximize the use of the highest order control points in the area of interest, and to optimize the spatial distribution of geodetic control across the network.

Also included is the simultaneous occupation of points designed to provide redundant vectors and loop closures, as well as a collection of a superfluity of points to compare observed values against published values of geodetic control points.

In addition, the static GPS network was established to verify the compatibility and correlation of existing published NGS controls in the project area. Horizontal and vertical constraints were selected based on the order of accuracy and correlation of the controls selected.

PRELIMINARY ANALYSIS

The baselines were processed using Trimble Business Centers' GNSS (Global Navigation satellite System) baseline processing. Ionosphere-free fixed solutions were found to provide the best results. Preliminary blunder detections were undertaken using "Redundant Vectors" and Global Network Closures and any extremely large errors were eliminated.

MINIMALLY CONSTRAINED ADJUSTMENT

The data are then processed using a minimally constrained geodetic control network to test the network internally, without external constraints, and produce a statistical summary. The statistics from this process are required to be within the tolerance outlined in the FEMA's Guidelines for Flood Hazard Mapping. These tolerances are represented as ellipsoids showing the margin of error value on a graph of the theoretical points, covariance values that indicate the degree of error of the vectors relative to the other vectors in the network, and a chi-squared test that compares the predicted variance determined through a least-squares analysis to the observed variance. The summary is evaluated to eliminate vectors that are outside of the error tolerances to be replaced with redundant vectors that are within the tolerances until all tolerances are met.

FULLY CONSTRAINED ADJUSTMENT

The quality of the existing horizontal controls is assessed before undertaking the constrained adjustment. Geodetic inverses between the published NAD83 Coordinates of existing stations were compared with the geodetic inverses derived from the minimally constrained least square adjustment results. This distance analysis is especially useful, since it provides a datum invariant means of comparison.
Once the minimally constrained network satisfies the requirements of the above tests, the highest order control points in the control network are selected with an optimum

spatial relationship to fully constrain the network to known control points, and have their published values entered as the position for those points and the network re-adjusted. The fully constrained positions are shown in Section 4-B. The same statistical tests are rerun on the adjusted network, as well as visually comparing adjusted values of geodetic control points to published values of control points not used as constraints. Again, the summary is evaluated to identify vectors outside of the tolerances and constraining points reselected to obtain the best fit to the geoid where all vectors are within the prescribed tolerances.

ERROR ELLIPSES

The adjustment results show that the a posteriori variance factor of the network was close to 1.0, as should be desired, and passed the chi square test. None of the residual components in the network were flagged for possible rejection under the□-max test at the 0.05 level of significance. The relative confidence ellipses reveal that the horizontal positional accuracy between all directly connected pairs of stations in the network were better than (1:100,000) at the 95% level of confidence. The Error ellipse components are included in this report in Section 4-C.

GROUND TRUTH SUMMARY

Surveys were conducted to establish ground truth data at representative sites throughout the project area. These sites were selected on the basis of the various types of ground surfaces and vegetation covers that would be encountered by the LIDAR surveys. As a quality control measure, a number of “check-in” points consisted of published horizontal and vertical control points within the area. The base stations used to collect survey data were included in the static GPS network, and were selected on the basis of their having an unobstructed view of the sky, as well as being in a location considered favorable for collecting ground truth data. The vertical and horizontal accuracy of each base station was determined by the statistical tests performed in the least squares adjustment process.

SAMPLE POINTS / TEST POINTS

The test points were distributed and categorized into sites as shown in the Map of Ground Truth Locations attached in this report (Section 5-A). These sites were selected on the basis of various types of ground surfaces and vegetation covers. At the time of LIDAR data acquisition, checkpoints were collected on surfaces with asphalt, gravel, trees and brush.

DATA ANALYSIS

Data analysis was accomplished by comparing ground truth checkpoints with LIDAR points from the edited data set, which were within 1 meter horizontally from the ground truth points. The only exception to this were the ground truth points collected under tree canopy, where comparisons were made with LIDAR pulses that fell within 3 meters of the check points. This is because fewer LIDAR pulses are able to reach the ground in heavily forested areas, so the point spacing is larger than in cleared areas. Based on the number of returns and the density of points in this project, it was not necessary to compare to anything further away than 1 meter from the ground truth points. Note that the edited LIDAR points are simply a subset of the raw LIDAR points. The points that fell above the ground surface on vegetation canopies, buildings, or other obstructions were removed from the data set. Comparisons were also made between the survey points and the LIDAR derived terrain surface. These comparisons provide an additional verification of the LIDAR data against the survey data.

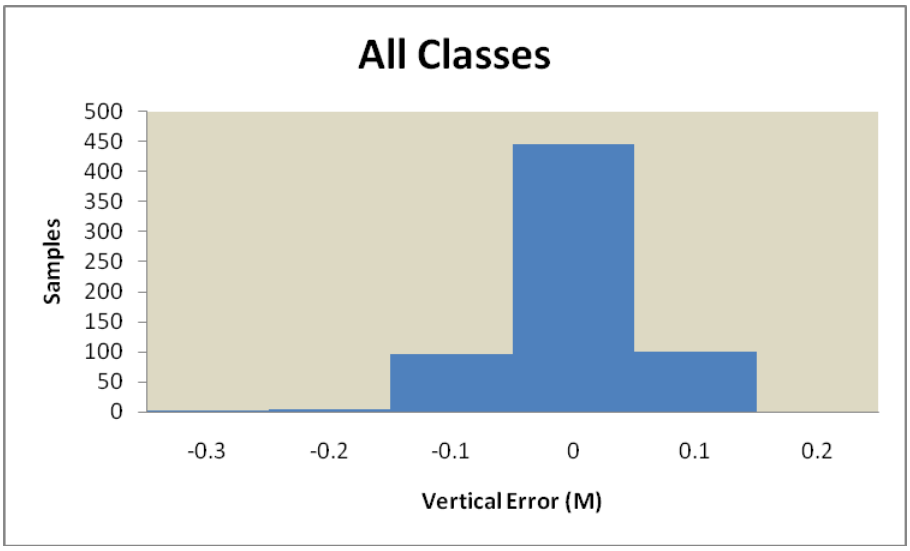
LIDAR POINT COMPARISON

The result of these comparisons of these values indicated a Vertical Root Mean Square Error (RMSEz) of 0.05 meter, which equates to Vertical Accuracy of 0.10 meters at the 95 percent confidence level.

OVERALL ACCURACY

A comparison of these values indicated a Vertical Root Mean Square Error (RMSEz) of 0.05 meter. This is within the vertical accuracy tolerance. The mean elevation difference for all points is 0.00 meters. Skewness is -0.76, indicating an approximately normal distribution. Descriptive statistics and a histogram of the vertical error distribution for all samples are shown below.

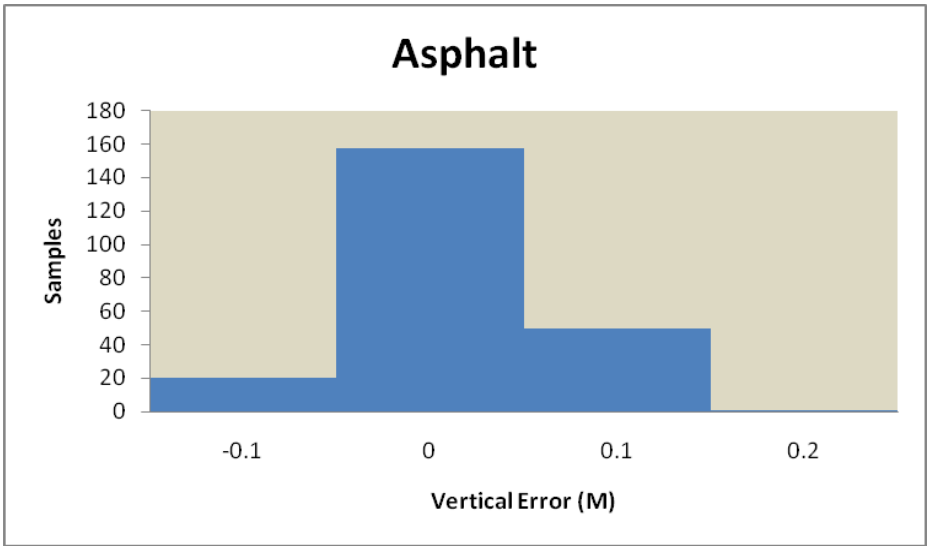
All Classes (M)	
RMSEz	0.05
Mean	0.00
Standard Error	0.00
Median	-0.01
Mode	-0.03
Standard Deviation	0.05
Sample Variance	0.00
Kurtosis	3.59
Skewness	-0.76
Range	0.41
Minimum	-0.26
Maximum	0.15
Count	651



ASPHALT

This set includes only those points that were collected in areas of asphalt surfaces. The resulting RMSEz is 0.04 meters, which is within the accuracy specification. The skewness is 0.29.

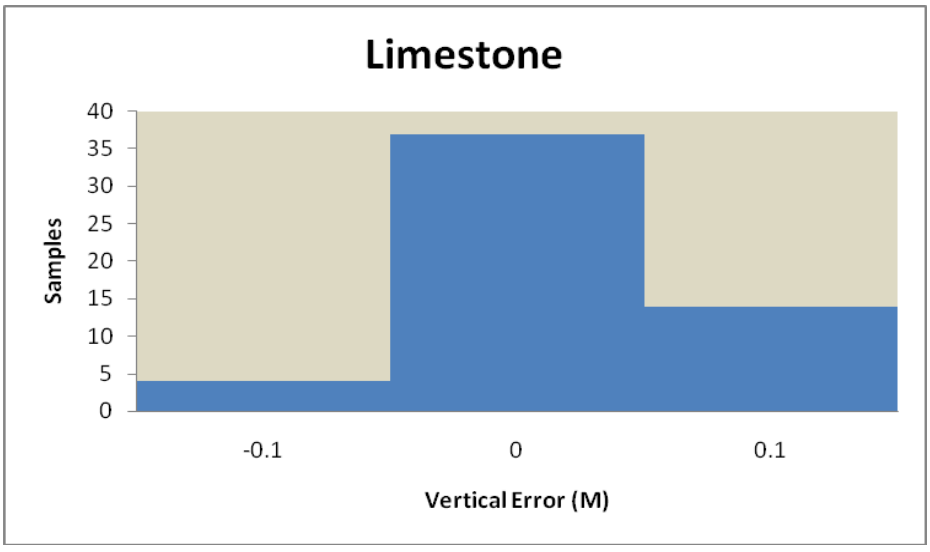
Asphalt (M)	
RMSEz	0.04
Mean	0.01
Standard Error	0.00
Median	0.00
Mode	-0.01
Standard Deviation	0.04
Sample Variance	0.00
Kurtosis	-0.30
Skewness	0.29
Range	0.23
Minimum	-0.08
Maximum	0.15
Count	229



LIMESTONE

This set includes only those points that were collected in areas of limestone surfaces. The resulting RMSEz is 0.05 meters, which is within the accuracy specification. The skewness is 0.39.

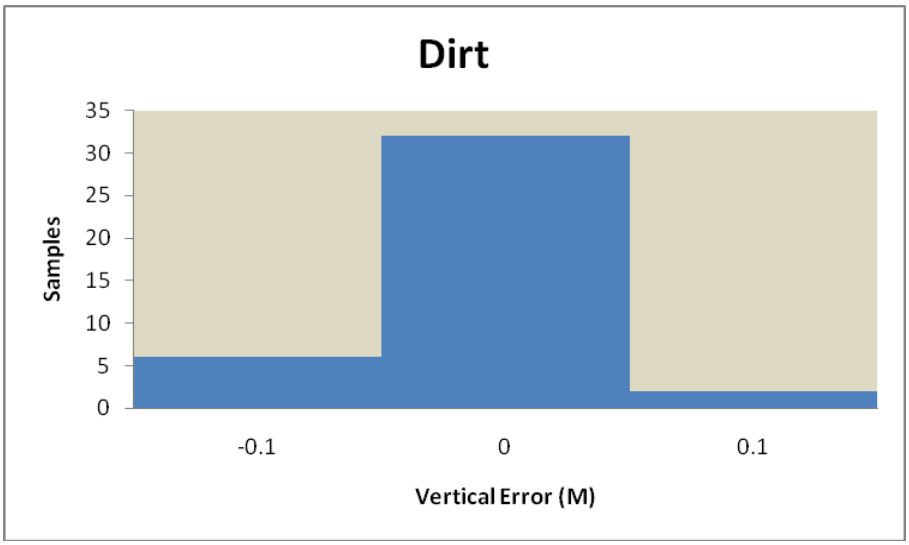
Limestone (M)	
RMSEz	0.05
Mean	0.01
Standard Error	0.01
Median	0.00
Mode	0.00
Standard Deviation	0.05
Sample Variance	0.00
Kurtosis	0.33
Skewness	0.39
Range	0.24
Minimum	-0.10
Maximum	0.14
Count	55



DIRT

This set includes only those points that were collected in areas of dirt surfaces. The resulting RMSEz is 0.04 meters, which is within the accuracy specification. The skewness is -0.19.

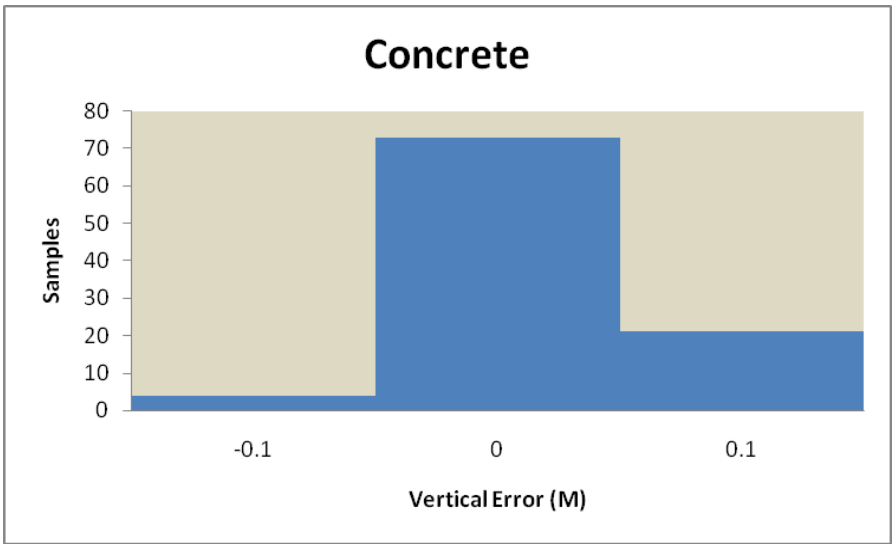
Dirt (M)	
RMSEz	0.04
Mean	-0.01
Standard Error	0.01
Median	-0.01
Mode	-0.03
Standard Deviation	0.04
Sample Variance	0.00
Kurtosis	-0.87
Skewness	-0.19
Range	0.13
Minimum	-0.08
Maximum	0.05
Count	40



CONCRETE

This set includes only those points that were collected in areas of concrete surfaces. The resulting RMSEz is 0.04 meters, which is within the accuracy specification. The skewness is 0.21.

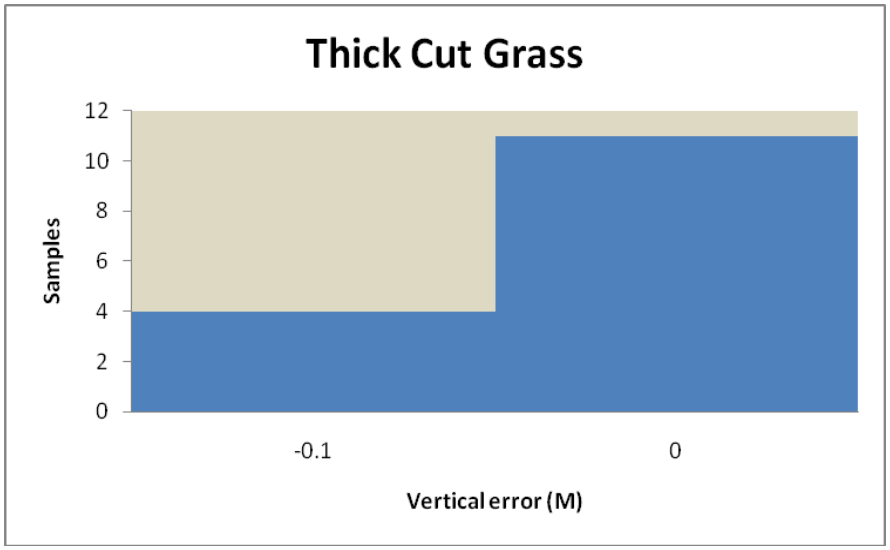
Concrete (M)	
RMSEz	0.04
Mean	0.01
Standard Error	0.00
Median	0.01
Mode	-0.02
Standard Deviation	0.04
Sample Variance	0.00
Kurtosis	-0.82
Skewness	0.21
Range	0.17
Minimum	-0.07
Maximum	0.10
Count	98



THICK CUT GRASS

This set includes only those points that were collected in areas of thick cut grass surfaces. The resulting RMSEz is 0.04 meters, which is within the accuracy specification. The skewness is -0.37.

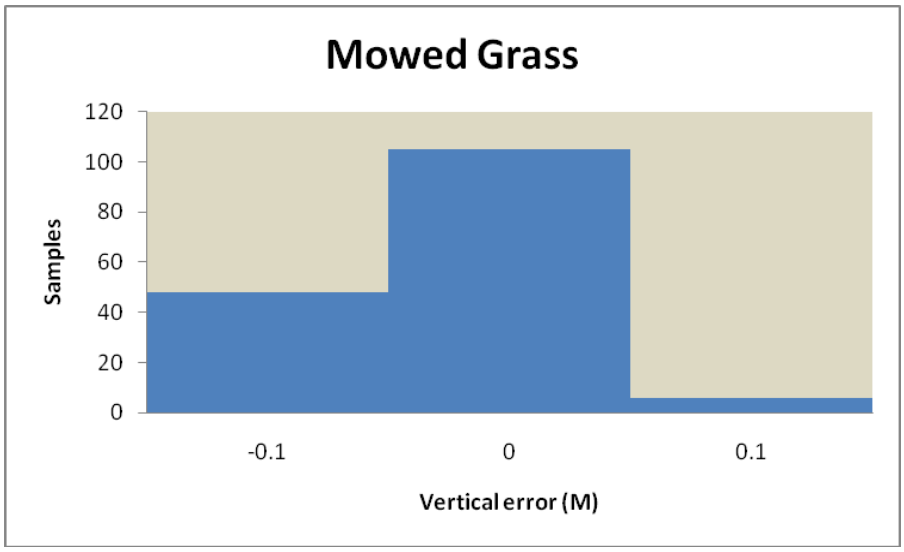
Thick Cut Grass (M)	
RMSEz	0.04
Mean	-0.03
Standard Error	0.01
Median	-0.03
Mode	-0.02
Standard Deviation	0.02
Sample Variance	0.00
Kurtosis	-0.32
Skewness	-0.37
Range	0.07
Minimum	-0.07
Maximum	0.00
Count	15



MOWED GRASS

This set includes only those points that were collected in areas of mowed grass surfaces. The resulting RMSEz is 0.04 meters, which is within the accuracy specification. The skewness is -0.17.

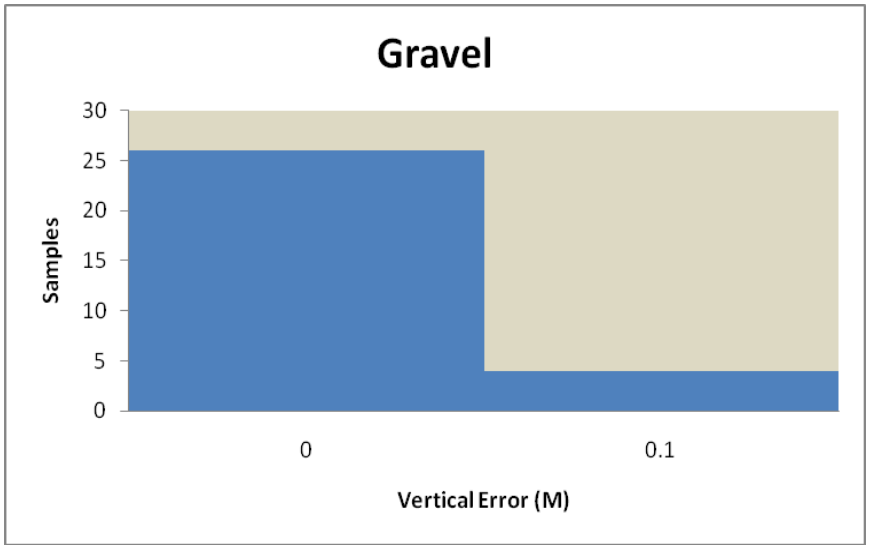
Mowed Grass (M)	
RMSEz	0.04
Mean	-0.03
Standard Error	0.00
Median	-0.03
Mode	-0.03
Standard Deviation	0.04
Sample Variance	0.00
Kurtosis	-0.52
Skewness	0.17
Range	0.16
Minimum	-0.11
Maximum	0.05
Count	159



GRAVEL

This set includes only those points that were collected in areas of gravel surfaces. The resulting RMSEz is 0.04 meters, which is within the accuracy specification. The skewness is 0.24.

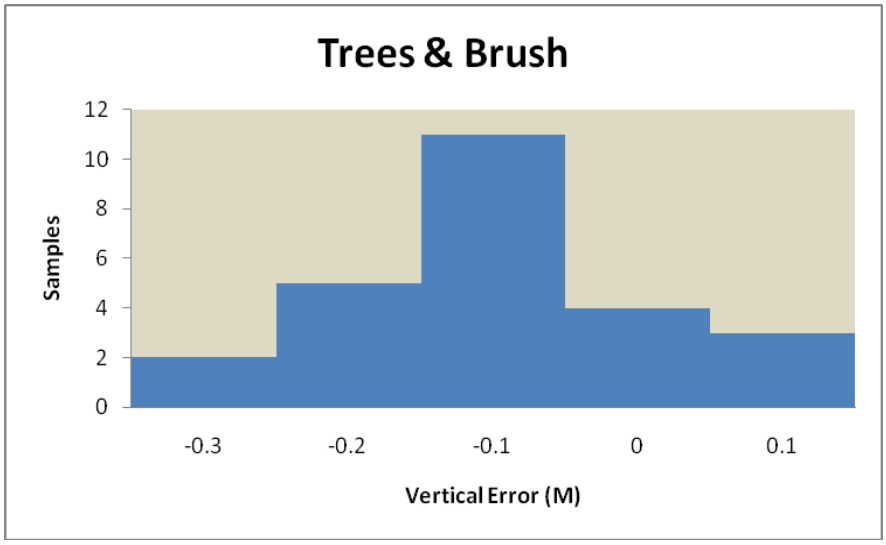
Gravel (M)	
RMSEz	0.04
Mean	0.02
Standard Error	0.01
Median	0.02
Mode	0.03
Standard Deviation	0.03
Sample Variance	0.00
Kurtosis	-0.17
Skewness	0.24
Range	0.12
Minimum	-0.03
Maximum	0.09
Count	30



TREES & BRUSH

This set includes only those points that were collected in areas of trees and brush surfaces. The skewness is -0.09 indicating an approximate normal distribution. The resulting RMSEz is 0.14 meter.

Trees & Brush (M)	
RMSEz	0.14
Mean	-0.09
Standard Error	0.02
Median	-0.08
Mode	-0.08
Standard Deviation	0.10
Sample Variance	0.01
Kurtosis	-0.84
Skewness	-0.09
Range	0.35
Minimum	-0.26
Maximum	0.09
Count	25



GPS NETWORK

A. GPS Control Layout Map

GPS Control Layout

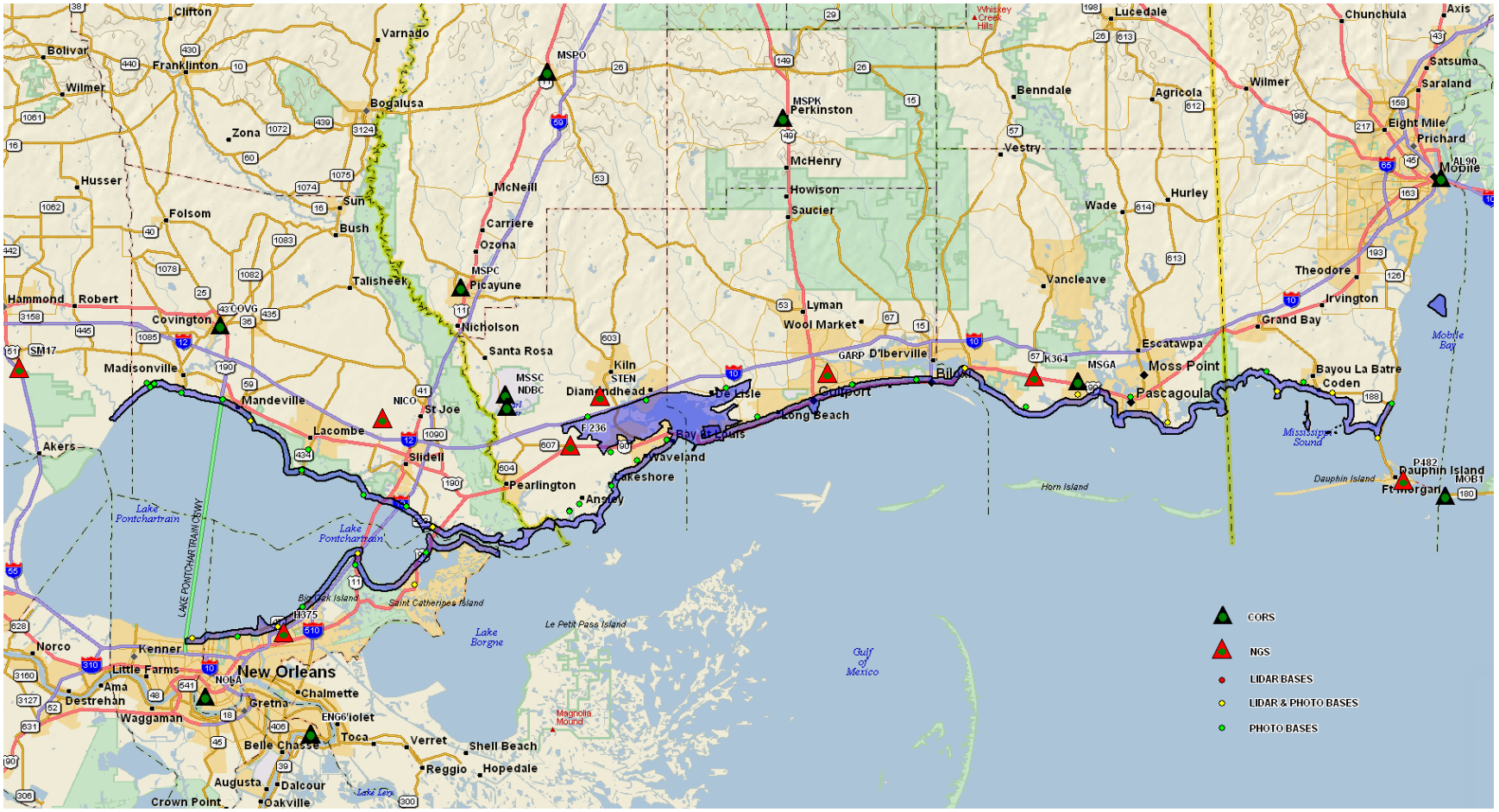
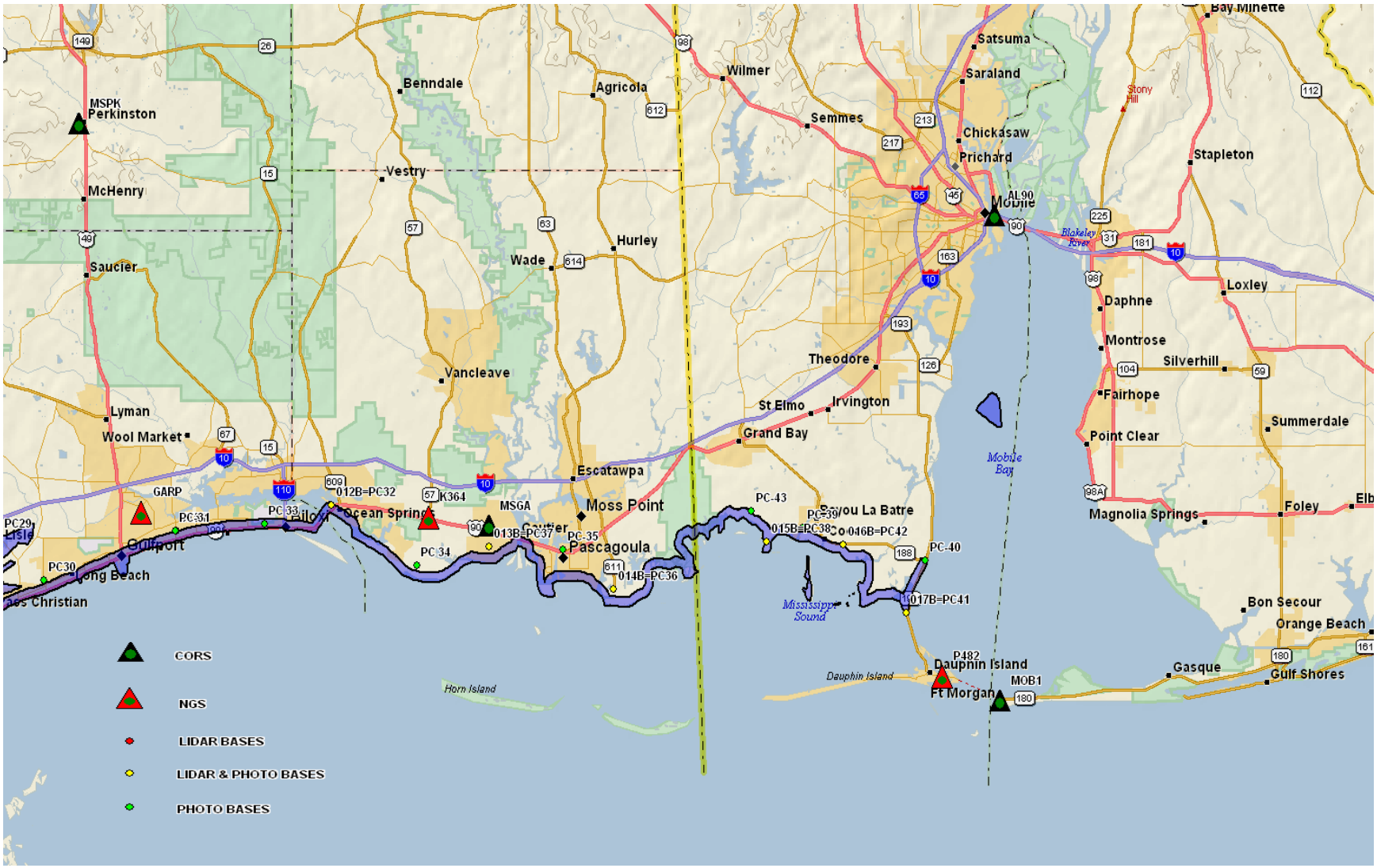


Figure 1

This map shows the CORS, NGS control monuments and the newly established monuments (see the legend above). The locations for these points can be found in the Fully Constrained Adjustment table (Section 4-B). The areas shown are 12, 13 and 14. The next page shows areas 11 and 15.

GPS Control Layout

GPS Control Layout



B. Fully Constrained

Gustav-Ike
GPS Control Network
Fully-Constrained Adjustment

Coordinate System: UTM
Zone: 16 North
Horizontal Datum: NAD83
Geoid Model: Geoid03
Units: Meters

Point ID	LAT.	LONG	Northing	Easting	Elevation	Ellip. Hgt
AL90	30°41'26.969603911"	-88°01'54.137330891"	3395792.49	401188.293	12.531	-15.984
COVG	30°28'33.269651526"	-90°05'43.923273164"	3375595.986	202807.011	22.437	-4.561
ENG5	29°52'44.246515202"	-89°56'30.197593862"	3309008.632	215870.755	9.045	-16.974
ENG6	29°52'45.044744440"	-89°56'31.484726790"	3309034.102	215836.836	9.04	-16.98
MOB1	30°13'39.046598027"	-88°01'26.752378382"	3344439.482	401451.603	10.495	-17.163
MSGA	30°23'40.464304307"	-88°38'42.490285994"	3363656.818	341951.196	20.445	-7.883
MSPC	30°31'52.334591426"	-89°41'19.221537621"	3380725.725	242029.802	28.294	0.794
MSPK	30°46'44.796074645"	-89°08'35.937845180"	3407085.923	294892.98	52.785	24.31
MSPO	30°50'43.538227985"	-89°32'32.011634375"	3415238.239	256875.05	116.536	88.414
MSSC	30°22'30.794681778"	-89°36'49.903419187"	3363262.592	248809.96	15.522	-11.706
NDBC	30°21'22.591384587"	-89°36'36.976193688"	3361154.139	249106.751	16.923	-10.264
NOLA	29°56'03.732849408"	-90°07'12.646882400"	3315608.241	198792.802	26.089	-0.11
F 236	30°18'04.716170312"	-89°30'12.475928844"	3354828.604	259241.412	6.116	-21.091
GARP	30°24'28.189662984"	-89°04'05.112445801"	3365792.907	301337.251	7.447	-20.746
H375	30°01'41.858779507"	-89°59'14.363498635"	3325681.279	211895.735	-1.671	-28.09
K364	30°24'09.719435109"	-88°43'07.479044170"	3364662.621	334892.307	7.608	-20.736
P482	30°15'04.944096599"	-88°05'42.235167677"	3347147.337	394647.499	1.902	-25.849
SM17	30°24'52.500365057"	-90°26'04.733546025"	3369736.795	170024.71	3.172	-23.731
STEN	30°22'23.162576565"	-89°27'10.927219551"	3362681.658	264264.987	6.673	-20.818
ELMO	30°30'01.869143709"	-88°16'28.437074261"	3374939.611	377687.71	39.671	11.272
G106	30°23'35.519444894"	-88°39'30.941673024"	3363523.443	340655.805	6.524	-21.801
GI07	30°01'57.610131107"	-89°58'41.870697396"	3326143.729	212779.229	-1.27	-27.698
NICO	30°20'26.611596326"	-89°49'16.238066999"	3359916.103	228784.245	7.61	-19.328
001B	30°23'32.198444881"	-90°13'06.518861351"	3366651.578	190733.458	2.366	-24.477
002B=PC06	30°20'14.787947063"	-90°02'36.034644409"	3360104.781	207406.871	1.456	-25.373
003B=PC07	30°15'46.185931710"	-89°57'23.316556624"	3351610.218	215546.484	0.772	-26.012
004B=PC11	30°10'57.878188293"	-89°44'10.955872896"	3342199.92	236517.806	1.634	-25.086
005B=PC12	30°01'11.473648850"	-90°08'32.994947455"	3325146.512	196897.196	2.069	-24.33
006B=PC13	30°02'12.946611302"	-89°59'50.799875560"	3326664.373	210944.27	-1.982	-28.418
007B=PC14	30°08'40.478255471"	-89°51'42.876533967"	3338265.261	224319.145	0.836	-25.805

008B=PC17	30°05'55.509253662"	-89°45'56.778112847"	3332955.787	233460.404	3.108	-23.456
009B	30°18'33.961809647"	-89°20'21.345380323"	3355392.186	275055.883	7.519	-19.989
010B	30°20'37.912247768"	-89°28'27.015754082"	3359484.584	262162.457	3.48	-23.894
011B	30°23'26.312266244"	-89°01'31.718538876"	3363813.562	305397.109	7.51	-20.668
012B=PC32	30°24'53.886876631"	-88°50'12.524981493"	3366200.709	323570.539	3.594	-24.753
013B=PC37	30°22'32.279433232"	-88°38'42.217611744"	3361557.431	341927.978	5.102	-23.177
014B=PC36	30°20'05.782139698"	-88°29'38.420179378"	3356846.108	356384.924	2.141	-25.995
015B=PC38	30°22'49.863864568"	-88°18'30.251257898"	3361677.04	374286.381	1.059	-27.124
016B=PC42	30°22'40.341610297"	-88°12'53.756633634"	3361283.856	383264.753	4.426	-23.715
017B=PC41	30°18'44.569188564"	-88°08'17.787832664"	3353949.179	390557.975	1.341	-26.6
018B	30°12'24.454642706"	-89°30'15.630653004"	3344351.837	258926.2	0.953	-25.998
001C	30°23'26.181736597"	-90°13'03.214835639"	3366463.719	190816.423	2.232	-24.609
002C	30°20'12.848829859"	-90°02'40.204876216"	3360048.043	207293.844	1.212	-25.616
003C	30°15'43.409995332"	-89°57'22.546623134"	3351524.179	215564.845	0.63	-26.153
004C	30°10'55.780052414"	-89°44'05.132838320"	3342131.558	236672.061	1.49	-25.23
005C	30°01'14.758239867"	-90°08'30.266690056"	3325245.68	196973.108	1.508	-24.893
006C	30°02'10.761751068"	-89°59'48.687988190"	3326595.593	210999.104	-2.065	-28.5
007C	30°08'44.776169092"	-89°51'40.182590853"	3338395.826	224394.581	1.681	-24.963
008C	30°05'50.674967215"	-89°45'59.053652807"	3332808.375	233395.857	3.06	-23.501
012C	30°24'50.490982014"	-88°50'16.087185965"	3366097.694	323473.781	4.621	-23.723
013C	30°22'32.456499644"	-88°38'39.388506362"	3361561.786	342003.58	5.048	-23.231
014C	30°19'59.079530914"	-88°29'38.055196414"	3356639.628	356391.953	1.765	-26.366
015C	30°22'44.401307187"	-88°18'29.787393709"	3361508.728	374296.82	1.376	-26.804
016C	30°22'40.457171052"	-88°12'49.725076998"	3361286.26	383372.401	4.491	-23.65
017C	30°18'40.936754575"	-88°08'17.528885482"	3353837.287	390563.77	1.792	-26.146
PC01	30°23'27.856670871"	-90°12'21.097565992"	3366483.386	191942.673	1.835	-25.007
PC03	30°23'13.236647466"	-90°12'49.682621123"	3366054.665	191166.489	2.262	-24.575
PC04	30°22'43.057990842"	-90°09'39.046200003"	3364981.6	196231.806	0.585	-26.249
PC05	30°22'06.191354886"	-90°05'24.769194240"	3363658.427	202992.107	2.862	-23.982
PC08	30°17'44.682747776"	-89°56'46.775352403"	3355234.71	216618.232	1.452	-25.37
PC09	30°13'47.946692345"	-89°51'07.559762561"	3347711.564	225501.762	1.494	-25.275
PC10	30°12'43.728755488"	-89°46'50.884277380"	3345563.676	232318.211	2.757	-23.999
PC15	30°03'59.474478593"	-89°57'19.387822369"	3329839.91	215086.832	-0.201	-26.692
PC16	30°07'37.614092679"	-89°52'01.957663361"	3336341.885	223759.68	0.936	-25.674
PC18	30°08'44.234060871"	-89°44'46.837284371"	3338107.003	235458.513	1.694	-24.958
PC20=018C	30°12'20.370525231"	-89°30'15.880290936"	3344226.211	258916.755	0.807	-26.141
PC21	30°01'23.371032531"	-90°03'57.864596680"	3325312.872	204282.015	-1.839	-28.247
PC22	30°12'58.836203864"	-89°29'16.438286269"	3345375.907	260532.622	1.601	-25.397
PC23	30°14'32.696501026"	-89°25'59.713428870"	3348152.54	265855.862	1.343	-25.807
PC24	30°16'47.147001604"	-89°23'24.994006520"	3352205.125	270079.756	5.198	-22.134
PC25=009C	30°18'35.100195001"	-89°20'24.796469565"	3355429.143	274964.398	7.74	-19.767

PC26=010C	30°20'37.075645388"	-89°28'26.161319233"	3359458.322	262184.717	3.38	-23.993
PC27	30°17'31.266154090"	-89°26'04.947022055"	3353654.598	265833.78	4.986	-22.309
PC28	30°22'04.183896272"	-89°22'29.920452730"	3361937.27	271756.147	3.424	-24.2
PC29	30°23'07.060238251"	-89°14'25.468710201"	3363609.899	284730.445	5.577	-22.325
PC30	30°20'37.213095817"	-89°11'12.252030103"	3358894.837	289799.633	5.065	-22.786
PC31=011C	30°23'26.617572268"	-89°01'36.083366100"	3363825.048	305280.764	8.723	-19.455
PC33	30°23'51.976761449"	-88°55'04.518467625"	3364423.775	315746.124	7.056	-21.208
PC34	30°21'27.791029025"	-88°43'57.341681429"	3359697.339	333485.297	5.813	-22.409
PC-35	30°22'22.736427934"	-88°33'21.437937851"	3361142.638	350487.053	1.635	-26.62
PC-39	30°23'37.837972342"	-88°15'51.348947555"	3363105.783	378544.215	1.83	-26.367
PC-40	30°21'46.724841274"	-88°06'54.632309009"	3359534.701	392834.133	2.45	-25.611
PC-43	30°24'36.083233785"	-88°19'35.499715913"	3364967.36	372583.102	2.386	-25.87

C. Error Ellipses

Point Error Ellipse Components

Point ID	Semi-major axis (M)	Semi-minor axis (M)	Azimuth
001B	0.006	0.004	154°
001C	0.009	0.007	152°
002B	0.007	0.005	171°
003B	0.007	0.005	33°
003C	0.01	0.007	33°
004B	0.006	0.006	165°
004C	0.008	0.008	3°
005B	0.008	0.005	154°
005C	0.011	0.007	152°
006B	0.007	0.006	1°
006C	0.01	0.008	4°
007B	0.007	0.006	30°
007C	0.009	0.007	34°
008B	0.007	0.006	170°
008C	0.009	0.007	164°
014C	0.009	0.006	36°
015C	0.013	0.008	153°
016C	0.015	0.012	25°
017C	0.009	0.008	43°
010B	0.005	0.004	162°
011B	0.006	0.004	29°
012C	0.009	0.007	33°
013C	0.007	0.005	14°
018B	0.005	0.004	26°
009B	0.005	0.004	25°
ELMO	0.004	0.004	8°
ENG5	0.003	0.003	3°
F 236	0.004	0.003	13°
G106	0.004	0.003	11°
GARP	0.004	0.004	39°
GI07	0.002	0.002	174°
K364	0.005	0.004	30°
MSPO	0.005	0.004	7°
MSSC	0.003	0.002	13°
NICO	0.003	0.003	179°

P482	0.006	0.005	30°
PC 20	0.005	0.004	26°
PC 25	0.005	0.004	25°
PC 26	0.005	0.004	164°
PC 33	0.008	0.007	22°
PC 34	0.01	0.006	173°
PC01	0.009	0.006	173°
PC03	0.006	0.004	153°
PC04	0.007	0.005	26°
PC05	0.006	0.006	22°
PC08	0.008	0.006	134°
PC09	0.006	0.006	170°
PC10	0.007	0.006	9°
PC15	0.007	0.007	180°
PC16	0.007	0.007	178°
PC18	0.008	0.006	11°
PC21	0.007	0.006	155°
PC22	0.009	0.008	31°
PC23	0.007	0.006	3°
PC24	0.009	0.007	154°
PC27	0.008	0.006	33°
PC28	0.008	0.007	160°
PC29	0.014	0.011	162°
PC30	0.009	0.007	0°
PC31	0.006	0.004	30°
PC32	0.006	0.004	33°
PC35	0.009	0.007	5°
PC36	0.007	0.005	34°
PC37	0.005	0.004	16°
PC38	0.009	0.006	153°
PC39	0.009	0.007	33°
PC40	0.01	0.007	36°
PC41	0.007	0.007	31°
PC42	0.01	0.007	167°
PC43	0.013	0.01	160°
SM17	0.004	0.003	157°
STEN	0.003	0.002	15°

GROUND TRUTH SURVEY

A. Map of Ground Truth Locations

Gustav-Ike Ground Truth Locations

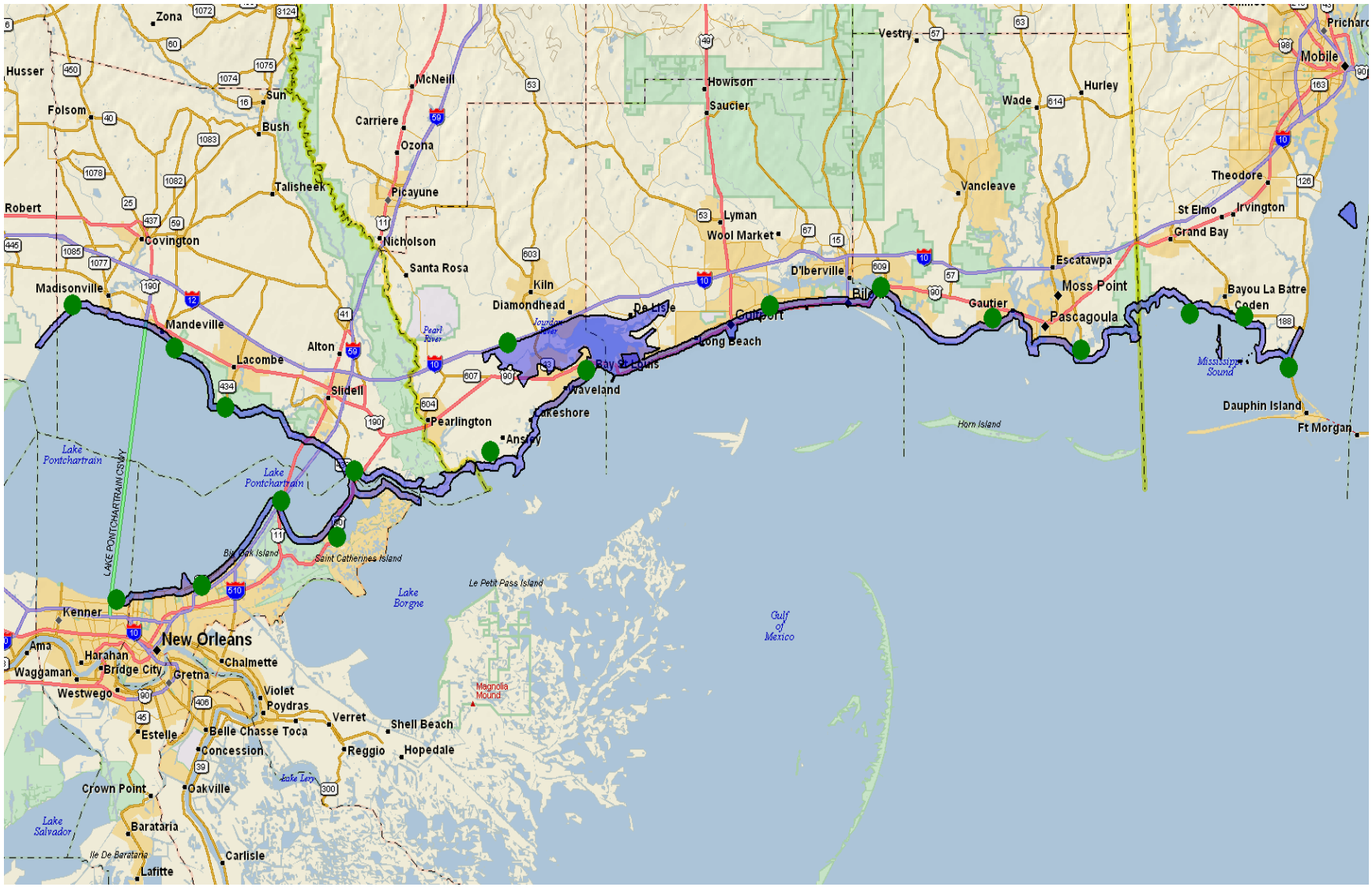


Figure 1

B. Ground Truth Analysis of LIDAR Points

Ground Check-Point Descriptive Codes

Surface Type		Sky Visibility		Surface Slope		Confidence	
1	Dirt	1	Open	1	Flat	1	Good
2	Sand	2	Part open	2	Slight Slope	2	Fair
3	Asphalt	3	Covered	3	Slope	3	Bad
4	Concrete						
5	Tall Grass						
6	Mowed Grass						
7	Trees and Brush						
8	Weeds and short grass						
9	Thick brush						
A	Thick cut grass						
B	Cultivated field - unplowed						
C	Limestone						
D	Trees and grass						
E	Gravel						
F	Brush and grass						

This table shows how the four character descriptive codes are assigned to each survey point in the ground control.

Example: 2111 = sand, open sky, flat slope, good confidence

GROUND TRUTH ANALYSIS
Comparison of LIDAR Points to Ground-Truth Points

Horizontal units = Meters [UTM, Zone 16 North, NAD83 (1999)]
Vertical units = Meters [NAVD88 – Geoid03]

Survey X	Survey Y	Survey Z	LIDAR X	LIDAR Y	LIDAR Z	dx	dy	dz	dist	Code
374291.7	3361666	1.1	374291.8	3361666	1.09	-0.08	-0.07	0.01	0.11	111A
374289.2	3361664	1.08	374289.2	3361664	1.12	-0.05	-0.1	-0.04	0.11	111A
390553.7	3353872	1.28	390553.8	3353872	1.28	-0.03	0.11	0	0.11	111A
390551	3353870	1.23	390550.9	3353870	1.19	0.09	0.09	0.04	0.13	111A
374289.3	3361655	1.04	374289.3	3361655	1.07	-0.02	-0.14	-0.02	0.14	111A
390554.1	3353869	1.33	390554.1	3353869	1.27	-0.03	-0.17	0.05	0.17	111A
390554.8	3353863	1.3	390554.8	3353863	1.25	-0.01	-0.19	0.05	0.19	111A
390555	3353860	1.33	390555.1	3353860	1.3	-0.17	0.1	0.02	0.2	111A
374289.4	3361640	0.96	374289.2	3361640	0.98	0.19	0.2	-0.02	0.27	111A
390551.3	3353859	1.22	390551.4	3353859	1.2	-0.09	0.25	0.02	0.27	111A
390550.4	3353874	1.21	390550.2	3353874	1.19	0.26	-0.09	0.02	0.27	111A
374289.1	3361658	1.05	374288.8	3361658	1.09	0.27	0.09	-0.04	0.28	111A
374291.7	3361670	1.1	374291.5	3361669	1.17	0.19	0.2	-0.07	0.28	111A
374292.1	3361628	0.96	374291.9	3361629	0.98	0.25	-0.21	-0.03	0.32	111A
374289.4	3361669	1.08	374289.4	3361670	1.15	0.03	-0.32	-0.07	0.32	111A
374291.7	3361661	1.11	374291.6	3361661	1.12	0.13	0.32	-0.01	0.35	111A
374289.1	3361648	0.99	374289.4	3361648	1.07	-0.23	-0.3	-0.08	0.38	111A
390551.5	3353866	1.22	390551.8	3353866	1.23	-0.3	0.24	-0.01	0.39	111A
374291.7	3361655	1.1	374291.6	3361655	1.13	0.17	0.38	-0.04	0.41	111A
390551.2	3353862	1.2	390550.9	3353863	1.18	0.26	-0.32	0.02	0.41	111A
374291.8	3361652	1.08	374291.8	3361653	1.08	0	-0.42	0	0.42	111A
374291.8	3361645	1.06	374292.1	3361645	1.02	-0.38	0.2	0.03	0.43	111A
374291.9	3361635	1	374292.2	3361636	0.99	-0.27	-0.39	0.01	0.48	111A
374288.9	3361661	1.05	374289.4	3361661	1.09	-0.5	-0.12	-0.03	0.52	111A
374292.1	3361639	1	374291.7	3361640	1.06	0.42	-0.3	-0.07	0.52	111A
374289.1	3361645	0.98	374289.6	3361645	1.01	-0.48	0.24	-0.03	0.54	111A
374289	3361666	1.07	374288.5	3361666	1.11	0.53	0.06	-0.04	0.54	111A
374291.8	3361658	1.1	374292.3	3361658	1.06	-0.54	-0.09	0.03	0.55	111A
374291.7	3361648	1.07	374291.2	3361648	1.05	0.55	-0.15	0.02	0.57	111A
374289.4	3361628	0.92	374289.9	3361629	0.94	-0.48	-0.4	-0.03	0.63	111A

374289.3	3361633	0.93	374288.7	3361633	0.9	0.6	-0.25	0.02	0.65	111A
374289.5	3361673	1.09	374290.1	3361672	1.12	-0.61	0.28	-0.03	0.67	111A
390554.3	3353866	1.29	390554.9	3353866	1.3	-0.61	-0.28	-0.01	0.67	111A
374291.7	3361643	1.04	374291	3361642	1.11	0.71	0.19	-0.07	0.73	111A
374291.8	3361673	1.08	374292.4	3361673	1.09	-0.64	-0.42	-0.01	0.76	111A
374291.8	3361663	1.09	374292.5	3361664	1.08	-0.69	-0.38	0.01	0.78	111A
374289.3	3361652	1.03	374290	3361653	1.06	-0.69	-0.43	-0.03	0.82	111A
374289.2	3361636	0.93	374290	3361635	0.99	-0.84	0.17	-0.06	0.85	111A
374292.3	3361632	0.96	374293.1	3361632	0.92	-0.85	-0.16	0.04	0.87	111A
374289.3	3361642	0.97	374288.5	3361642	0.96	0.88	0.07	0.01	0.88	111A
323571.5	3366193	3.81	323571.5	3366193	3.78	-0.03	0.02	0.03	0.04	311D
224313.6	3338255	0.69	224313.6	3338255	0.62	-0.05	-0.03	0.07	0.05	311D
341947.6	3361543	5.34	341947.7	3361543	5.4	-0.04	-0.04	-0.06	0.06	311D
341940.2	3361554	5.25	341940.2	3361554	5.31	0.01	0.08	-0.06	0.08	311D
356393.8	3356812	2.24	356393.9	3356812	2.22	-0.1	-0.01	0.02	0.1	311D
390559.4	3353913	1.56	390559.5	3353913	1.54	-0.09	-0.03	0.02	0.1	311D
190704.5	3366713	2.18	190704.6	3366713	2.22	-0.1	-0.05	-0.04	0.11	311D
236541.3	3342193	1.68	236541.2	3342194	1.6	0.12	-0.02	0.07	0.12	311D
356393.8	3356809	2.25	356393.9	3356809	2.26	-0.06	0.11	-0.01	0.12	311D
323565.2	3366188	3.92	323565	3366188	3.9	0.11	-0.06	0.02	0.13	311D
323566.2	3366185	3.85	323566.1	3366185	3.85	0.13	0	0	0.13	311D
341937.6	3361543	5.3	341937.5	3361543	5.31	0.13	0.01	-0.01	0.13	311D
190709	3366703	2.21	190708.9	3366703	2.23	0.04	0.15	-0.02	0.15	311D
275064.5	3355386	7.86	275064.5	3355386	7.88	-0.06	-0.14	-0.02	0.15	311D
275055.1	3355389	7.89	275055.1	3355389	7.9	-0.01	0.15	-0.01	0.15	311D
341940.9	3361543	5.3	341940.8	3361543	5.35	0.08	-0.13	-0.04	0.15	311D
356393.6	3356802	2.25	356393.7	3356802	2.26	-0.15	-0.02	0	0.15	311D
190709.1	3366698	2.23	190709	3366697	2.27	0.09	0.14	-0.04	0.16	311D
236539	3342195	1.67	236539.2	3342195	1.57	-0.15	0.05	0.1	0.16	311D
262181.6	3359462	3.37	262181.5	3359462	3.39	0.15	0.04	-0.02	0.16	311D
323560.6	3366187	3.94	323560.5	3366187	3.95	0.14	-0.08	-0.01	0.16	311D
224310.6	3338254	0.75	224310.6	3338254	0.7	0.02	0.17	0.05	0.17	311D
275065.7	3355379	7.95	275065.5	3355380	7.9	0.17	-0.04	0.05	0.17	311D
262174.6	3359474	3.36	262174.4	3359474	3.37	0.18	0	-0.01	0.18	311D
323557.6	3366184	3.96	323557.7	3366185	4	-0.1	-0.15	-0.03	0.18	311D
323557.8	3366178	3.94	323557.8	3366178	3.92	-0.06	0.17	0.02	0.18	311D
383272.3	3361289	4.57	383272.5	3361289	4.55	-0.14	-0.11	0.03	0.18	311D
323559	3366182	3.98	323558.9	3366182	4.02	0.11	0.16	-0.03	0.19	311D
341934.7	3361543	5.3	341934.7	3361543	5.35	-0.03	0.19	-0.05	0.19	311D

341948.9	3361554	5.29	341949.1	3361554	5.34	-0.18	0.07	-0.05	0.19	311D
356391.2	3356806	2.28	356391	3356806	2.31	0.18	-0.07	-0.03	0.19	311D
275053.2	3355385	7.94	275053	3355385	7.92	0.19	-0.06	0.03	0.2	311D
262170.8	3359478	3.38	262171	3359478	3.37	-0.13	-0.15	0	0.2	311D
341945.8	3361554	5.29	341945.7	3361554	5.33	0.16	-0.12	-0.03	0.2	311D
356391.1	3356796	2.3	356391.3	3356796	2.33	-0.18	-0.08	-0.03	0.2	311D
196880	3325121	2.07	196880.2	3325121	2.02	-0.21	-0.01	0.05	0.21	311D
383270	3361288	4.58	383270.1	3361289	4.53	-0.1	-0.18	0.05	0.21	311D
262168.2	3359476	3.44	262168.2	3359476	3.44	-0.01	0.22	-0.01	0.22	311D
305417.5	3363817	7.61	305417.3	3363817	7.61	0.18	0.12	0	0.22	311D
323551.7	3366179	4	323551.9	3366179	4.01	-0.16	-0.15	-0.02	0.22	311D
236545	3342196	1.69	236545.3	3342196	1.6	-0.23	-0.06	0.08	0.23	311D
262175.8	3359467	3.4	262175.6	3359467	3.42	0.22	0.08	-0.02	0.23	311D
262179.6	3359466	3.35	262179.4	3359465	3.37	0.19	0.13	-0.02	0.23	311D
341943	3361554	5.28	341943.1	3361554	5.37	-0.15	-0.17	-0.08	0.23	311D
190702.3	3366712	2.19	190702.5	3366712	2.23	-0.2	0.13	-0.04	0.24	311D
190713.2	3366695	2.23	190713.1	3366695	2.26	0.09	0.22	-0.03	0.24	311D
236552.7	3342193	1.71	236552.7	3342193	1.66	-0.01	-0.24	0.05	0.24	311D
224307.7	3338246	0.71	224307.6	3338246	0.66	0.11	-0.21	0.05	0.24	311D
275074.9	3355377	7.94	275074.6	3355377	7.91	0.23	-0.08	0.03	0.24	311D
305416.9	3363820	7.58	305416.7	3363820	7.59	0.19	-0.15	-0.01	0.24	311D
323569.9	3366188	3.82	323569.7	3366189	3.83	0.2	-0.14	-0.01	0.24	311D
305404.3	3363817	7.61	305404.1	3363816	7.62	0.14	0.21	-0.01	0.25	311D
323568.3	3366190	3.87	323568.3	3366191	3.87	-0.02	-0.25	0	0.25	311D
356388.6	3356809	2.21	356388.3	3356809	2.24	0.24	0.06	-0.02	0.25	311D
383263.1	3361288	4.58	383263.3	3361288	4.52	-0.23	0.1	0.06	0.25	311D
390559.2	3353920	1.58	390559.4	3353920	1.53	-0.21	0.13	0.05	0.25	311D
190707.8	3366700	2.22	190707.9	3366700	2.26	-0.06	0.26	-0.04	0.26	311D
236540.6	3342198	1.67	236540.5	3342198	1.66	0.09	0.24	0.02	0.26	311D
356388.6	3356806	2.23	356388.8	3356806	2.25	-0.14	-0.22	-0.02	0.26	311D
356388.2	3356793	2.24	356388.3	3356793	2.24	-0.12	-0.23	-0.01	0.26	311D
390560.2	3353931	1.59	390560.5	3353931	1.64	-0.25	-0.09	-0.05	0.26	311D
196885	3325121	2.09	196884.7	3325121	2.08	0.24	-0.11	0.01	0.27	311D
341945.3	3361549	5.3	341945.1	3361549	5.37	0.25	-0.1	-0.07	0.27	311D
356393.8	3356796	2.25	356393.5	3356796	2.23	0.27	0.04	0.03	0.27	311D
275060.8	3355384	7.94	275060.7	3355385	7.93	0.02	-0.28	0.01	0.28	311D
390561	3353913	1.64	390560.9	3353913	1.6	0.11	0.25	0.04	0.28	311D
390560.5	3353928	1.62	390560.3	3353929	1.57	0.15	-0.23	0.05	0.28	311D
262179	3359461	3.39	262178.9	3359461	3.4	0.11	-0.26	-0.01	0.29	311D

323553.1	3366177	4.03	323553.1	3366177	4.06	-0.05	0.28	-0.03	0.29	311D
190708.1	3366705	2.2	190707.8	3366705	2.24	0.29	0.04	-0.04	0.3	311D
262172	3359473	3.42	262172	3359473	3.42	-0.06	0.29	0	0.3	311D
262183.1	3359460	3.38	262182.8	3359460	3.39	0.27	0.14	-0.01	0.3	311D
305408.5	3363820	7.61	305408.8	3363820	7.61	-0.3	0.02	0	0.3	311D
323555.8	3366180	4.01	323555.6	3366180	4.02	0.11	-0.28	0	0.3	311D
190710.1	3366701	2.21	190710.1	3366701	2.23	0.01	0.31	-0.02	0.31	311D
190704.1	3366708	2.19	190704.4	3366709	2.24	-0.3	-0.02	-0.05	0.31	311D
236556.3	3342191	1.71	236556.2	3342191	1.63	0.05	-0.3	0.08	0.31	311D
275067.3	3355385	7.87	275067.5	3355384	7.88	-0.24	0.2	-0.01	0.31	311D
275069.2	3355379	7.96	275068.8	3355379	7.97	0.31	-0.02	-0.01	0.31	311D
262175.7	3359463	3.39	262175.9	3359463	3.41	-0.15	-0.27	-0.02	0.31	311D
341939.9	3361549	5.27	341939.8	3361549	5.32	0.05	-0.31	-0.05	0.31	311D
190705.9	3366704	2.21	190705.6	3366704	2.25	0.26	0.18	-0.03	0.32	311D
224308.2	3338250	0.76	224308.3	3338250	0.71	-0.12	-0.29	0.06	0.32	311D
262173.5	3359477	3.34	262173.8	3359477	3.33	-0.3	-0.1	0.01	0.32	311D
305413.2	3363817	7.57	305413.4	3363817	7.6	-0.16	-0.28	-0.03	0.32	311D
323570.7	3366195	3.78	323570.4	3366195	3.83	0.3	0.12	-0.06	0.32	311D
341936.8	3361549	5.28	341936.5	3361549	5.32	0.29	-0.15	-0.04	0.32	311D
341944.2	3361543	5.38	341944	3361543	5.41	0.26	-0.2	-0.04	0.32	311D
356389.2	3356816	2.22	356389.4	3356815	2.18	-0.21	0.25	0.03	0.32	311D
390559.6	3353910	1.57	390559.3	3353911	1.51	0.29	-0.14	0.06	0.32	311D
390559.6	3353908	1.56	390559.7	3353907	1.54	-0.03	0.31	0.02	0.32	311D
190707	3366702	2.22	190706.8	3366702	2.27	0.28	0.18	-0.04	0.33	311D
207368.1	3360090	1.34	207368.1	3360091	1.35	0.02	-0.33	-0.01	0.33	311D
390558.9	3353933	1.49	390559.1	3353933	1.4	-0.19	-0.27	0.09	0.33	311D
207376.6	3360093	1.25	207376.5	3360093	1.29	0.11	-0.32	-0.04	0.34	311D
196871.3	3325124	1.99	196871.6	3325124	1.97	-0.29	-0.17	0.02	0.34	311D
275056.6	3355383	7.95	275056.9	3355383	7.94	-0.27	0.21	0	0.34	311D
262169.2	3359473	3.44	262169.2	3359473	3.46	0	-0.34	-0.02	0.34	311D
262171.8	3359469	3.44	262171.6	3359468	3.45	0.24	0.24	-0.01	0.34	311D
262173.3	3359466	3.4	262173.4	3359466	3.42	-0.09	0.33	-0.02	0.34	311D
323563.8	3366183	3.88	323564	3366183	3.84	-0.19	0.29	0.04	0.34	311D
323572.5	3366191	3.8	323572.6	3366190	3.8	-0.13	0.31	0	0.34	311D
341952.1	3361554	5.3	341952.5	3361554	5.38	-0.33	-0.08	-0.08	0.34	311D
390558.8	3353931	1.52	390558.5	3353931	1.47	0.33	-0.08	0.05	0.34	311D
190705.1	3366711	2.19	190704.8	3366711	2.23	0.35	0.04	-0.04	0.35	311D
196880.6	3325119	2.12	196880.5	3325120	2.12	0.16	-0.31	0	0.35	311D
356391.2	3356816	2.25	356391.3	3356815	2.23	-0.08	0.34	0.02	0.35	311D

196885	3325124	2.03	196885.3	3325124	2.03	-0.28	0.23	0	0.36	311D
275062.5	3355381	7.96	275062.8	3355381	7.96	-0.27	0.25	0	0.36	311D
275058.4	3355388	7.88	275058.3	3355388	7.92	0.07	0.35	-0.04	0.36	311D
262176	3359472	3.36	262176.3	3359471	3.38	-0.26	0.25	-0.02	0.36	311D
305413.7	3363820	7.58	305413.5	3363820	7.58	0.18	0.31	0	0.36	311D
356393.8	3356806	2.25	356393.7	3356806	2.24	0.1	-0.34	0.01	0.36	311D
356391.1	3356802	2.29	356391.4	3356802	2.32	-0.3	0.21	-0.03	0.36	311D
190711.3	3366694	2.25	190710.9	3366694	2.27	0.37	-0.02	-0.03	0.37	311D
236547.3	3342195	1.69	236547	3342195	1.67	0.33	0.17	0.02	0.37	311D
383278.6	3361289	4.58	383278.7	3361288	4.56	-0.12	0.36	0.02	0.37	311D
210925.5	3326679	-2.02	210925.2	3326679	-2.1	0.23	0.3	0.07	0.38	311D
305401	3363817	7.63	305400.7	3363817	7.64	0.34	-0.16	-0.02	0.38	311D
236557.9	3342186	1.7	236558.3	3342187	1.64	-0.36	-0.14	0.06	0.39	311D
275054.4	3355387	7.93	275054.3	3355387	7.91	0.18	-0.35	0.02	0.39	311D
262177.4	3359464	3.39	262177.8	3359464	3.4	-0.38	-0.06	-0.01	0.39	311D
323560.5	3366180	3.92	323560.4	3366181	3.94	0.16	-0.35	-0.03	0.39	311D
356391.2	3356812	2.25	356390.9	3356811	2.27	0.29	0.26	-0.02	0.39	311D
383275.7	3361289	4.58	383275.8	3361288	4.52	-0.12	0.37	0.06	0.39	311D
190712.3	3366697	2.22	190712	3366697	2.25	0.38	-0.13	-0.04	0.4	311D
190706.1	3366709	2.18	190705.9	3366709	2.24	0.21	0.34	-0.06	0.4	311D
207378.2	3360089	1.26	207377.8	3360089	1.24	0.38	0.12	0.02	0.4	311D
210923.6	3326683	-2	210923.9	3326682	-2.07	-0.33	0.23	0.06	0.4	311D
196880.1	3325125	2.02	196879.7	3325125	2	0.4	0.07	0.02	0.41	311D
224304.1	3338243	0.77	224304.4	3338243	0.75	-0.27	-0.31	0.02	0.41	311D
224306.3	3338247	0.76	224306.7	3338247	0.68	-0.41	-0.04	0.08	0.41	311D
262167.9	3359479	3.4	262168	3359480	3.41	-0.04	-0.41	-0.01	0.41	311D
262178.1	3359468	3.35	262177.9	3359469	3.35	0.2	-0.35	0.01	0.41	311D
196871.8	3325119	2.09	196871.4	3325119	2.06	0.34	0.26	0.03	0.42	311D
224301.4	3338235	0.7	224301.7	3338236	0.64	-0.3	-0.29	0.06	0.42	311D
323553.8	3366181	3.99	323554.2	3366181	4.02	-0.41	-0.11	-0.03	0.42	311D
190710.2	3366696	2.24	190709.8	3366696	2.26	0.38	-0.21	-0.02	0.43	311D
390560.6	3353926	1.64	390560.8	3353926	1.62	-0.25	0.36	0.02	0.43	311D
207371	3360091	1.29	207371.1	3360091	1.32	-0.18	-0.4	-0.03	0.44	311D
236535.6	3342200	1.67	236535.8	3342201	1.6	-0.22	-0.39	0.06	0.44	311D
196876.1	3325124	2	196876.2	3325125	1.97	-0.06	-0.43	0.03	0.44	311D
210928.2	3326685	-1.96	210928.6	3326684	-2.01	-0.37	0.23	0.05	0.44	311D
275066.4	3355382	7.96	275066.1	3355382	7.96	0.38	-0.21	-0.01	0.44	311D
390559.1	3353923	1.58	390559.1	3353923	1.51	-0.03	-0.44	0.07	0.44	311D
190703.1	3366710	2.19	190703.3	3366711	2.25	-0.15	-0.42	-0.06	0.45	311D

207372.4	3360087	1.3	207372.1	3360087	1.31	0.34	-0.29	-0.02	0.45	311D
210929.8	3326682	-1.97	210929.9	3326681	-2.02	-0.09	0.44	0.05	0.45	311D
356388.5	3356803	2.23	356388.3	3356803	2.24	0.16	-0.42	-0.01	0.45	311D
190711.2	3366699	2.21	190710.8	3366699	2.23	0.33	-0.31	-0.01	0.46	311D
236561.4	3342189	1.69	236561	3342189	1.63	0.46	-0.03	0.07	0.46	311D
341937.4	3361554	5.26	341937.9	3361554	5.31	-0.46	0.07	-0.05	0.46	311D
341955.7	3361542	5.34	341955.5	3361542	5.39	0.2	0.41	-0.04	0.46	311D
236538.3	3342199	1.67	236538.6	3342199	1.64	-0.36	0.31	0.03	0.47	311D
196871.5	3325122	2.02	196871	3325122	1.99	0.47	0.02	0.04	0.47	311D
275071.3	3355383	7.87	275071.1	3355383	7.88	0.22	0.42	-0.01	0.47	311D
323566.9	3366192	3.87	323567.4	3366193	3.84	-0.45	-0.13	0.02	0.47	311D
356391	3356792	2.3	356391.5	3356792	2.31	-0.46	0.1	-0.01	0.47	311D
390561.2	3353908	1.63	390561.6	3353908	1.65	-0.41	-0.23	-0.03	0.47	311D
323562.3	3366185	3.96	323562.5	3366186	3.96	-0.16	-0.45	0	0.48	311D
390559.1	3353926	1.58	390559.2	3353926	1.59	-0.13	0.47	-0.02	0.48	311D
190707.1	3366707	2.2	190706.7	3366708	2.26	0.43	-0.23	-0.06	0.49	311D
236548.3	3342191	1.7	236548.7	3342191	1.69	-0.39	-0.3	0.02	0.49	311D
236542.7	3342197	1.68	236542.3	3342197	1.6	0.41	0.27	0.07	0.49	311D
341950.6	3361549	5.32	341950.7	3361550	5.33	-0.09	-0.48	-0.01	0.49	311D
224309.8	3338249	0.71	224309.6	3338250	0.62	0.28	-0.41	0.09	0.5	311D
341948	3361549	5.3	341947.6	3361549	5.35	0.38	0.34	-0.05	0.5	311D
390560.7	3353923	1.64	390560.2	3353923	1.58	0.45	-0.22	0.06	0.5	311D
341942.6	3361549	5.29	341942.1	3361549	5.35	0.5	-0.08	-0.07	0.51	311D
190705	3366706	2.21	190704.5	3366706	2.23	0.52	-0.08	-0.02	0.52	311D
236553.7	3342188	1.71	236553.2	3342189	1.67	0.43	-0.3	0.04	0.52	311D
236562.1	3342185	1.68	236562.5	3342184	1.58	-0.38	0.36	0.1	0.52	311D
207373.7	3360092	1.25	207373.6	3360093	1.29	0.09	-0.52	-0.04	0.53	311D
196876.3	3325120	2.1	196875.7	3325120	2.07	0.53	-0.09	0.03	0.53	311D
224305.7	3338242	0.71	224305.8	3338242	0.57	-0.12	0.52	0.15	0.53	311D
275057.5	3355386	7.93	275058.1	3355386	7.89	-0.53	0.01	0.04	0.53	311D
236534.1	3342197	1.66	236534.6	3342197	1.63	-0.52	-0.16	0.03	0.54	311D
210927.3	3326680	-2	210927.8	3326681	-2.03	-0.51	-0.18	0.03	0.54	311D
224299.8	3338236	0.75	224299.3	3338236	0.71	0.54	-0.02	0.04	0.54	311D
262173.7	3359470	3.43	262174.2	3359470	3.41	-0.49	0.24	0.02	0.54	311D
236560.1	3342185	1.69	236559.6	3342186	1.65	0.47	-0.28	0.04	0.55	311D
236555.7	3342187	1.71	236555.2	3342187	1.63	0.55	0.09	0.08	0.56	311D
390560.5	3353933	1.59	390560.9	3353933	1.61	-0.36	0.43	-0.03	0.56	311D
390560.9	3353917	1.64	390560.3	3353917	1.59	0.56	0.04	0.05	0.56	311D
236551.4	3342189	1.71	236552	3342189	1.65	-0.55	0.16	0.06	0.57	311D

236543.4	3342193	1.68	236544	3342193	1.61	-0.55	-0.14	0.07	0.57	311D
305409.1	3363816	7.6	305409.6	3363816	7.64	-0.56	0.1	-0.04	0.57	311D
356388.3	3356795	2.24	356388.6	3356795	2.27	-0.34	0.45	-0.03	0.57	311D
210933	3326676	-1.96	210932.4	3326676	-2.02	0.57	0.12	0.06	0.58	311D
224303.6	3338239	0.71	224303.9	3338239	0.69	-0.29	-0.5	0.01	0.58	311D
356391.1	3356809	2.26	356390.5	3356809	2.25	0.57	-0.07	0.01	0.58	311D
236558.8	3342190	1.7	236559.4	3342190	1.65	-0.54	-0.23	0.05	0.59	311D
262180.4	3359458	3.39	262179.9	3359459	3.36	0.55	-0.22	0.03	0.59	311D
207381.2	3360090	1.29	207380.9	3360091	1.3	0.25	-0.54	-0.01	0.6	311D
224312	3338256	0.75	224311.5	3338257	0.69	0.51	-0.32	0.06	0.6	311D
275059.8	3355382	7.95	275059.6	3355382	7.94	0.2	0.56	0.02	0.6	311D
236546.1	3342192	1.7	236545.5	3342192	1.62	0.6	0.08	0.07	0.61	311D
236563.5	3342188	1.68	236564.1	3342188	1.62	-0.6	-0.11	0.06	0.61	311D
210921.6	3326682	-2.02	210922	3326682	-2.03	-0.36	-0.5	0.02	0.61	311D
275070	3355381	7.95	275070.5	3355381	7.93	-0.49	-0.36	0.02	0.61	311D
390559.2	3353916	1.56	390558.6	3353916	1.5	0.6	-0.09	0.06	0.61	311D
224302.1	3338240	0.77	224302.4	3338239	0.69	-0.38	0.49	0.08	0.62	311D
390561	3353911	1.63	390560.5	3353911	1.63	0.57	-0.27	0	0.62	311D
383257.3	3361288	4.6	383256.9	3361289	4.6	0.36	-0.52	0	0.63	311D
275061.9	3355387	7.87	275061.7	3355386	7.85	0.11	0.63	0.02	0.64	311D
236550.4	3342194	1.7	236549.9	3342194	1.59	0.52	-0.39	0.11	0.65	311D
210930.7	3326675	-2.02	210931	3326675	-2.04	-0.3	-0.57	0.03	0.65	311D
275063.6	3355383	7.94	275064.1	3355384	7.93	-0.53	-0.38	0.01	0.65	311D
341951.1	3361543	5.34	341951.7	3361543	5.37	-0.55	-0.34	-0.03	0.65	311D
383260.5	3361288	4.59	383259.9	3361288	4.6	0.62	-0.22	-0.01	0.65	311D
383267.2	3361288	4.58	383266.6	3361288	4.53	0.6	0.25	0.05	0.65	311D
236537	3342196	1.67	236537.4	3342196	1.64	-0.42	-0.54	0.03	0.68	311D
275075.7	3355379	7.94	275075.8	3355378	7.95	-0.11	0.68	0	0.69	311D
224298.4	3338232	0.72	224297.7	3338232	0.65	0.7	-0.04	0.07	0.7	311D
323564.1	3366190	3.91	323564.7	3366189	3.86	-0.69	0.26	0.05	0.74	311D
207369.7	3360086	1.34	207369.2	3360086	1.4	0.5	-0.57	-0.06	0.76	311D
383281.3	3361289	4.58	383280.6	3361289	4.57	0.71	-0.29	0.02	0.76	311D
207375.1	3360088	1.24	207374.3	3360088	1.27	0.75	-0.22	-0.03	0.78	311D
210931.7	3326683	-1.94	210931.2	3326682	-1.98	0.53	0.58	0.03	0.78	311D
210925.7	3326684	-1.98	210925.2	3326683	-2.03	0.51	0.58	0.04	0.78	311D
356393.9	3356815	2.22	356393.3	3356816	2.21	0.52	-0.58	0.01	0.78	311D
207379.9	3360094	1.29	207380.6	3360094	1.33	-0.78	0.17	-0.04	0.8	311D
383254.1	3361288	4.59	383253.3	3361288	4.54	0.8	0.15	0.05	0.82	311D
390559	3353928	1.55	390559.9	3353928	1.63	-0.84	0	-0.08	0.84	311D

356388.7	3356812	2.21	356387.8	3356811	2.19	0.86	0.03	0.02	0.86	311D
341953.3	3361549	5.35	341954.1	3361550	5.42	-0.76	-0.41	-0.07	0.87	311D
390560.6	3353920	1.64	390561.5	3353920	1.61	-0.91	-0.2	0.03	0.93	311D
305401.2	3363820	7.61	305402.2	3363820	7.64	-0.93	-0.31	-0.03	0.98	311D
224312	3338253	0.7	224311.5	3338252	0.65	0.51	0.86	0.05	0.99	311D
196969.8	3325221	2.31	196969.8	3325221	2.3	-0.01	-0.04	0.02	0.04	411D
305333	3363780	7.48	305333	3363780	7.48	0.02	0.07	0	0.07	411D
196968	3325214	2.27	196968	3325214	2.26	0.08	0.09	0.01	0.12	411D
211011.4	3326619	-1.99	211011.3	3326619	-2.02	0.11	-0.03	0.03	0.12	411D
211012.2	3326617	-2	211012	3326616	-2.04	0.12	0.04	0.05	0.13	411D
224220.6	3338251	0.95	224220.5	3338251	0.86	0.12	0.05	0.09	0.13	411D
356401.2	3356838	2.16	356401.2	3356838	2.18	0.07	0.11	-0.01	0.13	411D
305333	3363786	7.51	305333.1	3363786	7.52	-0.06	0.13	-0.01	0.14	411D
305327.4	3363776	7.45	305327.4	3363776	7.45	0.07	-0.12	0.01	0.14	411D
196964.1	3325218	2.27	196964.2	3325218	2.24	-0.12	-0.09	0.03	0.15	411D
305324.6	3363789	7.48	305324.5	3363789	7.52	0.06	-0.14	-0.04	0.15	411D
356408.7	3356831	2.22	356408.5	3356831	2.19	0.13	0.07	0.02	0.15	411D
196965.8	3325222	2.3	196965.8	3325222	2.27	-0.01	-0.16	0.03	0.16	411D
211023	3326615	-1.97	211023.1	3326615	-2.04	-0.06	-0.14	0.08	0.16	411D
356412.7	3356831	2.24	356412.6	3356831	2.24	0.1	-0.13	0	0.16	411D
305336.1	3363781	7.51	305336.3	3363781	7.55	-0.17	0.05	-0.04	0.17	411D
356407.5	3356837	2.22	356407.4	3356837	2.24	0.15	-0.1	-0.02	0.18	411D
305332.6	3363772	7.48	305332.6	3363772	7.52	0.09	-0.18	-0.04	0.2	411D
211016.1	3326619	-1.98	211016	3326619	-2.04	0.07	-0.2	0.07	0.21	411D
211022.6	3326626	-1.97	211022.5	3326626	-2.03	0.05	0.24	0.06	0.25	411D
356401.4	3356833	2.16	356401.5	3356833	2.18	-0.18	-0.17	-0.02	0.25	411D
196964	3325210	2.24	196963.8	3325210	2.23	0.22	-0.13	0.01	0.26	411D
196970	3325216	2.29	196969.9	3325216	2.24	0.03	-0.25	0.04	0.26	411D
196962.3	3325217	2.26	196962.1	3325217	2.24	0.26	0.02	0.03	0.26	411D
305339.5	3363786	7.57	305339.6	3363786	7.59	-0.17	-0.2	-0.02	0.27	411D
211013.1	3326615	-2	211013	3326615	-2.04	0.1	-0.27	0.04	0.28	411D
211021.9	3326617	-1.96	211021.9	3326617	-1.99	0	-0.28	0.04	0.28	411D
196965.9	3325219	2.29	196965.7	3325219	2.27	0.27	0.1	0.02	0.29	411D
211017.4	3326616	-1.98	211017.2	3326616	-2.03	0.24	0.17	0.05	0.29	411D
224227.7	3338260	0.92	224227.4	3338260	0.88	0.32	-0.05	0.04	0.32	411D
305335.7	3363770	7.49	305335.7	3363769	7.54	-0.06	0.31	-0.05	0.32	411D
305327.8	3363765	7.49	305327.6	3363766	7.5	0.2	-0.25	-0.02	0.32	411D
305328.1	3363778	7.44	305328.3	3363778	7.47	-0.12	-0.3	-0.02	0.32	411D
356407.9	3356834	2.23	356407.9	3356834	2.25	-0.02	-0.32	-0.02	0.32	411D

196961.4	3325208	2.2	196961.1	3325208	2.17	0.32	0.06	0.03	0.33	411D
211009.4	3326623	-2.02	211009.7	3326623	-2.09	-0.27	0.2	0.06	0.33	411D
305339.2	3363775	7.55	305339	3363775	7.6	0.2	-0.27	-0.04	0.33	411D
305335.9	3363775	7.51	305336.1	3363775	7.54	-0.17	-0.29	-0.03	0.34	411D
305333.3	3363789	7.53	305333.2	3363788	7.55	0.13	0.32	-0.01	0.34	411D
356401.3	3356830	2.14	356401.1	3356830	2.14	0.23	0.26	0	0.34	411D
305339.4	3363783	7.57	305339.1	3363783	7.56	0.28	0.2	0	0.35	411D
305339	3363767	7.5	305339.4	3363767	7.51	-0.31	-0.16	-0.02	0.35	411D
305332	3363770	7.49	305332.2	3363769	7.48	-0.16	0.31	0.01	0.35	411D
196967.9	3325220	2.31	196967.9	3325220	2.31	-0.05	0.36	0.01	0.36	411D
305328.1	3363773	7.46	305328.1	3363772	7.48	-0.05	0.35	-0.02	0.36	411D
305328.1	3363784	7.45	305327.9	3363783	7.49	0.24	0.27	-0.04	0.36	411D
196971.9	3325218	2.31	196972.1	3325218	2.26	-0.26	-0.28	0.04	0.38	411D
211009.7	3326614	-2.02	211010	3326614	-2.09	-0.27	0.26	0.07	0.38	411D
211024	3326622	-1.94	211023.8	3326623	-2	0.2	-0.32	0.06	0.38	411D
224224.4	3338251	1	224224.6	3338251	0.91	-0.22	-0.31	0.09	0.38	411D
305328	3363781	7.44	305327.7	3363781	7.46	0.3	-0.24	-0.02	0.38	411D
196955.7	3325218	2.24	196955.6	3325218	2.17	0.13	0.37	0.06	0.39	411D
305339.1	3363772	7.53	305339	3363773	7.57	0.18	-0.35	-0.04	0.39	411D
305339	3363764	7.47	305338.8	3363763	7.54	0.2	0.33	-0.07	0.39	411D
305328	3363768	7.48	305327.8	3363768	7.52	0.19	-0.34	-0.04	0.39	411D
305336.4	3363786	7.54	305336.7	3363786	7.58	-0.28	0.29	-0.03	0.4	411D
196973.6	3325219	2.32	196973.3	3325220	2.3	0.27	-0.31	0.02	0.41	411D
196961.7	3325222	2.3	196961.9	3325222	2.27	-0.23	-0.33	0.03	0.41	411D
224229.9	3338257	0.98	224229.6	3338257	0.9	0.31	0.27	0.08	0.41	411D
305335.8	3363772	7.51	305336.1	3363772	7.54	-0.33	0.25	-0.03	0.41	411D
196974.7	3325220	2.32	196975	3325221	2.3	-0.23	-0.35	0.02	0.42	411D
196959.5	3325221	2.29	196959.8	3325220	2.22	-0.3	0.3	0.07	0.42	411D
224221.6	3338247	0.99	224221.2	3338247	0.96	0.43	0.01	0.03	0.43	411D
224222.7	3338254	0.93	224223.2	3338254	0.83	-0.44	0.02	0.1	0.44	411D
196966.2	3325212	2.26	196965.9	3325213	2.24	0.32	-0.31	0.02	0.45	411D
305339.1	3363770	7.51	305338.8	3363769	7.53	0.33	0.29	-0.02	0.45	411D
356401.3	3356835	2.16	356401.1	3356836	2.18	0.11	-0.45	-0.02	0.46	411D
211020	3326621	-1.95	211020.4	3326621	-2	-0.44	0.15	0.05	0.47	411D
305335.6	3363766	7.46	305336.1	3363766	7.48	-0.46	0.06	-0.01	0.47	411D
211018.6	3326624	-1.96	211018.6	3326625	-2	0.04	-0.48	0.04	0.48	411D
305327.4	3363789	7.51	305327.8	3363789	7.52	-0.35	-0.32	-0.01	0.48	411D
305327.5	3363786	7.48	305327.3	3363786	7.49	0.27	0.42	0	0.5	411D
305336.3	3363783	7.53	305336.7	3363783	7.53	-0.36	0.36	0	0.51	411D

356404.4	3356837	2.2	356403.9	3356837	2.21	0.5	0.11	-0.02	0.51	411D
196953.9	3325216	2.21	196953.4	3325216	2.18	0.49	-0.17	0.03	0.52	411D
224218.7	3338248	0.94	224218.7	3338249	0.93	0.04	-0.52	0.01	0.52	411D
305332	3363767	7.48	305331.5	3363767	7.53	0.48	-0.18	-0.06	0.52	411D
211006.7	3326620	-2.03	211006.4	3326620	-2.1	0.32	0.42	0.06	0.53	411D
305335.6	3363764	7.45	305335.1	3363764	7.49	0.46	-0.26	-0.04	0.53	411D
305336	3363778	7.51	305335.5	3363778	7.56	0.54	-0.1	-0.04	0.55	411D
305332.9	3363783	7.49	305332.4	3363783	7.49	0.49	0.3	0	0.57	411D
211008.1	3326617	-2.03	211007.7	3326618	-2.05	0.42	-0.45	0.02	0.62	411D
211025.6	3326619	-1.95	211025.8	3326620	-1.98	-0.23	-0.58	0.03	0.62	411D
305339.3	3363780	7.55	305339.9	3363780	7.6	-0.62	0.01	-0.04	0.62	411D
211014.6	3326622	-1.99	211014.9	3326623	-2.06	-0.34	-0.53	0.07	0.63	411D
305328.2	3363770	7.46	305328.5	3363770	7.48	-0.36	-0.51	-0.02	0.63	411D
305333.3	3363776	7.48	305333.8	3363777	7.51	-0.49	-0.42	-0.03	0.64	411D
305333.4	3363774	7.48	305332.8	3363774	7.5	0.6	-0.26	-0.02	0.65	411D
211010.3	3326621	-2	211009.6	3326621	-2.06	0.65	0.08	0.06	0.66	411D
224224.8	3338257	0.93	224224.9	3338256	0.95	-0.07	0.67	-0.01	0.67	411D
305339.7	3363788	7.59	305339.3	3363788	7.62	0.42	0.55	-0.02	0.69	411D
211013	3326625	-2	211013.4	3326626	-2.07	-0.38	-0.59	0.07	0.7	411D
211019.1	3326613	-1.99	211019.1	3326613	-2.01	0.07	-0.72	0.02	0.72	411D
224227.1	3338254	0.99	224227.3	3338253	0.92	-0.26	0.67	0.07	0.72	411D
356413.1	3356834	2.26	356412.4	3356834	2.23	0.68	0.21	0.02	0.72	411D
224232.6	3338261	0.95	224233.3	3338261	0.87	-0.73	0.21	0.08	0.76	411D
305339.6	3363792	7.61	305338.9	3363792	7.67	0.77	-0.25	-0.06	0.81	411D
196957.8	3325219	2.27	196958.5	3325220	2.24	-0.71	-0.53	0.03	0.89	411D
323538	3366172	3.71	323538	3366172	3.76	-0.03	0.03	-0.05	0.04	611A
262157.8	3359477	3.43	262157.8	3359478	3.5	0.03	-0.03	-0.07	0.05	611A
341921.6	3361536	5.27	341921.6	3361536	5.34	0.05	0.03	-0.07	0.06	611A
341929.5	3361544	5.23	341929.5	3361544	5.27	0	0.06	-0.04	0.06	611A
383255.1	3361271	4.03	383255.1	3361271	4.02	0.06	0.01	0	0.06	611A
196816.1	3325184	3.11	196816.2	3325184	3.09	-0.04	-0.06	0.02	0.07	611A
190679.9	3366631	2.4	190679.8	3366631	2.45	0.06	-0.08	-0.05	0.09	611A
275009.7	3355411	7.82	275009.6	3355411	7.83	0.08	-0.05	0	0.09	611A
383249.1	3361267	4.01	383249	3361267	4.02	0.05	-0.09	-0.01	0.11	611A
210961.7	3326675	-1.48	210961.8	3326675	-1.5	-0.06	-0.11	0.02	0.12	611A
207456.9	3360081	0.91	207456.7	3360081	0.97	0.14	-0.03	-0.05	0.15	611A
196805.5	3325189	3.17	196805.4	3325189	3.14	0.09	-0.13	0.03	0.15	611A
323546	3366177	3.92	323546	3366177	3.94	0.03	-0.15	-0.02	0.15	611A
323533.8	3366171	3.33	323533.9	3366171	3.37	-0.15	0.02	-0.04	0.15	611A

323532.7	3366165	3.86	323532.9	3366165	3.88	-0.15	-0.02	-0.02	0.15	611A
262139.2	3359483	3.69	262139.3	3359482	3.71	-0.12	0.11	-0.02	0.16	611A
341926.8	3361537	5.21	341926.6	3361537	5.29	0.14	-0.07	-0.09	0.16	611A
196815.4	3325189	3.09	196815.5	3325189	3.04	-0.09	0.14	0.04	0.17	611A
262145.6	3359481	3.54	262145.4	3359481	3.57	0.16	0.04	-0.03	0.17	611A
210958.3	3326673	-1.61	210958.3	3326673	-1.65	0.01	-0.18	0.03	0.18	611A
190678.8	3366622	2.38	190678.9	3366622	2.43	-0.11	0.16	-0.05	0.19	611A
262136.5	3359477	3.64	262136.7	3359477	3.68	-0.17	-0.1	-0.04	0.19	611A
190676.9	3366625	2.38	190676.8	3366625	2.41	0.09	-0.19	-0.03	0.2	611A
341927.5	3361539	5.21	341927.7	3361539	5.24	-0.19	-0.02	-0.04	0.2	611A
305390.1	3363806	7.49	305390.3	3363806	7.58	-0.2	0.07	-0.09	0.21	611A
323549.6	3366181	3.86	323549.5	3366181	3.87	0.15	-0.15	-0.01	0.21	611A
323538.5	3366175	3.49	323538.7	3366175	3.56	-0.21	-0.05	-0.07	0.21	611A
356408.5	3356844	2	356408.3	3356844	2.03	0.18	0.1	-0.03	0.21	611A
196805.3	3325178	3.05	196805.5	3325178	3.02	-0.18	0.13	0.02	0.22	611A
190681	3366624	2.39	190681.1	3366624	2.4	-0.07	0.22	-0.01	0.23	611A
196813.9	3325178	3.01	196813.9	3325179	2.97	-0.04	-0.23	0.04	0.23	611A
210957.8	3326675	-1.58	210957.8	3326675	-1.61	0.09	0.22	0.03	0.23	611A
275019.5	3355405	7.7	275019.5	3355405	7.74	0	0.23	-0.04	0.23	611A
305396.3	3363805	7.51	305396.1	3363805	7.57	0.23	0.03	-0.06	0.23	611A
323533.7	3366168	3.58	323533.9	3366168	3.65	-0.19	0.12	-0.07	0.23	611A
190678.1	3366630	2.41	190678	3366630	2.44	0.16	-0.18	-0.03	0.24	611A
383248.9	3361271	4.04	383248.9	3361271	4.08	0.03	-0.24	-0.04	0.24	611A
207462.7	3360085	0.95	207462.5	3360085	0.95	0.2	0.15	0	0.25	611A
196811.7	3325184	3.11	196811.5	3325184	3.09	0.22	-0.13	0.02	0.25	611A
356414.3	3356843	2.12	356414.4	3356843	2.16	-0.04	-0.25	-0.04	0.25	611A
383252.2	3361267	3.99	383252.4	3361267	4.05	-0.23	0.09	-0.06	0.25	611A
262149	3359485	3.61	262149.3	3359485	3.64	-0.26	-0.03	-0.03	0.26	611A
262142	3359477	3.6	262142	3359478	3.63	0.03	-0.26	-0.02	0.26	611A
323544.3	3366178	3.75	323544.1	3366178	3.75	0.26	0.02	-0.01	0.26	611A
341923.2	3361542	5.22	341923	3361542	5.26	0.21	-0.16	-0.03	0.26	611A
275011	3355414	7.91	275011	3355413	7.91	0.03	0.27	0	0.27	611A
190685.7	3366626	2.41	190685.8	3366626	2.42	-0.11	0.25	-0.01	0.28	611A
190680.1	3366628	2.41	190679.8	3366628	2.45	0.26	-0.12	-0.04	0.28	611A
207465.6	3360074	0.91	207465.9	3360074	0.96	-0.27	-0.08	-0.05	0.28	611A
262147.9	3359482	3.54	262148	3359482	3.59	-0.14	-0.24	-0.05	0.28	611A
323543.1	3366174	3.87	323543.2	3366174	3.92	-0.1	0.26	-0.05	0.28	611A
341925	3361532	5.17	341925.2	3361532	5.26	-0.22	-0.17	-0.09	0.28	611A
383258.2	3361267	3.88	383257.9	3361267	3.94	0.27	0.04	-0.06	0.28	611A

275013.5	3355413	7.93	275013.6	3355413	7.95	-0.11	-0.27	-0.03	0.29	611A
305393.2	3363805	7.5	305393.4	3363805	7.55	-0.19	0.21	-0.05	0.29	611A
356419.3	3356843	2.19	356419.2	3356843	2.23	0.15	0.25	-0.04	0.29	611A
356411.1	3356841	2.25	356410.9	3356840	2.25	0.13	0.26	-0.01	0.29	611A
356407.5	3356841	2.17	356407.4	3356841	2.15	0.14	-0.25	0.02	0.29	611A
383258.2	3361262	3.93	383258	3361263	3.94	0.16	-0.24	-0.01	0.29	611A
190683.7	3366630	2.42	190683.9	3366630	2.44	-0.27	0.13	-0.02	0.3	611A
190682.3	3366632	2.42	190682.2	3366632	2.45	0.08	0.29	-0.03	0.3	611A
196811.7	3325178	3.04	196811.4	3325179	3.02	0.25	-0.15	0.02	0.3	611A
323539.5	3366171	3.89	323539.6	3366170	3.94	-0.07	0.29	-0.05	0.3	611A
210959.4	3326665	-1.58	210959.6	3326664	-1.61	-0.24	0.21	0.04	0.31	611A
275015	3355409	7.82	275015.3	3355409	7.86	-0.3	0.08	-0.04	0.32	611A
275017.9	3355408	7.81	275017.8	3355409	7.82	0.06	-0.31	-0.01	0.32	611A
262144.2	3359484	3.67	262144.4	3359483	3.67	-0.12	0.3	0	0.32	611A
262138.6	3359480	3.5	262138.6	3359481	3.6	-0.08	-0.31	-0.09	0.32	611A
262151.5	3359478	3.45	262151.3	3359478	3.56	0.16	0.27	-0.11	0.32	611A
323541.6	3366173	3.87	323541.8	3366173	3.91	-0.25	-0.19	-0.04	0.32	611A
356419	3356840	2.25	356418.8	3356840	2.27	0.26	0.18	-0.02	0.32	611A
207458.5	3360077	0.93	207458.7	3360077	0.96	-0.23	-0.23	-0.03	0.33	611A
274999.9	3355414	7.8	274999.8	3355414	7.79	0.14	0.29	0.01	0.33	611A
356411.2	3356843	2.06	356411.3	3356843	2.1	-0.16	0.29	-0.04	0.33	611A
207464.7	3360077	0.91	207465	3360077	0.94	-0.25	-0.22	-0.03	0.34	611A
196810.5	3325189	3.12	196810.7	3325189	3.07	-0.24	0.24	0.05	0.34	611A
341926.6	3361546	5.31	341926.5	3361546	5.37	0.07	0.34	-0.06	0.34	611A
196809.2	3325183	3.13	196809.4	3325183	3.1	-0.13	-0.32	0.03	0.35	611A
262143.3	3359481	3.54	262143.7	3359481	3.63	-0.35	-0.01	-0.09	0.35	611A
341922.7	3361529	5.22	341922.8	3361529	5.27	-0.05	-0.35	-0.04	0.35	611A
262154.8	3359478	3.46	262155	3359478	3.5	-0.19	0.3	-0.04	0.36	611A
323537.8	3366169	3.91	323538.1	3366169	3.93	-0.26	-0.25	-0.02	0.36	611A
305393.1	3363810	7.48	305392.8	3363810	7.55	0.25	-0.28	-0.08	0.37	611A
323540.9	3366177	3.53	323541.1	3366177	3.56	-0.15	-0.33	-0.02	0.37	611A
356416.8	3356843	2.16	356417.2	3356843	2.19	-0.37	-0.02	-0.04	0.37	611A
275002.2	3355413	7.75	275002.6	3355413	7.74	-0.38	0.05	0	0.38	611A
262145	3359477	3.6	262145	3359478	3.62	-0.04	-0.38	-0.02	0.38	611A
196806.7	3325182	3.14	196807	3325183	3.09	-0.3	-0.26	0.04	0.39	611A
323540.1	3366174	3.74	323540.2	3366175	3.75	-0.11	-0.38	-0.01	0.39	611A
341923.9	3361526	5.15	341924.1	3361526	5.18	-0.18	0.34	-0.03	0.39	611A
356416.5	3356840	2.25	356416.3	3356840	2.26	0.24	-0.31	-0.01	0.39	611A
190675	3366627	2.38	190674.9	3366626	2.38	0.07	0.4	0	0.4	611A

196807.9	3325189	3.17	196807.6	3325189	3.16	0.26	0.3	0.01	0.4	611A
275016	3355412	7.96	275016.4	3355412	7.98	-0.35	-0.2	-0.02	0.4	611A
262141.9	3359483	3.68	262141.7	3359483	3.73	0.18	-0.35	-0.05	0.4	611A
305396.8	3363808	7.47	305396.4	3363808	7.55	0.4	0.04	-0.08	0.4	611A
190687.8	3366628	2.36	190687.9	3366628	2.4	-0.12	-0.39	-0.03	0.41	611A
190683.4	3366625	2.43	190683.8	3366625	2.46	-0.36	0.21	-0.03	0.42	611A
190678.3	3366626	2.39	190678.4	3366626	2.4	-0.06	0.42	-0.01	0.42	611A
190681.5	3366629	2.42	190681.9	3366629	2.44	-0.38	-0.19	-0.02	0.42	611A
207462	3360069	0.89	207462.4	3360069	0.96	-0.4	-0.14	-0.07	0.42	611A
262141	3359481	3.57	262141.4	3359481	3.63	-0.41	0.08	-0.06	0.42	611A
262136.1	3359480	3.48	262136.5	3359480	3.58	-0.41	-0.04	-0.1	0.42	611A
323536.9	3366174	3.46	323537.1	3366174	3.49	-0.29	-0.31	-0.03	0.42	611A
356413.8	3356840	2.26	356414.2	3356840	2.28	-0.38	-0.19	-0.02	0.42	611A
196807.4	3325178	3.03	196807.7	3325179	3	-0.3	-0.3	0.02	0.43	611A
275008.6	3355414	7.84	275008.9	3355414	7.88	-0.24	0.36	-0.03	0.43	611A
341924.4	3361529	5.17	341924.5	3361529	5.22	-0.09	-0.42	-0.05	0.43	611A
341923.8	3361534	5.2	341924.2	3361534	5.27	-0.43	0.04	-0.07	0.43	611A
341927.5	3361543	5.25	341927.8	3361542	5.35	-0.31	0.3	-0.09	0.43	611A
196813.5	3325189	3.1	196813.7	3325189	3.08	-0.19	-0.39	0.02	0.44	611A
210963.3	3326669	-1.56	210963.4	3326670	-1.6	-0.17	-0.41	0.03	0.44	611A
305387.1	3363808	7.44	305386.8	3363808	7.5	0.34	-0.28	-0.06	0.44	611A
323542.1	3366176	3.74	323542.2	3366175	3.84	-0.11	0.42	-0.1	0.44	611A
341922.6	3361531	5.19	341922.3	3361532	5.25	0.29	-0.33	-0.06	0.44	611A
341921.9	3361534	5.25	341922.2	3361534	5.28	-0.34	0.28	-0.03	0.44	611A
383252.4	3361271	4.04	383252	3361270	4.05	0.4	0.18	-0.01	0.44	611A
275012.6	3355410	7.84	275012.3	3355410	7.8	0.22	0.39	0.04	0.45	611A
383255.3	3361267	3.99	383255.6	3361267	4	-0.24	-0.39	-0.01	0.45	611A
262150.2	3359482	3.53	262150.5	3359482	3.59	-0.35	0.32	-0.06	0.47	611A
323548	3366179	3.92	323548.5	3366179	3.94	-0.46	-0.09	-0.02	0.47	611A
323534.6	3366166	3.87	323534.9	3366166	3.93	-0.24	0.4	-0.06	0.47	611A
196809.5	3325178	3.04	196809.3	3325178	2.99	0.17	0.45	0.05	0.48	611A
210958.6	3326670	-1.59	210958.9	3326670	-1.64	-0.26	-0.4	0.05	0.48	611A
262139.2	3359477	3.64	262139.6	3359477	3.67	-0.43	-0.22	-0.03	0.48	611A
207463.9	3360081	0.91	207463.5	3360081	0.93	0.44	0.2	-0.02	0.49	611A
341925.9	3361534	5.18	341926.3	3361534	5.21	-0.38	-0.32	-0.03	0.49	611A
210959	3326667	-1.59	210959.5	3326667	-1.63	-0.5	-0.08	0.04	0.5	611A
323535.9	3366170	3.66	323536.2	3366171	3.66	-0.3	-0.4	0	0.5	611A
275017	3355406	7.71	275016.8	3355406	7.76	0.24	0.45	-0.05	0.51	611A
262148.3	3359478	3.48	262147.8	3359478	3.55	0.52	0.06	-0.08	0.52	611A

341925.3	3361543	5.25	341925.2	3361542	5.29	0.17	0.49	-0.04	0.52	611A
196804.5	3325182	3.14	196804.1	3325182	3.13	0.42	-0.33	0.01	0.53	611A
275011.3	3355408	7.71	275011.7	3355408	7.69	-0.36	-0.4	0.02	0.54	611A
275013.9	3355407	7.72	275013.8	3355406	7.75	0.11	0.53	-0.03	0.54	611A
190676.4	3366628	2.41	190675.9	3366628	2.4	0.55	0.01	0	0.55	611A
207460.3	3360073	0.92	207460.8	3360073	0.99	-0.53	0.17	-0.07	0.55	611A
341924.1	3361537	5.25	341923.6	3361537	5.29	0.51	-0.24	-0.04	0.56	611A
262146.7	3359484	3.64	262146.3	3359485	3.69	0.48	-0.3	-0.05	0.57	611A
275021.1	3355408	7.83	275020.6	3355408	7.84	0.56	0.12	-0.01	0.58	611A
207455.5	3360084	0.9	207455.6	3360084	0.95	-0.13	0.57	-0.06	0.59	611A
341920.8	3361542	5.23	341921	3361542	5.29	-0.24	-0.54	-0.06	0.59	611A
210964.2	3326666	-1.51	210964.7	3326667	-1.56	-0.48	-0.38	0.05	0.62	611A
275018.7	3355411	7.9	275018.4	3355410	7.89	0.29	0.55	0.01	0.62	611A
323543	3366179	3.49	323542.6	3366180	3.44	0.35	-0.52	0.04	0.63	611A
207466.5	3360070	0.92	207466.7	3360069	0.99	-0.17	0.62	-0.07	0.64	611A
275007.4	3355412	7.79	275008.1	3355412	7.82	-0.61	-0.21	-0.03	0.65	611A
275003.6	3355416	7.77	275003.8	3355416	7.75	-0.2	-0.63	0.02	0.66	611A
341924.7	3361540	5.24	341924.3	3361539	5.27	0.43	0.51	-0.03	0.67	611A
210962.6	3326672	-1.51	210963	3326673	-1.56	-0.41	-0.55	0.05	0.68	611A
305392.9	3363813	7.46	305392.2	3363813	7.52	0.67	0.17	-0.06	0.69	611A
305386.8	3363811	7.48	305386.2	3363810	7.54	0.68	0.2	-0.07	0.71	611A
305390.1	3363809	7.43	305389.7	3363809	7.5	0.46	0.54	-0.07	0.71	611A
305389.9	3363812	7.45	305390.6	3363812	7.47	-0.75	-0.06	-0.03	0.76	611A
341921	3361539	5.25	341920.6	3361539	5.32	0.38	0.67	-0.07	0.77	611A
383257.6	3361271	4.04	383258.4	3361271	4.03	-0.72	0.32	0.02	0.79	611A
275000.7	3355417	7.75	275001	3355418	7.75	-0.24	-0.76	0	0.8	611A
210964.7	3326663	-1.45	210964	3326663	-1.5	0.76	0.33	0.05	0.83	611A
275006.2	3355415	7.79	275006.9	3355416	7.8	-0.7	-0.47	0	0.84	611A
262135.9	3359471	3.85	262136	3359471	3.86	-0.16	-0.1	-0.01	0.19	721B
262152.4	3359468	3.76	262152.4	3359468	4.05	0	0.24	-0.29	0.24	721B
262140.8	3359471	3.85	262141	3359471	3.78	-0.25	-0.07	0.07	0.26	721B
262155	3359464	3.98	262155.2	3359464	4.06	-0.21	-0.16	-0.08	0.26	721B
262156.1	3359467	3.75	262156.3	3359467	3.84	-0.22	0.14	-0.09	0.27	721B
262152.5	3359465	3.83	262152.5	3359465	3.96	-0.03	-0.27	-0.13	0.27	721B
305423.7	3363811	7.48	305423.6	3363811	7.46	0.11	-0.42	0.02	0.43	721B
374301.3	3361677	1.07	374301	3361676	1.27	0.34	0.36	-0.19	0.5	721B
262145.6	3359471	3.73	262146	3359471	3.8	-0.43	-0.28	-0.07	0.52	721B
262148.3	3359470	3.73	262148.7	3359470	3.9	-0.42	-0.33	-0.17	0.54	721B
262128.8	3359473	3.91	262129	3359474	3.99	-0.19	-0.72	-0.08	0.74	721B

262162.2	3359468	3.62	262161.9	3359469	3.69	0.27	-0.81	-0.07	0.86	721B
262131.5	3359474	3.83	262130.8	3359475	4.05	0.65	-0.69	-0.22	0.94	721B
262147.6	3359468	3.88	262147.1	3359469	4.27	0.48	-0.86	-0.4	0.99	721B
190687.9	3366683	1.43	190687.8	3366682	1.46	0.1	0.06	-0.02	0.12	A11A
190689.2	3366667	1.34	190689.2	3366667	1.37	-0.02	-0.14	-0.03	0.14	A11A
190693.4	3366681	1.46	190693.4	3366681	1.49	0.02	0.17	-0.03	0.17	A11A
190690.7	3366680	1.44	190690.7	3366680	1.49	-0.02	0.2	-0.04	0.2	A11A
190694.4	3366669	1.37	190694.7	3366669	1.41	-0.24	0.03	-0.05	0.24	A11A
190696.4	3366676	1.49	190696.6	3366676	1.5	-0.26	-0.16	-0.01	0.31	A11A
190692	3366668	1.33	190691.7	3366668	1.38	0.29	0.13	-0.05	0.32	A11A
190685	3366682	1.42	190684.9	3366681	1.44	0.07	0.34	-0.02	0.34	A11A
190690.4	3366683	1.46	190690.2	3366683	1.53	0.27	0.25	-0.07	0.37	A11A
190699	3366671	1.43	190698.9	3366671	1.46	0.11	-0.39	-0.02	0.41	A11A
190686	3366679	1.43	190686	3366679	1.46	-0.07	-0.44	-0.04	0.44	A11A
190693.4	3366674	1.44	190693.4	3366675	1.46	0.05	-0.43	-0.02	0.44	A11A
190688.1	3366679	1.42	190688.5	3366679	1.49	-0.41	0.18	-0.07	0.45	A11A
190696.4	3366670	1.42	190696.6	3366670	1.46	-0.21	-0.4	-0.04	0.45	A11A
190699.1	3366677	1.5	190698.9	3366677	1.5	0.13	0.46	0	0.48	A11A
215553.1	3351544	0.78	215553.2	3351544	0.73	-0.04	0.02	0.04	0.05	C11A
215551.2	3351537	0.63	215551.2	3351537	0.67	0.04	-0.05	-0.04	0.07	C11A
215554.4	3351530	0.58	215554.5	3351530	0.58	-0.09	0.02	0	0.09	C11A
215561.8	3351517	0.59	215561.9	3351517	0.45	-0.06	-0.07	0.14	0.09	C11A
215544.3	3351514	0.56	215544.4	3351514	0.51	-0.07	-0.06	0.06	0.09	C11A
215544.9	3351524	0.57	215544.8	3351524	0.57	0.09	0.06	0	0.11	C11A
215557.9	3351536	0.61	215557.7	3351536	0.63	0.16	-0.04	-0.02	0.17	C11A
215552.9	3351515	0.59	215552.8	3351515	0.61	0.15	-0.12	-0.02	0.2	C11A
224250	3338300	0.87	224250.1	3338300	0.78	-0.1	-0.17	0.09	0.2	C11A
224258.3	3338294	0.87	224258.5	3338294	0.86	-0.15	0.16	0.01	0.22	C11A
215551	3351523	0.63	215550.8	3351522	0.62	0.23	0.12	0	0.25	C11A
215547	3351514	0.6	215546.8	3351514	0.61	0.23	0.19	-0.02	0.3	C11A
215550.3	3351543	0.73	215550	3351543	0.67	0.31	-0.06	0.06	0.31	C11A
224252.2	3338303	0.89	224251.9	3338303	0.87	0.3	-0.1	0.02	0.31	C11A
215559	3351544	0.62	215559.2	3351544	0.64	-0.23	-0.22	-0.02	0.32	C11A
224249.4	3338305	0.88	224249.8	3338305	0.88	-0.32	0	0	0.32	C11A
215545	3351549	0.66	215544.7	3351549	0.64	0.34	0.01	0.02	0.34	C11A
215545.3	3351537	0.6	215545.1	3351537	0.6	0.16	-0.3	0	0.34	C11A
224253.7	3338285	0.88	224254	3338285	0.84	-0.22	-0.26	0.04	0.34	C11A
215553.2	3351549	0.81	215553.5	3351549	0.83	-0.22	-0.27	-0.02	0.35	C11A
224255.4	3338296	0.88	224255.4	3338296	0.77	-0.02	-0.35	0.1	0.35	C11A

215554.2	3351522	0.63	215554.4	3351522	0.63	-0.14	0.33	0	0.36	C11A
215555.9	3351516	0.59	215556.2	3351516	0.61	-0.33	-0.17	-0.03	0.37	C11A
215554.7	3351536	0.65	215554.8	3351536	0.65	-0.05	0.4	0	0.41	C11A
215547.4	3351549	0.76	215547.7	3351549	0.7	-0.32	0.27	0.06	0.42	C11A
215547.8	3351523	0.62	215548.2	3351523	0.67	-0.41	-0.05	-0.06	0.42	C11A
215560.5	3351521	0.59	215560.9	3351521	0.55	-0.42	0.11	0.05	0.43	C11A
224247.3	3338306	0.89	224247.8	3338306	0.9	-0.42	0.1	-0.01	0.43	C11A
215547.5	3351529	0.59	215547.1	3351529	0.68	0.41	-0.16	-0.08	0.44	C11A
215552.9	3351510	0.61	215553.3	3351510	0.62	-0.43	-0.08	-0.01	0.44	C11A
215557.8	3351509	0.6	215558.2	3351510	0.61	-0.38	-0.23	-0.01	0.45	C11A
224250.5	3338292	0.87	224250.9	3338293	0.75	-0.39	-0.23	0.12	0.45	C11A
215551.1	3351529	0.58	215551.5	3351530	0.61	-0.38	-0.28	-0.03	0.47	C11A
224250.4	3338286	0.89	224250.8	3338286	0.85	-0.45	0.16	0.04	0.47	C11A
215548.1	3351537	0.63	215548.1	3351536	0.61	-0.03	0.48	0.02	0.48	C11A
224256	3338290	0.87	224256.1	3338290	0.84	-0.15	0.49	0.03	0.51	C11A
224247.4	3338301	0.88	224247.1	3338300	0.83	0.27	0.43	0.05	0.51	C11A
215557.2	3351522	0.59	215557.2	3351521	0.62	-0.04	0.52	-0.03	0.52	C11A
224255.3	3338301	0.88	224255.1	3338301	0.88	0.18	0.49	-0.01	0.52	C11A
215556.4	3351548	0.77	215555.9	3351548	0.78	0.5	0.17	-0.01	0.53	C11A
224252.7	3338298	0.87	224253	3338297	0.85	-0.37	0.38	0.02	0.53	C11A
215543.8	3351527	0.59	215543.6	3351528	0.48	0.18	-0.51	0.1	0.54	C11A
215547.2	3351543	0.67	215547.8	3351543	0.63	-0.57	-0.07	0.05	0.57	C11A
215560.6	3351536	0.64	215560.2	3351536	0.66	0.45	-0.37	-0.01	0.59	C11A
215543.8	3351543	0.58	215543.8	3351544	0.56	0.03	-0.61	0.02	0.61	C11A
215556	3351544	0.74	215555.5	3351544	0.74	0.46	-0.46	0	0.65	C11A
215550	3351549	0.79	215550.7	3351549	0.76	-0.63	0.22	0.03	0.67	C11A
224248.4	3338293	0.85	224247.9	3338294	0.79	0.54	-0.39	0.07	0.67	C11A
215543.7	3351510	0.59	215544.2	3351510	0.48	-0.49	0.47	0.12	0.68	C11A
215561.4	3351531	0.6	215562.1	3351531	0.59	-0.67	0.15	0.01	0.69	C11A
215557.9	3351530	0.57	215558.4	3351530	0.57	-0.5	0.52	0	0.72	C11A
215559.1	3351516	0.6	215558.4	3351517	0.62	0.66	-0.34	-0.02	0.74	C11A
215549.7	3351514	0.6	215549	3351515	0.71	0.69	-0.33	-0.1	0.77	C11A
215542.2	3351538	0.54	215542.9	3351537	0.62	-0.79	0.44	-0.07	0.9	C11A
224245.5	3338302	0.88	224244.7	3338303	0.81	0.77	-0.61	0.07	0.98	C11A
383263	3361275	4.01	383263	3361275	4.01	0	0.1	0	0.1	E11A
383263.5	3361272	3.98	383263.4	3361272	3.95	0.1	0.07	0.03	0.13	E11A
383265.1	3361269	4.04	383265.1	3361269	4.01	0.08	-0.11	0.03	0.14	E11A
390556.1	3353893	1.23	390556.2	3353893	1.21	-0.14	0.17	0.02	0.22	E11A
390553.3	3353886	1.15	390553.1	3353886	1.14	0.22	-0.01	0.02	0.22	E11A

383265.3	3361256	3.94	383265.2	3361256	3.98	0.09	0.23	-0.03	0.25	E11A
383266.6	3361262	3.98	383266.9	3361262	3.93	-0.22	0.11	0.05	0.25	E11A
390555.8	3353884	1.24	390556.1	3353884	1.27	-0.27	-0.08	-0.03	0.28	E11A
390558.3	3353893	1.37	390558.1	3353893	1.34	0.15	0.25	0.02	0.29	E11A
383263.7	3361266	3.94	383263.9	3361266	3.95	-0.23	0.27	0	0.36	E11A
383265.1	3361266	4	383265.4	3361266	4	-0.29	-0.23	-0.01	0.37	E11A
383265.6	3361272	4.09	383265.6	3361272	4.02	0.03	0.37	0.08	0.37	E11A
383263.5	3361262	3.91	383263.2	3361262	3.88	0.37	-0.19	0.03	0.41	E11A
390558.6	3353890	1.36	390559	3353890	1.33	-0.41	0.08	0.03	0.41	E11A
390554.4	3353889	1.17	390554.2	3353889	1.13	0.19	0.38	0.03	0.43	E11A
390556.9	3353890	1.23	390557.3	3353890	1.25	-0.43	0.12	-0.02	0.45	E11A
383263.7	3361259	3.89	383263.9	3361259	3.85	-0.22	0.41	0.04	0.46	E11A
383266.8	3361266	3.99	383267.2	3361266	3.95	-0.47	0.12	0.04	0.49	E11A
383266.7	3361256	3.96	383266.9	3361256	3.92	-0.15	0.48	0.04	0.5	E11A
390558.5	3353887	1.37	390558.4	3353887	1.3	0.12	-0.48	0.07	0.5	E11A
383265.4	3361275	4.13	383265.9	3361275	4.15	-0.5	-0.15	-0.02	0.52	E11A
383263.9	3361256	3.88	383263.4	3361256	3.84	0.52	0.01	0.04	0.52	E11A
383266.3	3361269	4.04	383265.9	3361269	4.04	0.43	0.32	0.01	0.54	E11A
383266.8	3361259	3.96	383266.3	3361259	3.95	0.52	0.24	0.01	0.57	E11A
383265.1	3361262	3.96	383264.6	3361263	3.94	0.44	-0.49	0.02	0.66	E11A
383265.3	3361259	3.97	383266	3361259	3.98	-0.67	-0.07	-0.01	0.67	E11A
390556	3353887	1.22	390556.5	3353886	1.25	-0.44	0.5	-0.03	0.67	E11A
383265.3	3361279	4.24	383264.8	3361279	4.23	0.53	-0.53	0	0.75	E11A
390553.6	3353892	1.16	390553.1	3353893	1.12	0.55	-0.55	0.04	0.78	E11A
383263.4	3361269	3.95	383262.6	3361269	3.86	0.77	0.2	0.09	0.8	E11A

CONTROL MARK DATA SHEETS

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DI3827 ***********************************************************************
  DI3827  CORS         -  This is a GPS Continuously Operating Reference Station.
  DI3827  DESIGNATION  -  ALDOT 9 DIV OFF CORS L1 PHASE CENTER
  DI3827  CORS_ID      -  AL90
  DI3827  PID          -  DI3827
  DI3827  STATE/COUNTY-  AL/MOBILE
  DI3827  USGS QUAD    -  MOBILE (1982)
  DI3827
  DI3827                        *CURRENT SURVEY CONTROL
  DI3827  ______________________________________________________________________
  DI3827* NAD 83(CORS)-  30 41 26.96963(N)    088 01 54.13729(W)     ADJUSTED
  DI3827* NAVD 88     -              **(meters)           **(feet)
  DI3827  ______________________________________________________________________
  DI3827  EPOCH DATE  -        2002.00
  DI3827  X           -     188,546.770 (meters)                     COMP
  DI3827  Y           -  -5,486,313.309 (meters)                     COMP
  DI3827  Z           -   3,236,456.568 (meters)                     COMP
  DI3827  ELLIP HEIGHT-         -15.899 (meters)          (03/??/07) ADJUSTED
  DI3827  GEOID HEIGHT-         -28.52  (meters)                     GEOID03
  DI3827  HORZ ORDER  -  SPECIAL (CORS)
  DI3827  ELLP ORDER  -  SPECIAL (CORS)
  DI3827
  DI3827.ITRF positions are available for this station.
  DI3827.The coordinates were established by GPS observations
  DI3827.and adjusted by the National Geodetic Survey in March 2007.
  DI3827.The coordinates are valid at the epoch date displayed above.
  DI3827.The epoch date for horizontal control is a decimal equivalence
  DI3827.of Year/Month/Day.
  DI3827
  DI3827
  DI3827.The PID for the CORS ARP is DI3826.
  DI3827
  DI3827.The XYZ, and position/ellipsoidal ht. are equivalent.
  DI3827
  DI3827.The ellipsoidal height was determined by GPS observations
  DI3827.and is referenced to NAD 83.
  DI3827
  DI3827.The geoid height was determined by GEOID03.
  DI3827
  DI3827;                    North         East     Units Scale Factor Converg.
  DI3827;SPC AL W     -    76,699.204   549,059.875   MT  0.99996533   -0 16
17.0
  DI3827
  DI3827!             -  Elev Factor  x  Scale Factor =   Combined Factor
  DI3827!SPC AL W     -   1.00000250  x   0.99996533  =   0.99996783
  DI3827
  DI3827                          SUPERSEDED SURVEY CONTROL
  DI3827
  DI3827.No superseded survey control is available for this station.
  DI3827
  DI3827_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RDU0118895792(NAD 83)
  DI3827_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DI3827
  DI3827                          STATION DESCRIPTION
  DI3827
  DI3827'DESCRIBED BY NATIONAL GEODETIC SURVEY
  DI3827'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
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DI3827'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DI3827'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DI3827'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DI3827'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DI0177 ***********************************************************************
  DI0177  CORS         -  This is a GPS Continuously Operating Reference Station.
  DI0177  DESIGNATION  -  COVINGTON CORS L1 PHASE CENTER
  DI0177  CORS_ID      -  COVG
  DI0177  PID          -  DI0177
  DI0177  STATE/COUNTY-  LA/ST TAMMANY
  DI0177  USGS QUAD    -  COVINGTON (1994)
  DI0177
  DI0177                        *CURRENT SURVEY CONTROL
  DI0177  ______________________________________________________________________
  DI0177* NAD 83(CORS)-  30 28 33.26965(N)    090 05 43.92324(W)     ADJUSTED
  DI0177* NAVD 88      -              **(meters)           **(feet)  NOT PUB
  DI0177  **This station is located in a suspected subsidence area (see below).
  DI0177  ______________________________________________________________________
  DI0177  EPOCH DATE   -        2002.00
  DI0177  X            -      -9,173.433 (meters)                    COMP
  DI0177  Y            -  -5,501,676.951 (meters)                    COMP
  DI0177  Z            -   3,215,950.737 (meters)                    COMP
  DI0177  ELLIP HEIGHT-          -4.454 (meters)          (08/??/04) ADJUSTED
  DI0177  GEOID HEIGHT-         -26.98  (meters)                    GEOID03
  DI0177  HORZ ORDER   -  SPECIAL (CORS)
  DI0177  ELLP ORDER   -  SPECIAL (CORS)
  DI0177
  DI0177.ITRF positions are available for this station.
  DI0177.The coordinates were established by GPS observations
  DI0177.and adjusted by the National Geodetic Survey in August 2004.
  DI0177.The coordinates are valid at the epoch date displayed above.
  DI0177.The epoch date for horizontal control is a decimal equivalence
  DI0177.of Year/Month/Day.
  DI0177
  DI0177
  DI0177.The PID for the CORS ARP is DG6568.
  DI0177
  DI0177.The XYZ, and position/ellipsoidal ht. are equivalent.
  DI0177
  DI0177.The ellipsoidal height was determined by GPS observations
  DI0177.and is referenced to NAD 83.
  DI0177
  DI0177.The geoid height was determined by GEOID03.
  DI0177
  DI0177;                     North         East     Units Scale Factor Converg.
  DI0177;SPC LA S      -   219,662.521 1,118,849.595   MT  0.99996000   +0 37
08.1
  DI0177;SPC LA S      -   720,676.12  3,670,759.05   sFT  0.99996000   +0 37
08.1
  DI0177
  DI0177!              -  Elev Factor  x  Scale Factor =   Combined Factor
  DI0177!SPC LA S      -   1.00000070  x   0.99996000  =   0.99996070
  DI0177
  DI0177                          SUPERSEDED SURVEY CONTROL
  DI0177
  DI0177.No superseded survey control is available for this station.
  DI0177
  DI0177_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP7884175108(NAD 83)
  DI0177_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DI0177
  DI0177                          STATION DESCRIPTION
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DI0177
DI0177'DESCRIBED BY NATIONAL GEODETIC SURVEY
DI0177'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DI0177'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DI0177'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DI0177'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DI0177'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
>DI0177 COVINGTON CORS L1 PHASE CENTER 30 28 33.2/090 05 43.9          A    S
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DK3578 ************************************************************************
  DK3578  CORS         -  This is a GPS Continuously Operating Reference Station.
  DK3578  DESIGNATION  -  ENGLISH TURN 5 CORS L1 PHASE CENTER
  DK3578  CORS_ID      -  ENG5
  DK3578  PID          -  DK3578
  DK3578  STATE/COUNTY-  LA/PLAQUEMINES
  DK3578  USGS QUAD    -  CHALMETTE (1994)
  DK3578
  DK3578                        *CURRENT SURVEY CONTROL
  DK3578  ______________________________________________________________________
  DK3578* NAD 83(CORS)-  29 52 44.24633(N)    089 56 30.19799(W)     ADJUSTED
  DK3578* NAVD 88      -              **(meters)           **(feet)  NOT PUB
  DK3578  **This station is located in a suspected subsidence area (see below).
  DK3578  ______________________________________________________________________
  DK3578  EPOCH DATE   -        2002.00
  DK3578  X            -       5,629.855 (meters)                    COMP
  DK3578  Y            -  -5,534,935.695 (meters)                    COMP
  DK3578  Z            -   3,158,738.108 (meters)                    COMP
  DK3578  ELLIP HEIGHT-         -16.930 (meters)          (04/??/08) ADJUSTED
  DK3578  GEOID HEIGHT-         -25.82  (meters)                    GEOID03
  DK3578  HORZ ORDER   -  SPECIAL (CORS)
  DK3578  ELLP ORDER   -  SPECIAL (CORS)
  DK3578
  DK3578.ITRF positions are available for this station.
  DK3578.The coordinates were established by GPS observations
  DK3578.and adjusted by the National Geodetic Survey in April 2008.
  DK3578.The coordinates are valid at the epoch date displayed above.
  DK3578.The epoch date for horizontal control is a decimal equivalence
  DK3578.of Year/Month/Day.
  DK3578
  DK3578
  DK3578.The PID for the CORS ARP is DK3577.
  DK3578
  DK3578.The XYZ, and position/ellipsoidal ht. are equivalent.
  DK3578
  DK3578.The ellipsoidal height was determined by GPS observations
  DK3578.and is referenced to NAD 83.
  DK3578
  DK3578.The geoid height was determined by GEOID03.
  DK3578
  DK3578;                     North         East     Units Scale Factor Converg.
  DK3578;SPC LA S      -   153,665.887 1,134,421.098   MT  0.99992799   +0 41
45.0
  DK3578;SPC LA S      -   504,152.16  3,721,846.55   sFT  0.99992799   +0 41
45.0
  DK3578
  DK3578!              -  Elev Factor  x  Scale Factor =   Combined Factor
  DK3578!SPC LA S      -   1.00000266  x   0.99992799  =   0.99993065
  DK3578
  DK3578                          SUPERSEDED SURVEY CONTROL
  DK3578
  DK3578.No superseded survey control is available for this station.
  DK3578
  DK3578_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU1587109009(NAD 83)
  DK3578_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DK3578
  DK3578                          STATION DESCRIPTION
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DK3578
DK3578'DESCRIBED BY NATIONAL GEODETIC SURVEY
DK3578'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DK3578'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DK3578'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DK3578'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DK3578'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
>DK3578 ENGLISH TURN 5 CORS L1 PHASE C 29 52 44.2/089 56 30.1          A    S
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DJ9602 ************************************************************************
  DJ9602  CORS         -  This is a GPS Continuously Operating Reference Station.
  DJ9602  DESIGNATION  -  ENGLISH TURN 6 CORS L1 PHASE CENTER
  DJ9602  CORS_ID      -  ENG6
  DJ9602  PID          -  DJ9602
  DJ9602  STATE/COUNTY-  LA/PLAQUEMINES
  DJ9602  USGS QUAD    -  CHALMETTE (1994)
  DJ9602
  DJ9602                        *CURRENT SURVEY CONTROL
  DJ9602  ______________________________________________________________________
  DJ9602* NAD 83(CORS)-  29 52 45.04464(N)    089 56 31.48478(W)     ADJUSTED
  DJ9602* NAVD 88      -              **(meters)           **(feet)  NOT PUB
  DJ9602  **This station is located in a suspected subsidence area (see below).
  DJ9602  ______________________________________________________________________
  DJ9602  EPOCH DATE   -        2002.00
  DJ9602  X            -       5,595.313 (meters)                    COMP
  DJ9602  Y            -  -5,534,923.511 (meters)                    COMP
  DJ9602  Z            -   3,158,759.437 (meters)                    COMP
  DJ9602  ELLIP HEIGHT-         -16.899 (meters)          (02/??/08) ADJUSTED
  DJ9602  GEOID HEIGHT-         -25.82  (meters)                    GEOID03
  DJ9602  HORZ ORDER   -  SPECIAL (CORS)
  DJ9602  ELLP ORDER   -  SPECIAL (CORS)
  DJ9602
  DJ9602.ITRF positions are available for this station.
  DJ9602.The coordinates were established by GPS observations
  DJ9602.and adjusted by the National Geodetic Survey in February 2008.
  DJ9602.The coordinates are valid at the epoch date displayed above.
  DJ9602.The epoch date for horizontal control is a decimal equivalence
  DJ9602.of Year/Month/Day.
  DJ9602
  DJ9602
  DJ9602.The PID for the CORS ARP is DJ9601.
  DJ9602
  DJ9602.The XYZ, and position/ellipsoidal ht. are equivalent.
  DJ9602
  DJ9602.The ellipsoidal height was determined by GPS observations
  DJ9602.and is referenced to NAD 83.
  DJ9602
  DJ9602.The geoid height was determined by GEOID03.
  DJ9602
  DJ9602;                    North         East     Units Scale Factor Converg.
  DJ9602;SPC LA S      -   153,690.046 1,134,386.274   MT  0.99992799   +0 41
44.3
  DJ9602;SPC LA S      -   504,231.43  3,721,732.30   sFT  0.99992799   +0 41
44.3
  DJ9602
  DJ9602!              -  Elev Factor  x  Scale Factor =   Combined Factor
  DJ9602!SPC LA S      -   1.00000265  x   0.99992799  =   0.99993064
  DJ9602
  DJ9602                          SUPERSEDED SURVEY CONTROL
  DJ9602
  DJ9602.No superseded survey control is available for this station.
  DJ9602
  DJ9602_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU1583709034(NAD 83)
  DJ9602_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DJ9602
  DJ9602                          STATION DESCRIPTION
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DJ9602
DJ9602'DESCRIBED BY NATIONAL GEODETIC SURVEY
DJ9602'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DJ9602'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DJ9602'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DJ9602'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DJ9602'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
>DJ9602 ENGLISH TURN 6 CORS L1 PHASE C 29 52 45.0/089 56 31.4          A    S
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AJ7895 ************************************************************************
  AJ7895  CORS         -  This is a GPS Continuously Operating Reference Station.
  AJ7895  DESIGNATION  -  MOBILE POINT 1 CORS L1 PHASE CENTER
  AJ7895  CORS_ID      -  MOB1
  AJ7895  PID          -  AJ7895
  AJ7895  STATE/COUNTY-  AL/BALDWIN
  AJ7895  USGS QUAD    -  FORT MORGAN (1982)
  AJ7895
  AJ7895                        *CURRENT SURVEY CONTROL
  AJ7895  ______________________________________________________________________
  AJ7895* NAD 83(CORS)-  30 13 39.04657(N)    088 01 26.75239(W)     ADJUSTED
  AJ7895* NAVD 88     -              **(meters)            **(feet)
  AJ7895  ______________________________________________________________________
  AJ7895  EPOCH DATE  -        2002.00
  AJ7895  X           -     190,172.860 (meters)                     COMP
  AJ7895  Y           -  -5,512,308.677 (meters)                     COMP
  AJ7895  Z           -   3,192,181.899 (meters)                     COMP
  AJ7895  ELLIP HEIGHT-         -17.075 (meters)          (07/??/05) ADJUSTED
  AJ7895  GEOID HEIGHT-         -27.66  (meters)                     GEOID03
  AJ7895  HORZ ORDER  -  SPECIAL (CORS)
  AJ7895  ELLP ORDER  -  SPECIAL (CORS)
  AJ7895
  AJ7895.ITRF positions are available for this station.
  AJ7895.The coordinates were established by GPS observations
  AJ7895.and adjusted by the National Geodetic Survey in July 2005.
  AJ7895.The coordinates are valid at the epoch date displayed above.
  AJ7895.The epoch date for horizontal control is a decimal equivalence
  AJ7895.of Year/Month/Day.
  AJ7895
  AJ7895
  AJ7895.The PID for the CORS ARP is AF9559.
  AJ7895
  AJ7895.The XYZ, and position/ellipsoidal ht. are equivalent.
  AJ7895
  AJ7895.The ellipsoidal height was determined by GPS observations
  AJ7895.and is referenced to NAD 83.
  AJ7895
  AJ7895.The geoid height was determined by GEOID03.
  AJ7895
  AJ7895;                    North         East     Units Scale Factor Converg.
  AJ7895;SPC AL W     -    25,335.283   549,550.505   MT  0.99996472   -0 15
49.9
  AJ7895
  AJ7895!             -  Elev Factor  x  Scale Factor =   Combined Factor
  AJ7895!SPC AL W     -   1.00000268  x   0.99996472  =   0.99996740
  AJ7895
  AJ7895                          SUPERSEDED SURVEY CONTROL
  AJ7895
  AJ7895  NAD 83(CORS)-  30 13 39.04644(N)    088 01 26.75273(W) AD(2002.00) c
  AJ7895  ELLIP H (03/??/02)  -17.054  (m)                       GP(2002.00) c c
  AJ7895  NAD 83(CORS)-  30 13 39.04667(N)    088 01 26.75259(W) AD(1997.00) c
  AJ7895  ELLIP H (04/??/00)  -17.049  (m)                       GP(1997.00) c c
  AJ7895  NAD 83(CORS)-  30 13 39.04648(N)    088 01 26.75256(W) AD(1997.00) c
  AJ7895  NAD 83(CORS)-  30 13 39.04648(N)    088 01 26.75256(W) AD(1996.00) c
  AJ7895  ELLIP H (05/??/96)  -17.067  (m)                       GP(1997.00) c c
  AJ7895  ELLIP H (05/??/96)  -17.067  (m)                       GP(1996.00) c c
  AJ7895
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AJ7895.Superseded values are not recommended for survey control.
AJ7895.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AJ7895.See file dsdata.txt to determine how the superseded data were derived.
AJ7895
AJ7895_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RDU0145244439(NAD 83)
AJ7895_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
AJ7895
AJ7895                          STATION DESCRIPTION
AJ7895
AJ7895'DESCRIBED BY NATIONAL GEODETIC SURVEY
AJ7895'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
AJ7895'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
AJ7895'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
AJ7895'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
AJ7895'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DJ8942 ******************************************************************
  DJ8942  CORS         -  This is a GPS Continuously Operating Reference Station.
  DJ8942  DESIGNATION  -  GAUTIER CORS L1 PHASE CENTER
  DJ8942  CORS_ID      -  MSGA
  DJ8942  PID          -  DJ8942
  DJ8942  STATE/COUNTY-  MS/JACKSON
  DJ8942  USGS QUAD    -  GAUTIER NORTH (1982)
  DJ8942
  DJ8942                        *CURRENT SURVEY CONTROL
  DJ8942  ______________________________________________________________________
  DJ8942* NAD 83(CORS)-  30 23 40.46430(N)    088 38 42.49025(W)     ADJUSTED
  DJ8942* NAVD 88      -              **(meters)            **(feet)
  DJ8942  ______________________________________________________________________
  DJ8942  EPOCH DATE   -        2002.00
  DJ8942  X            -     130,193.231 (meters)                    COMP
  DJ8942  Y            -  -5,504,709.867 (meters)                    COMP
  DJ8942  Z            -   3,208,174.771 (meters)                    COMP
  DJ8942  ELLIP HEIGHT-          -7.811 (meters)          (01/??/08) ADJUSTED
  DJ8942  GEOID HEIGHT-         -28.33  (meters)                    GEOID03
  DJ8942  HORZ ORDER   -  SPECIAL (CORS)
  DJ8942  ELLP ORDER   -  SPECIAL (CORS)
  DJ8942
  DJ8942.ITRF positions are available for this station.
  DJ8942.The coordinates were established by GPS observations
  DJ8942.and adjusted by the National Geodetic Survey in January 2008.
  DJ8942.The coordinates are valid at the epoch date displayed above.
  DJ8942.The epoch date for horizontal control is a decimal equivalence
  DJ8942.of Year/Month/Day.
  DJ8942
  DJ8942
  DJ8942.The PID for the CORS ARP is DJ8941.
  DJ8942
  DJ8942.The XYZ, and position/ellipsoidal ht. are equivalent.
  DJ8942
  DJ8942.The ellipsoidal height was determined by GPS observations
  DJ8942.and is referenced to NAD 83.
  DJ8942
  DJ8942.The geoid height was determined by GEOID03.
  DJ8942
  DJ8942;                    North         East     Units Scale Factor Converg.
  DJ8942;SPC MS E      -    99,174.934   318,085.290   MT  0.99995403   +0 05
42.8
  DJ8942;SPC MS E      -   325,376.43  1,043,584.82   sFT  0.99995403   +0 05
42.8
  DJ8942
  DJ8942!              -  Elev Factor  x  Scale Factor =   Combined Factor
  DJ8942!SPC MS E      -   1.00000123  x   0.99995403  =   0.99995526
  DJ8942
  DJ8942                          SUPERSEDED SURVEY CONTROL
  DJ8942
  DJ8942.No superseded survey control is available for this station.
  DJ8942
  DJ8942_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RCU4195163657(NAD 83)
  DJ8942_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DJ8942
  DJ8942                          STATION DESCRIPTION
  DJ8942
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DJ8942'DESCRIBED BY NATIONAL GEODETIC SURVEY
DJ8942'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DJ8942'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DJ8942'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DJ8942'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DJ8942'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DJ9529 ***********************************************************************
  DJ9529  CORS         -  This is a GPS Continuously Operating Reference Station.
  DJ9529  DESIGNATION  -  PICAYUNE CORS L1 PHASE CENTER
  DJ9529  CORS_ID      -  MSPC
  DJ9529  PID          -  DJ9529
  DJ9529  STATE/COUNTY-  MS/PEARL RIVER
  DJ9529  USGS QUAD    -  PICAYUNE (1985)
  DJ9529
  DJ9529                          *CURRENT SURVEY CONTROL
  DJ9529  ______________________________________________________________________
  DJ9529* NAD 83(CORS)-  30 31 52.33461(N)    089 41 19.22151(W)     ADJUSTED
  DJ9529* NAVD 88     -              **(meters)            **(feet)
  DJ9529  ______________________________________________________________________
  DJ9529  EPOCH DATE  -        2002.00
  DJ9529  X           -      29,877.405 (meters)                     COMP
  DJ9529  Y           -  -5,498,496.397 (meters)                     COMP
  DJ9529  Z           -   3,221,235.157 (meters)                     COMP
  DJ9529  ELLIP HEIGHT-           0.865 (meters)          (02/??/08) ADJUSTED
  DJ9529  GEOID HEIGHT-         -27.53  (meters)                     GEOID03
  DJ9529  HORZ ORDER  -  SPECIAL (CORS)
  DJ9529  ELLP ORDER  -  SPECIAL (CORS)
  DJ9529
  DJ9529.ITRF positions are available for this station.
  DJ9529.The coordinates were established by GPS observations
  DJ9529.and adjusted by the National Geodetic Survey in February 2008.
  DJ9529.The coordinates are valid at the epoch date displayed above.
  DJ9529.The epoch date for horizontal control is a decimal equivalence
  DJ9529.of Year/Month/Day.
  DJ9529
  DJ9529
  DJ9529.The PID for the CORS ARP is DJ9528.
  DJ9529
  DJ9529.The XYZ, and position/ellipsoidal ht. are equivalent.
  DJ9529
  DJ9529.The ellipsoidal height was determined by GPS observations
  DJ9529.and is referenced to NAD 83.
  DJ9529
  DJ9529.The geoid height was determined by GEOID03.
  DJ9529
  DJ9529;                    North         East     Units Scale Factor Converg.
  DJ9529;SPC MS E     -   114,617.324   217,917.184   MT  1.00003309   -0 26
04.4
  DJ9529;SPC MS E     -   376,040.34    714,949.96   sFT  1.00003309   -0 26
04.4
  DJ9529
  DJ9529!             -  Elev Factor  x  Scale Factor =   Combined Factor
  DJ9529!SPC MS E     -   0.99999986  x   1.00003309  =   1.00003295
  DJ9529
  DJ9529                          SUPERSEDED SURVEY CONTROL
  DJ9529
  DJ9529.No superseded survey control is available for this station.
  DJ9529
  DJ9529_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU4203080726(NAD 83)
  DJ9529_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DJ9529
  DJ9529                          STATION DESCRIPTION
  DJ9529
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DJ9529'DESCRIBED BY NATIONAL GEODETIC SURVEY
DJ9529'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DJ9529'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DJ9529'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DJ9529'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DJ9529'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DK3341 ************************************************************************
  DK3341  CORS         -  This is a GPS Continuously Operating Reference Station.
  DK3341  DESIGNATION  -  PERKINSTON CORS L1 PHASE CENTER
  DK3341  CORS_ID      -  MSPK
  DK3341  PID          -  DK3341
  DK3341  STATE/COUNTY-  MS/STONE
  DK3341  USGS QUAD    -  WIGGINS (1983)
  DK3341
  DK3341                          *CURRENT SURVEY CONTROL
  DK3341  ______________________________________________________________________
  DK3341* NAD 83(CORS)-  30 46 44.79607(N)    089 08 35.93782(W)     ADJUSTED
  DK3341* NAVD 88      -              **(meters)            **(feet)
  DK3341  ______________________________________________________________________
  DK3341  EPOCH DATE   -        2002.00
  DK3341  X            -      82,002.210 (meters)                     COMP
  DK3341  Y            -  -5,483,971.597 (meters)                     COMP
  DK3341  Z            -   3,244,890.104 (meters)                     COMP
  DK3341  ELLIP HEIGHT-          24.382 (meters)          (04/??/08) ADJUSTED
  DK3341  GEOID HEIGHT-         -28.48  (meters)                     GEOID03
  DK3341  HORZ ORDER   -  SPECIAL (CORS)
  DK3341  ELLP ORDER   -  SPECIAL (CORS)
  DK3341
  DK3341.ITRF positions are available for this station.
  DK3341.The coordinates were established by GPS observations
  DK3341.and adjusted by the National Geodetic Survey in April 2008.
  DK3341.The coordinates are valid at the epoch date displayed above.
  DK3341.The epoch date for horizontal control is a decimal equivalence
  DK3341.of Year/Month/Day.
  DK3341
  DK3341
  DK3341.The PID for the CORS ARP is DK3340.
  DK3341
  DK3341.The XYZ, and position/ellipsoidal ht. are equivalent.
  DK3341
  DK3341.The ellipsoidal height was determined by GPS observations
  DK3341.and is referenced to NAD 83.
  DK3341
  DK3341.The geoid height was determined by GEOID03.
  DK3341
  DK3341;                     North         East     Units Scale Factor Converg.
  DK3341;SPC MS E      -   141,829.496   270,328.722   MT  0.99996086   -0 09
31.1
  DK3341;SPC MS E      -   465,318.94    886,903.48   sFT  0.99996086   -0 09
31.1
  DK3341
  DK3341!              -  Elev Factor  x  Scale Factor =   Combined Factor
  DK3341!SPC MS E      -   0.99999617  x   0.99996086  =   0.99995703
  DK3341
  DK3341                          SUPERSEDED SURVEY CONTROL
  DK3341
  DK3341.No superseded survey control is available for this station.
  DK3341
  DK3341_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBV9489307086(NAD 83)
  DK3341_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DK3341
  DK3341                          STATION DESCRIPTION
  DK3341
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DK3341'DESCRIBED BY NATIONAL GEODETIC SURVEY
DK3341'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DK3341'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DK3341'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DK3341'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DK3341'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DJ9529 ************************************************************************
  DJ9529  CORS         -  This is a GPS Continuously Operating Reference Station.
  DJ9529  DESIGNATION  -  PICAYUNE CORS L1 PHASE CENTER
  DJ9529  CORS_ID      -  MSPC
  DJ9529  PID          -  DJ9529
  DJ9529  STATE/COUNTY-  MS/PEARL RIVER
  DJ9529  USGS QUAD    -  PICAYUNE (1985)
  DJ9529
  DJ9529                          *CURRENT SURVEY CONTROL
  DJ9529  ______________________________________________________________________
  DJ9529* NAD 83(CORS)-  30 31 52.33461(N)    089 41 19.22151(W)     ADJUSTED
  DJ9529* NAVD 88     -              **(meters)            **(feet)
  DJ9529  ______________________________________________________________________
  DJ9529  EPOCH DATE  -        2002.00
  DJ9529  X           -      29,877.405 (meters)                     COMP
  DJ9529  Y           -  -5,498,496.397 (meters)                     COMP
  DJ9529  Z           -   3,221,235.157 (meters)                     COMP
  DJ9529  ELLIP HEIGHT-           0.865 (meters)          (02/??/08) ADJUSTED
  DJ9529  GEOID HEIGHT-         -27.53  (meters)                     GEOID03
  DJ9529  HORZ ORDER  -  SPECIAL (CORS)
  DJ9529  ELLP ORDER  -  SPECIAL (CORS)
  DJ9529
  DJ9529.ITRF positions are available for this station.
  DJ9529.The coordinates were established by GPS observations
  DJ9529.and adjusted by the National Geodetic Survey in February 2008.
  DJ9529.The coordinates are valid at the epoch date displayed above.
  DJ9529.The epoch date for horizontal control is a decimal equivalence
  DJ9529.of Year/Month/Day.
  DJ9529
  DJ9529
  DJ9529.The PID for the CORS ARP is DJ9528.
  DJ9529
  DJ9529.The XYZ, and position/ellipsoidal ht. are equivalent.
  DJ9529
  DJ9529.The ellipsoidal height was determined by GPS observations
  DJ9529.and is referenced to NAD 83.
  DJ9529
  DJ9529.The geoid height was determined by GEOID03.
  DJ9529
  DJ9529;                    North         East     Units Scale Factor Converg.
  DJ9529;SPC MS E     -   114,617.324   217,917.184   MT  1.00003309   -0 26
04.4
  DJ9529;SPC MS E     -   376,040.34    714,949.96   sFT  1.00003309   -0 26
04.4
  DJ9529
  DJ9529!             -  Elev Factor  x  Scale Factor =   Combined Factor
  DJ9529!SPC MS E     -   0.99999986  x   1.00003309  =   1.00003295
  DJ9529
  DJ9529                          SUPERSEDED SURVEY CONTROL
  DJ9529
  DJ9529.No superseded survey control is available for this station.
  DJ9529
  DJ9529_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU4203080726(NAD 83)
  DJ9529_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DJ9529
  DJ9529                          STATION DESCRIPTION
  DJ9529
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DJ9529'DESCRIBED BY NATIONAL GEODETIC SURVEY
DJ9529'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DJ9529'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DJ9529'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DJ9529'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DJ9529'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DJ9611 ************************************************************************
  DJ9611  CORS         -  This is a GPS Continuously Operating Reference Station.
  DJ9611  DESIGNATION  -  STENNIS SPACE CTR CORS L1 PHASE CENTER
  DJ9611  CORS_ID      -  MSSC
  DJ9611  PID          -  DJ9611
  DJ9611  STATE/COUNTY-  MS/HANCOCK
  DJ9611  USGS QUAD    -  DEAD TIGER CREEK (1970)
  DJ9611
  DJ9611                         *CURRENT SURVEY CONTROL
  DJ9611  ______________________________________________________________________
  DJ9611* NAD 83(CORS)-  30 22 30.79467(N)    089 36 49.90325(W)     ADJUSTED
  DJ9611* NAVD 88     -              **(meters)            **(feet)
  DJ9611  ______________________________________________________________________
  DJ9611  EPOCH DATE  -        2002.00
  DJ9611  X           -      37,115.712 (meters)                     COMP
  DJ9611  Y           -  -5,507,206.082 (meters)                     COMP
  DJ9611  Z           -   3,206,322.112 (meters)                     COMP
  DJ9611  ELLIP HEIGHT-         -11.615 (meters)          (06/??/05) ADJUSTED
  DJ9611  GEOID HEIGHT-         -27.22  (meters)                     GEOID03
  DJ9611  HORZ ORDER  -  SPECIAL (CORS)
  DJ9611  ELLP ORDER  -  SPECIAL (CORS)
  DJ9611
  DJ9611.ITRF positions are available for this station.
  DJ9611.The coordinates were established by GPS observations
  DJ9611.and adjusted by the National Geodetic Survey in June 2005.
  DJ9611.The coordinates are valid at the epoch date displayed above.
  DJ9611.The epoch date for horizontal control is a decimal equivalence
  DJ9611.of Year/Month/Day.
  DJ9611
  DJ9611
  DJ9611.The PID for the CORS ARP is DH3836.
  DJ9611
  DJ9611.The XYZ, and position/ellipsoidal ht. are equivalent.
  DJ9611
  DJ9611.The ellipsoidal height was determined by GPS observations
  DJ9611.and is referenced to NAD 83.
  DJ9611
  DJ9611.The geoid height was determined by GEOID03.
  DJ9611
  DJ9611;                    North         East     Units Scale Factor Converg.
  DJ9611;SPC MS E     -    97,273.004   224,977.227   MT  1.00001941   -0 23
40.9
  DJ9611;SPC MS E     -   319,136.51    738,112.79   sFT  1.00001941   -0 23
40.9
  DJ9611
  DJ9611!             -  Elev Factor  x  Scale Factor =   Combined Factor
  DJ9611!SPC MS E     -   1.00000182  x   1.00001941  =   1.00002123
  DJ9611
  DJ9611                           SUPERSEDED SURVEY CONTROL
  DJ9611
  DJ9611.No superseded survey control is available for this station.
  DJ9611
  DJ9611_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU4881063263(NAD 83)
  DJ9611_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DJ9611
  DJ9611                           STATION DESCRIPTION
  DJ9611
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DJ9611'DESCRIBED BY NATIONAL GEODETIC SURVEY
DJ9611'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DJ9611'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DJ9611'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DJ9611'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DJ9611'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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AB8531 ************************************************************************
  AB8531  HT_MOD      -  This is a Height Modernization Survey Station.
  AB8531  CORS        -  This is a GPS Continuously Operating Reference Station.
  AB8531  DESIGNATION -  STENNIS CORS L1 PHASE CENTER
  AB8531  CORS_ID     -  NDBC
  AB8531  PID         -  AB8531
  AB8531  STATE/COUNTY-  MS/HANCOCK
  AB8531  USGS QUAD   -  LOGTOWN (1993)
  AB8531
  AB8531                        *CURRENT SURVEY CONTROL
  AB8531  ______________________________________________________________________
  AB8531* NAD 83(CORS)-  30 21 22.59138(N)    089 36 36.97623(W)     ADJUSTED
  AB8531* NAVD 88     -        16.99   (meters)      55.7    (feet)  GPS OBS
  AB8531  ______________________________________________________________________
  AB8531  EPOCH DATE  -        2002.00
  AB8531  X           -      37,468.090 (meters)                     COMP
  AB8531  Y           -  -5,508,266.666 (meters)                     COMP
  AB8531  Z           -   3,204,510.701 (meters)                     COMP
  AB8531  ELLIP HEIGHT-         -10.190 (meters)          (03/??/02) ADJUSTED
  AB8531  GEOID HEIGHT-         -27.17  (meters)                     GEOID03
  AB8531  HORZ ORDER  -  SPECIAL (CORS)
  AB8531  ELLP ORDER  -  SPECIAL (CORS)
  AB8531
  AB8531.ITRF positions are available for this station.
  AB8531.The coordinates were established by GPS observations
  AB8531.and adjusted by the National Geodetic Survey in March 2002.
  AB8531.The coordinates are valid at the epoch date displayed above.
  AB8531.The epoch date for horizontal control is a decimal equivalence
  AB8531.of Year/Month/Day.
  AB8531
  AB8531.The orthometric height was determined by GPS observations and a
  AB8531.high-resolution geoid model.
  AB8531.The orthometric height was determined by GPS observations and a
  AB8531.high-resolution geoid model using precise GPS observation and
  AB8531.processing techniques.
  AB8531
  AB8531.The PID for the CORS ARP is AF9574.
  AB8531
  AB8531.The XYZ, and position/ellipsoidal ht. are equivalent.
  AB8531
  AB8531.The ellipsoidal height was determined by GPS observations
  AB8531.and is referenced to NAD 83.
  AB8531
  AB8531.The geoid height was determined by GEOID03.
  AB8531
  AB8531;                    North         East     Units Scale Factor Converg.
  AB8531;SPC MS E     -    95,170.385   225,307.983   MT  1.00001880   -0 23
33.6
  AB8531;SPC MS E     -   312,238.17    739,197.94   sFT  1.00001880   -0 23
33.6
  AB8531
  AB8531!             -  Elev Factor  x  Scale Factor =   Combined Factor
  AB8531!SPC MS E     -   1.00000160  x   1.00001880  =   1.00002040
  AB8531
  AB8531                         SUPERSEDED SURVEY CONTROL
  AB8531
  AB8531  NAD 83(CORS)-  30 21 22.59167(N)    089 36 36.97626(W) AD(1997.00) c
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AB8531  ELLIP H (07/??/98)  -10.194  (m)                        GP(1997.00) c c
AB8531  NAD 83(CORS)-  30 21 22.59171(N)    089 36 36.97636(W) AD(1996.00) c
AB8531  ELLIP H (12/??/96)  -10.137  (m)                        GP(1996.00) c c
AB8531
AB8531.Superseded values are not recommended for survey control.
AB8531.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AB8531.See file dsdata.txt to determine how the superseded data were derived.
AB8531
AB8531_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU4910761154(NAD 83)
AB8531_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
AB8531
AB8531                            STATION DESCRIPTION
AB8531
AB8531'DESCRIBED BY NATIONAL GEODETIC SURVEY
AB8531'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
AB8531'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
AB8531'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
AB8531'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
AB8531'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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DH9600 ************************************************************************
  DH9600  CORS         -  This is a GPS Continuously Operating Reference Station.
  DH9600  DESIGNATION -  LOYOLA UNIVERSITY CORS L1 PHASE CENTER
  DH9600  CORS_ID      -  NOLA
  DH9600  PID          -  DH9600
  DH9600  STATE/COUNTY-  LA/ORLEANS
  DH9600  USGS QUAD    -  NEW ORLEANS EAST (1992)
  DH9600
  DH9600                          *CURRENT SURVEY CONTROL
  DH9600  ______________________________________________________________________
  DH9600* NAD 83(CORS)-  29 56 03.73287(N)    090 07 12.64686(W)     ADJUSTED
  DH9600* NAVD 88      -              **(meters)            **(feet)  NOT PUB
  DH9600  **This station is located in a suspected subsidence area (see below).
  DH9600  ______________________________________________________________________
  DH9600  EPOCH DATE   -        2002.00
  DH9600  X            -     -11,603.304 (meters)                     COMP
  DH9600  Y            -  -5,531,878.419 (meters)                     COMP
  DH9600  Z            -   3,164,071.141 (meters)                     COMP
  DH9600  ELLIP HEIGHT-          -0.038 (meters)          (05/??/06) ADJUSTED
  DH9600  GEOID HEIGHT-         -26.01  (meters)                     GEOID03
  DH9600  HORZ ORDER   -  SPECIAL (CORS)
  DH9600  ELLP ORDER   -  SPECIAL (CORS)
  DH9600
  DH9600.ITRF positions are available for this station.
  DH9600.The coordinates were established by GPS observations
  DH9600.and adjusted by the National Geodetic Survey in May 2006.
  DH9600.The coordinates are valid at the epoch date displayed above.
  DH9600.The epoch date for horizontal control is a decimal equivalence
  DH9600.of Year/Month/Day.
  DH9600
  DH9600
  DH9600.The PID for the CORS ARP is DH9599.
  DH9600
  DH9600.The XYZ, and position/ellipsoidal ht. are equivalent.
  DH9600
  DH9600.The ellipsoidal height was determined by GPS observations
  DH9600.and is referenced to NAD 83.
  DH9600
  DH9600.The geoid height was determined by GEOID03.
  DH9600
  DH9600;                     North         East     Units Scale Factor Converg.
  DH9600;SPC LA S      -   159,611.745 1,117,118.820   MT  0.99992641   +0 36
23.7
  DH9600;SPC LA S      -   523,659.53  3,665,080.66   sFT  0.99992641   +0 36
23.7
  DH9600
  DH9600!              -  Elev Factor  x  Scale Factor =   Combined Factor
  DH9600!SPC LA S      -   1.00000001  x   0.99992641  =   0.99992642
  DH9600
  DH9600                          SUPERSEDED SURVEY CONTROL
  DH9600
  DH9600.No superseded survey control is available for this station.
  DH9600
  DH9600_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP7799415001(NAD 83)
  DH9600_MARKER: STATION IS THE L1 PHASE CENTER OF THE GPS ANTENNA
  DH9600
  DH9600                          STATION DESCRIPTION
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DH9600
DH9600'DESCRIBED BY NATIONAL GEODETIC SURVEY
DH9600'STATION IS A GPS CORS.  LATEST INFORMATION INCLUDING POSITIONS AND
DH9600'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE
DH9600'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.
DH9600'   FTP CORS.NGS.NOAA.GOV: CORS/COORD  AND  CORS/STATION_LOG
DH9600'   HTTP://WWW.NGS.NOAA.GOV  UNDER PRODUCTS AND SERVICES.
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BH1193 ************************************************************************
 BH1193  DESIGNATION -  F 236
 BH1193  PID         -  BH1193
 BH1193  STATE/COUNTY-  MS/HANCOCK
 BH1193  USGS QUAD   -  LOGTOWN (1993)
 BH1193
 BH1193                         *CURRENT SURVEY CONTROL
 BH1193  ______________________________________________________________________
 BH1193* NAD 83(1986)-  30 18 05.     (N)    089 30 12.     (W)     SCALED
 BH1193* NAVD 88     -         6.089  (meters)      19.98   (feet)  ADJUSTED
 BH1193  ______________________________________________________________________
 BH1193  GEOID HEIGHT-         -27.18  (meters)                     GEOID03
 BH1193  DYNAMIC HT  -           6.081 (meters)      19.95  (feet)  COMP
 BH1193  MODELED GRAV-     979,334.6   (mgal)                       NAVD 88
 BH1193
 BH1193  VERT ORDER  -  FIRST     CLASS I
 BH1193
 BH1193.The horizontal coordinates were scaled from a topographic map and have
 BH1193.an estimated accuracy of +/- 6 seconds.
 BH1193
 BH1193.The orthometric height was determined by differential leveling
 BH1193.and adjusted in February 1994.
 BH1193
 BH1193.The geoid height was determined by GEOID03.
 BH1193
 BH1193.The dynamic height is computed by dividing the NAVD 88
 BH1193.geopotential number by the normal gravity value computed on the
 BH1193.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 BH1193.degrees latitude (g = 980.6199 gals.).
 BH1193
 BH1193.The modeled gravity was interpolated from observed gravity values.
 BH1193
 BH1193;                    North         East     Units  Estimated Accuracy
 BH1193;SPC MS E     -    89,020.      235,550.      MT  (+/- 180 meters Scaled)
 BH1193
 BH1193                           SUPERSEDED SURVEY CONTROL
 BH1193
 BH1193  NAVD 88 (06/15/91)    6.088  (m)           19.97   (f) UNKNOWN     1 1
 BH1193  NGVD 29 (??/??/??)    6.044  (m)           19.83   (f) ADJUSTED    1 1
 BH1193
 BH1193.Superseded values are not recommended for survey control.
 BH1193.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 BH1193.See file dsdata.txt to determine how the superseded data were derived.
 BH1193
 BH1193_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU592548(NAD 83)
 BH1193_MARKER: DB = BENCH MARK DISK
 BH1193_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
 BH1193_SP_SET: CONCRETE POST
 BH1193_STAMPING: F 236 1970
 BH1193_MARK LOGO: CGS
 BH1193_MAGNETIC: N = NO MAGNETIC MATERIAL
 BH1193_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
 BH1193+STABILITY: SURFACE MOTION
 BH1193_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
 BH1193+SATELLITE: SATELLITE OBSERVATIONS - March 03, 2009
 BH1193
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BH1193  HISTORY     - Date     Condition        Report By
BH1193  HISTORY     - 1970     MONUMENTED       NGS
BH1193  HISTORY     - 1976     GOOD             NGS
BH1193  HISTORY     - 19930311 GOOD             NGS
BH1193  HISTORY     - 20050706 GOOD             NGS
BH1193  HISTORY     - 20090303 GOOD             3001
BH1193
BH1193                          STATION DESCRIPTION
BH1193
BH1193'DESCRIBED BY NATIONAL GEODETIC SURVEY 1970
BH1193'7.9 MI NE FROM PEARLINGTON.
BH1193'ABOUT 7.9 MILES NORTHEAST ALONG U. S. HIGHWAY 90 FROM THE EAST END OF
BH1193'THE HIGHWAY BRIDGE OVER THE PEARL RIVER AT PEARLINGTON, AT THE
BH1193'JUNCTION OF U. S. HIGHWAY 90 AND STATE HIGHWAY 607, AT A SHARP JOG IN
BH1193'U. S. HIGHWAY 90 TO THE NORTH AND EAST, AT THE SOUTHWEST END OF THE
BH1193'EXIT ROAD FROM STATE HIGHWAY 607 TO THE WESTBOUND LANES OF U. S.
BH1193'HIGHWAY 90, 167 FEET SOUTH OF THE CENTER LINE OF THE EASTBOUND LANES
BH1193'OF STATE HIGHWAY 607, 15 FEET WEST OF THE CENTER LINE OF THE EASTBOUND
BH1193'LANES OF U. S. HIGHWAY 90, 10 FEET EAST OF THE CENTER LINE OF THE
BH1193'WESTBOUND LANES OF U. S. HIGHWAY 90, 0.7 FOOT NORTHEAST OF THE
BH1193'SOUTHWEST END OF THE CURB OF AN ISLAND WHICH IS FORMED BY THE TRAFFIC
BH1193'LANES OF THE HIGHWAYS, ABOUT LEVEL WITH THE TOP OF THE CURB, AND SET
BH1193'IN THE TOP OF A CONCRETE POST ABOUT LEVEL WITH THE GROUND.  SECTION 33
BH1193',T 8S ,R 15W.
BH1193
BH1193                          STATION RECOVERY (1976)
BH1193
BH1193'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1976
BH1193'RECOVERED IN GOOD CONDITION.
BH1193
BH1193                          STATION RECOVERY (1993)
BH1193
BH1193'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993
BH1193'12.3 KM (7.65 MI) NORTHEASTERLY ALONG U.S. HIGHWAY 90 FROM THE
BH1193'JUNCTION OF STATE HIGHWAY 604 IN PEARLINGTON, 66.1 M (216.9 FT) NORTH
BH1193'OF BENCH MARK P 226, 50.2 M (164.7 FT) SOUTH OF THE CENTERLINE OF THE
BH1193'EASTBOUND LANES OF STATE HIGHWAY 607, 4.7 M (15.4 FT) NORTHWEST OF
BH1193'THE CENTER OF THE EASTBOUND LANES OF THE HIGHWAY, 2.7 M (8.9 FT)
BH1193'SOUTHEAST OF THE CENTER OF THE WESTBOUND LANES OF THE HIGHWAY, 0.4 M
BH1193'(1.3 FT) NORTHEAST OF THE SOUTHWEST END OF A MEDIAN, 0.3 M (1.0 FT)
BH1193'SOUTHWEST OF A WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE
BH1193'GROUND SURFACE.
BH1193
BH1193                          STATION RECOVERY (2005)
BH1193
BH1193'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2005 (KS)
BH1193'AT THE SW END OF NARROW GRASS MEDIAN BETWEEN E AND W-BOUND LANES OF US
BH1193'90, AT ITS INTERSECTION W/RTE 607, BETWEEN THE LANE NE-BOUND TRAFFIC
BH1193'TAKES TO TURN W ON 607 AND THE LANE W-BOUND US 90 TAKES TO THE SW TO
BH1193'CONTINUE TOWARD PEARLINGTON.
BH1193
BH1193                          STATION RECOVERY (2009)
BH1193
BH1193'RECOVERY NOTE BY 3001, INC 2009 (JCP)
BH1193'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
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AD9935 ************************************************************************
 AD9935  PACS        -  This is a Primary Airport Control Station.
 AD9935  DESIGNATION -  GPT ARP
 AD9935  PID         -  AD9935
 AD9935  STATE/COUNTY-  MS/HARRISON
 AD9935  USGS QUAD   -  GULFPORT NORTH (1994)
 AD9935
 AD9935                        *CURRENT SURVEY CONTROL
 AD9935  ______________________________________________________________________
 AD9935* NAD 83(2007)-  30 24 28.18965(N)    089 04 05.11260(W)     ADJUSTED
 AD9935* NAVD 88     -         7.44   (meters)      24.4    (feet)  GPS OBS
 AD9935  ______________________________________________________________________
 AD9935  EPOCH DATE  -        2002.00
 AD9935  X           -      89,542.660 (meters)                     COMP
 AD9935  Y           -  -5,504,766.164 (meters)                     COMP
 AD9935  Z           -   3,209,435.812 (meters)                     COMP
 AD9935  LAPLACE CORR-          -0.90  (seconds)                    DEFLEC99
 AD9935  ELLIP HEIGHT-         -20.749 (meters)          (02/10/07) ADJUSTED
 AD9935  GEOID HEIGHT-         -28.20  (meters)                     GEOID03
 AD9935
 AD9935  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 AD9935  Type    PID    Designation                      North   East  Ellip
 AD9935  ----------------------------------------------------------------------
 AD9935  NETWORK AD9935 GPT ARP                           0.80   1.20   1.22
 AD9935  ----------------------------------------------------------------------
 AD9935
 AD9935.This mark is at Gulfport-Biloxi Rgnl Airport (GPT)
 AD9935
 AD9935.The horizontal coordinates were established by GPS observations
 AD9935.and adjusted by the National Geodetic Survey in February 2007.
 AD9935
 AD9935.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 AD9935.See National Readjustment for more information.
 AD9935.The horizontal coordinates are valid at the epoch date displayed above.
 AD9935.The epoch date for horizontal control is a decimal equivalence
 AD9935.of Year/Month/Day.
 AD9935
 AD9935.The orthometric height was determined by GPS observations and a
 AD9935.high-resolution geoid model.
 AD9935
 AD9935.GPS derived orthometric heights for airport stations designated as
 AD9935.PACS or SACS are published to 2 decimal places.  This maintains
 AD9935.centimeter relative accuracy between the PACS and SACS.  It does
 AD9935.not indicate centimeter accuracy relative to other marks which are
 AD9935.part of the NAVD 88 network.
 AD9935
 AD9935.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 AD9935
 AD9935.The Laplace correction was computed from DEFLEC99 derived deflections.
 AD9935
 AD9935.The ellipsoidal height was determined by GPS observations
 AD9935.and is referenced to NAD 83.
 AD9935
 AD9935.The geoid height was determined by GEOID03.
 AD9935
 AD9935;                   North         East     Units Scale Factor Converg.
 AD9935;SPC MS E     -   100,652.887   277,443.794   MT  0.99995627   -0 07 07.8
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AD9935;SPC MS E     -   330,225.35    910,246.85   sFT  0.99995627   -0 07 07.8
AD9935;UTM  16      - 3,365,792.907   301,337.247   MT  1.00008691   -1 02 49.6
AD9935
AD9935!             -  Elev Factor  x  Scale Factor =   Combined Factor
AD9935!SPC MS E     -   1.00000326  x   0.99995627  =   0.99995953
AD9935!UTM  16      -   1.00000326  x   1.00008691  =   1.00009017
AD9935
AD9935:                Primary Azimuth Mark                    Grid Az
AD9935:SPC MS E     -  GPT A                                   296 23 31.3
AD9935:UTM  16      -  GPT A                                   297 19 13.1
AD9935
AD9935|---------------------------------------------------------------------|
AD9935| PID    Reference Object                    Distance      Geod. Az  |
AD9935|                                                          dddmmss.s |
AD9935| AI2711 GPT A                             APPROX. 1.0 KM 2961623.5 |
AD9935|---------------------------------------------------------------------|
AD9935
AD9935                          SUPERSEDED SURVEY CONTROL
AD9935
AD9935  ELLIP H (05/29/02)  -20.721  (m)                       GP(       ) 1 1
AD9935  NAD 83(1993)-  30 24 28.18952(N)    089 04 05.11255(W) AD(       ) B
AD9935  ELLIP H (12/02/99)  -20.739  (m)                       GP(       ) 1 1
AD9935
AD9935.Superseded values are not recommended for survey control.
AD9935.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
AD9935.See file dsdata.txt to determine how the superseded data were derived.
AD9935
AD9935_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RCU0133765793(NAD 83)
AD9935_MARKER: DD = SURVEY DISK
AD9935_SETTING: 4 = OBJECT SURROUNDED BY MASS OF CONCRETE
AD9935_STAMPING: ARP 1956
AD9935_MARK LOGO: CGS
AD9935_MAGNETIC: N = NO MAGNETIC MATERIAL
AD9935_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
AD9935+STABILITY: SURFACE MOTION
AD9935_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
AD9935+SATELLITE: SATELLITE OBSERVATIONS - January 12, 2001
AD9935
AD9935  HISTORY     - Date     Condition        Report By
AD9935  HISTORY     - 1956     MONUMENTED       CGS
AD9935  HISTORY     - 19920630 GOOD             NGS
AD9935  HISTORY     - 19990316 GOOD             NGS
AD9935  HISTORY     - 20010112 GOOD             NGS
AD9935  HISTORY     - 20070317 GOOD             MSSU
AD9935
AD9935                          STATION DESCRIPTION
AD9935
AD9935'DESCRIBED BY NATIONAL GEODETIC SURVEY 1992
AD9935'THE STATION IS LOCATED ABOUT 1500 FEET (457.2 M) WEST OF THE TERMINAL
AD9935'BUILDING, IN THE GRASS AREA BETWEEN RUNWAYS 4-22 AND 17-35 AND NORTH
AD9935'OF THE CENTER TAXIWAY.  THE MARK IS 500 FEET (152.4 M) WEST OF THE
AD9935'WEST EDGE OF RUNWAY 17-35 AND 300 FEET (91.4 M) NORTH OF THE NORTH
AD9935'EDGE OF THE CENTER TAXIWAY.  A TOPOGRAPHIC STATION DISK STAMPED ARP
AD9935'1956 IN THE TOP OF A CONCRETE MONUMENT ABOUT FLUSH WITH THE GROUND.
AD9935
AD9935                          STATION RECOVERY (1999)
AD9935
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AD9935'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1999 (AJL)
AD9935'THE STATION IS LOCATED ABOUT 11.3 KM (7.00 MI) WEST OF BILOXI AND NEAR
AD9935'THE NORTH SIDE OF GULFPORT, AT THE GULFPORT-BILOXI REGINAL AIRPORT.
AD9935'NEAR THE SOUTH SECTION OF A LARGE TRIANGULAR SHAPED GRASS AREA NORTH
AD9935'OF TAXIWAY B, WEST OF RUNWAY 18-36 AND SOUTHEAST OF THE CLOSED RUNWAY
AD9935'4-22. OWNERSHIP--HARRISON COUNTY AND THE CITIES OF GULFPORT AND
AD9935'BILOXI. AIRPORT ADDRESS IS, GULFPORT-BILOXI REGIONAL AIRPORT 14035-L
AD9935'AIRPORT ROAD GULFPORT, MS. 39503. AIRPORT MANAGER BRUCE FRALLIC.
AD9935'OPERATIONS AND MAINTENANCE MANAGER KEN SPIRITO, A.A.E. PHONE
AD9935'228-863-5951 OR FAX 228-863-5953. --NOTE--CONTACT OPERATIONS MANAGER
AD9935'(24-HOURS IN ADVANCE) WITH INTENTIONS AND FOR ESCORT. TO REACH THE
AD9935'STATION FROM THE JUNCTION OF INTERSTATE HIGHWAY 10 AND U.S. HIGHWAY
AD9935'49 (EXIT 34) NEAR THE NORTH SIDE OF GULFPORT, GO SOUTH, FOR 0.97 KM
AD9935'(0.60 MI) ON HIGHWAY 49 TO AIRPORT ROAD ON THE LEFT. TURN LEFT,
AD9935'EASTERLY, FOR 1.77 KM (1.10 MI) ON AIRPORT ROAD TO A PAVED ROAD RIGHT.
AD9935'TURN RIGHT, SOUTH, THEN SOUTHEAST, FOR 0.32 KM (0.20 MI) TO THE
AD9935'AIRPORT TERMINAL ON THE RIGHT. CONTACT OPERATIONS MANAGER ON THE 3RD
AD9935'FLOOR OF THE TERMINAL BUILDING FOR INSTRUCTIONS AND ESCORT
AD9935'(MAINTENANCE KNOWS WHERE ALL THE STATIONS ARE LOCATED) . STATION IS
AD9935'152.4 M (500.0 FT) WEST OF THE WEST EDGE OF RUNWAY 18-36, 102.8 M
AD9935'(337.3 FT) NORTH OF THE TAXIWAY B CENTER, AND THE MONUMENT IS ABOUT
AD9935'LEVEL WITH TAXIWAY B AND FLUSH WITH THE GROUND SURFACE. THIS STATION
AD9935'IS DESIGNATED A PRIMARY AIRPORT CONTROL STATION.
AD9935
AD9935   STATION RECOVERY (2001)
AD9935
AD9935'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001 (DDM)
AD9935'RECOVERED AS DESCRIBED
AD9935
AD9935   STATION RECOVERY (2007)
AD9935
AD9935'RECOVERY NOTE BY MISSISSIPPI STATE UNIVERSITY 2007 (LRL)
AD9935'GOOD CONDITION

*** retrieval complete.
Elapsed Time = 00:00:00

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BH1821 ***************************************************************************
 BH1821  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 BH1821  DESIGNATION -  H 375
 BH1821  PID         -  BH1821
 BH1821  STATE/COUNTY-  LA/ORLEANS
 BH1821  USGS QUAD   -  LITTLE WOODS (1994)
 BH1821
 BH1821                        *CURRENT SURVEY CONTROL
 BH1821  ______________________________________________________________________
 BH1821* NAD 83(2007)-  30 01 41.85879(N)    089 59 14.36350(W)     ADJUSTED
 BH1821* NAVD 88     -        -1.92   (meters)      -6.3    (feet)  GPS
OBS(2006.81)
 BH1821  **This station is located in a suspected subsidence area (see below).
 BH1821  ______________________________________________________________________
 BH1821  EPOCH DATE  -        2002.00
 BH1821  X           -       1,222.785 (meters)                     COMP
 BH1821  Y           -  -5,526,663.257 (meters)                     COMP
 BH1821  Z           -   3,173,075.550 (meters)                     COMP
 BH1821  LAPLACE CORR-          -0.08  (seconds)                    DEFLEC99
 BH1821  ELLIP HEIGHT-         -28.111 (meters)          (03/12/08) ADJUSTED
 BH1821  GEOID HEIGHT-         -26.24  (meters)                     GEOID03
 BH1821  HORZ ORDER  -  A
 BH1821  ELLP ORDER  -  THIRD     CLASS I
 BH1821
 BH1821.The horizontal coordinates were established by GPS observations
 BH1821.and adjusted by the National Geodetic Survey in March 2008.
 BH1821
 BH1821.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 BH1821.See National Readjustment for more information.
 BH1821.The horizontal coordinates are valid at the epoch date displayed above.
 BH1821.The epoch date for horizontal control is a decimal equivalence
 BH1821.of Year/Month/Day.
 BH1821
 BH1821.The orthometric height was determined by GPS observations and a
 BH1821.high-resolution geoid model.
 BH1821 ** Due to the variability of land subsidence, the orthometric,
ellipsoid,
 BH1821 ** and geoid heights are valid at the date of observation. These heights
 BH1821 ** must always be validated when used as control.
 BH1821 ** The orthometric height was determined by GPS observations using
 BH1821 ** precise GPS observation and processing techniques and a new
 BH1821 ** realization of GEOID03. It supersedes any height that may have been
 BH1821 ** previously determined for this station.
 BH1821 ** The geoid height was determined by a new realization of GEOID03 for
the
 BH1821 ** epoch indicated which incorporates improved geoid heights for the
 BH1821 ** Southern Louisiana Subsidence area.
 BH1821 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
 BH1821
 BH1821.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BH1821
 BH1821.The Laplace correction was computed from DEFLEC99 derived deflections.
 BH1821
 BH1821.The ellipsoidal height was determined by GPS observations
 BH1821.and is referenced to NAD 83.
 BH1821
 BH1821.The geoid height was determined by GEOID03.
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BH1821
BH1821;                    North         East     Units Scale Factor Converg.
BH1821;SPC LA S     -   170,165.141 1,129,822.043   MT  0.99992586   +0 40 22.9
BH1821;SPC LA S     -   558,283.47  3,706,757.82   sFT  0.99992586   +0 40 22.9
BH1821;UTM  16      - 3,325,681.279   211,895.735   MT  1.00062421   -1 29 45.5
BH1821;UTM  15      - 3,325,745.437   790,550.553   MT  1.00064168   +1 30 31.3
BH1821
BH1821!             -  Elev Factor  x  Scale Factor =   Combined Factor
BH1821!SPC LA S     -   1.00000441  x   0.99992586  =   0.99993027
BH1821!UTM  16      -   1.00000441  x   1.00062421  =   1.00062863
BH1821!UTM  15      -   1.00000441  x   1.00064168  =   1.00064610
BH1821
BH1821                          SUPERSEDED SURVEY CONTROL
BH1821
BH1821  NGVD 29 (05/21/91)   -1.700  (m)           -5.58   (f) ADJUSTED    1 2
BH1821
BH1821.Superseded values are not recommended for survey control.
BH1821.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BH1821.See file dsdata.txt to determine how the superseded data were derived.
BH1821
BH1821_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU1189625681(NAD 83)
BH1821_MARKER: F = FLANGE-ENCASED ROD
BH1821_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
BH1821_SP_SET: STAINLESS STEEL ROD
BH1821_STAMPING: H 375 1985
BH1821_MARK LOGO: NGS
BH1821_PROJECTION: FLUSH
BH1821_MAGNETIC: I = MARKER IS A STEEL ROD
BH1821_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
BH1821_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BH1821+SATELLITE: SATELLITE OBSERVATIONS - March 06, 2009
BH1821_ROD/PIPE-DEPTH: 19.5 meters
BH1821
BH1821  HISTORY     - Date     Condition        Report By
BH1821  HISTORY     - 1985     MONUMENTED       NGS
BH1821  HISTORY     - 19901027 GOOD             NGS
BH1821  HISTORY     - 19941114 GOOD             NGS
BH1821  HISTORY     - 20060408 GOOD             NGS
BH1821  HISTORY     - 20090306 GOOD             3001
BH1821
BH1821                          STATION DESCRIPTION
BH1821
BH1821'DESCRIBED BY NATIONAL GEODETIC SURVEY 1985
BH1821'IN NEW ORLEANS.
BH1821'THE MARK IS 0.18 M ABOVE BOULEVARD.
BH1821'IN NEW ORLEANS, ALONG LAKE FOREST BOULEVARD, AT THE BENSON CANAL, IN
BH1821'THE MEDIAN OF THE BOULEVARD, 5.6 METERS (18.5 FT) NORTH OF THE
BH1821'CENTERLINE OF THE EAST BOUND LANE OF THE BOULEVARD, 7.6 METERS
BH1821'(25.2 FT) SOUTH OF THE CENTERLINE OF THE WEST BOUND LANE OF THE
BH1821'BOULEVARD, 5.2 METERS (16.9 FT) SOUTHEAST OF THE SOUTHEAST CORNER OF
BH1821'THE WEST BOUND LANE BRIDGE OVER BENSON CANAL, 2.7 METERS (9.0 FT)
BH1821'NORTHEAST OF THE NORTHEAST CORNER OF THE EAST BOUND LANE BRIDGE OVER
BH1821'BENSON CANAL.  NOTE--ACCESS TO THE MARK IS THROUGH A 5 INCH LOGO CAP.
BH1821
BH1821                          STATION RECOVERY (1990)
BH1821
BH1821'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1990
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BH1821'IN NEW ORLEANS, AT THE INTERSECTION OF LAKE FOREST BOULEVARD AND THE
BH1821'BENSON CANAL, IN THE MEDIAN OF THE BOULEVARD, 8.0 M (26.2 FT) SOUTH
BH1821'OF THE CENTERLINE OF THE WESTBOUND LANES OF THE BOULEVARD, 5.8 M
BH1821'(19.0 FT) NORTH OF THE CENTERLINE OF THE EASTBOUND LANES OF THE
BH1821'BOULEVARD, 5.2 M (17.1 FT) SOUTHEAST OF THE SOUTHEAST CORNER OF THE
BH1821'WESTBOUND BRIDGE SPANNING THE CANAL, AND 2.7 M (8.9 FT) NORTHEAST OF
BH1821'THE NORTHEAST CORNER OF THE EASTBOUND BRIDGE SPANNING THE CANAL.
BH1821'NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.
BH1821
BH1821                          STATION RECOVERY (1994)
BH1821
BH1821'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1994 (GAS)
BH1821'IN NEW ORLEANS, AT THE INTERSECTION OF LAKE FOREST BOULEVARD AND THE
BH1821'BENSON CANAL, 4.1 M (13.5 FT) SOUTH OF THE SOUTH CURB OF THE WESTBOUND
BH1821'LANES OF THE BOULEVARD, 2.6 M (8.5 FT) EAST OF THE EAST EDGE OF THE
BH1821'CANAL, 2.2 M (7.2 FT) NORTH OF THE NORTH CURB OF THE EASTBOUND LANES
BH1821'OF THE BOULEVARD, AND 0.1 M (0.3 FT) ABOVE THE LEVEL OF THE BOULEVARD.
BH1821'NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.
BH1821
BH1821                          STATION RECOVERY (2006)
BH1821
BH1821'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
BH1821'RECOVED IN GOOD CONDITION 1.0 FT (0.3 M) WEST OF WITNESS POST.
BH1821
BH1821                          STATION RECOVERY (2009)
BH1821
BH1821'RECOVERY NOTE BY 3001, INC 2009 (JCP)
BH1821'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:00
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BH3225 ************************************************************************
 BH3225  CBN          -  This is a Cooperative Base Network Control Station.
 BH3225  DESIGNATION -  K 364
 BH3225  PID          -  BH3225
 BH3225  STATE/COUNTY-  MS/JACKSON
 BH3225  USGS QUAD    -  GAUTIER NORTH (1982)
 BH3225
 BH3225                        *CURRENT SURVEY CONTROL
 BH3225  ______________________________________________________________________
 BH3225* NAD 83(2007)-  30 24 10.44255(N)    088 43 06.87173(W)     ADJUSTED
 BH3225* NAVD 88      -         7.566  (meters)      24.82   (feet)  ADJUSTED
 BH3225  ______________________________________________________________________
 BH3225  EPOCH DATE   -        2002.00
 BH3225  X            -     123,126.727 (meters)                     COMP
 BH3225  Y            -  -5,504,394.089 (meters)                     COMP
 BH3225  Z            -   3,208,964.490 (meters)                     COMP
 BH3225  LAPLACE CORR-          -0.14  (seconds)                     DEFLEC99
 BH3225  ELLIP HEIGHT-         -20.706 (meters)          (02/10/07) ADJUSTED
 BH3225  GEOID HEIGHT-         -28.34  (meters)                     GEOID03
 BH3225  DYNAMIC HT   -           7.556 (meters)      24.79  (feet)  COMP
 BH3225
 BH3225  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 BH3225  Type    PID    Designation                       North   East  Ellip
 BH3225  ----------------------------------------------------------------------
 BH3225  NETWORK BH3225 K 364                              1.14   1.41   5.61
 BH3225  ----------------------------------------------------------------------
 BH3225  MODELED GRAV-     979,320.7   (mgal)                      NAVD 88
 BH3225
 BH3225  VERT ORDER   -  FIRST     CLASS II
 BH3225
 BH3225.The horizontal coordinates were established by GPS observations
 BH3225.and adjusted by the National Geodetic Survey in February 2007.
 BH3225
 BH3225.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 BH3225.See National Readjustment for more information.
 BH3225.The horizontal coordinates are valid at the epoch date displayed above.
 BH3225.The epoch date for horizontal control is a decimal equivalence
 BH3225.of Year/Month/Day.
 BH3225
 BH3225.The orthometric height was determined by differential leveling
 BH3225.and adjusted in September 1993.
 BH3225
 BH3225.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BH3225
 BH3225.The Laplace correction was computed from DEFLEC99 derived deflections.
 BH3225
 BH3225.The ellipsoidal height was determined by GPS observations
 BH3225.and is referenced to NAD 83.
 BH3225
 BH3225.The geoid height was determined by GEOID03.
 BH3225
 BH3225.The dynamic height is computed by dividing the NAVD 88
 BH3225.geopotential number by the normal gravity value computed on the
 BH3225.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 BH3225.degrees latitude (g = 980.6199 gals.).
 BH3225
 BH3225.The modeled gravity was interpolated from observed gravity values.
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BH3225
BH3225;                    North         East     Units Scale Factor Converg.
BH3225;SPC MS E     -   100,088.605   311,027.010   MT  0.99995150   +0 03 29.1
BH3225;SPC MS E     -   328,374.03  1,020,427.78   sFT  0.99995150   +0 03 29.1
BH3225;UTM  16      - 3,364,684.639   334,908.853   MT  0.99993624   -0 52 11.7
BH3225
BH3225!             -  Elev Factor  x  Scale Factor =   Combined Factor
BH3225!SPC MS E     -   1.00000325  x   0.99995150  =   0.99995475
BH3225!UTM  16      -   1.00000325  x   0.99993624  =   0.99993949
BH3225
BH3225                          SUPERSEDED SURVEY CONTROL
BH3225
BH3225  ELLIP H (04/15/02)  -20.725  (m)                        GP(       ) 4 2
BH3225  NAD 83(1993)-  30 24 10.44247(N)    088 43 06.87162(W) AD(       ) B
BH3225  ELLIP H (02/15/02)  -20.727  (m)                        GP(       ) 4 1
BH3225  NAVD 88 (02/15/02)    7.57   (m)           24.8    (f) LEVELING    3
BH3225
BH3225.Superseded values are not recommended for survey control.
BH3225.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BH3225.See file dsdata.txt to determine how the superseded data were derived.
BH3225
BH3225_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RCU3490964685(NAD 83)
BH3225_MARKER: F = FLANGE-ENCASED ROD
BH3225_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)
BH3225_SP_SET: STAINLESS STEEL ROD IN SLEEVE
BH3225_STAMPING: K 364 1993
BH3225_MARK LOGO: NGS
BH3225_PROJECTION: FLUSH
BH3225_MAGNETIC: N = NO MAGNETIC MATERIAL
BH3225_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD
BH3225+STABILITY: POSITION/ELEVATION WELL
BH3225_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BH3225+SATELLITE: SATELLITE OBSERVATIONS - January 10, 2004
BH3225_ROD/PIPE-DEPTH: 17.0 meters
BH3225_SLEEVE-DEPTH  : 7.0 meters
BH3225
BH3225  HISTORY     - Date     Condition        Report By
BH3225  HISTORY     - 1993     MONUMENTED       NGS
BH3225  HISTORY     - 20000316 GOOD             NGS
BH3225  HISTORY     - 20040110 GOOD             COMPA
BH3225  HISTORY     - 20081111 GOOD             JCLS
BH3225
BH3225                          STATION DESCRIPTION
BH3225
BH3225'DESCRIBED BY NATIONAL GEODETIC SURVEY 1993
BH3225'14.2 KM (8.80 MI) SOUTHERLY ALONG STATE HIGHWAY 57 FROM THE POST
BH3225'OFFICE IN VANCLEAVE, 70.1 M (230.0 FT) EAST OF THE CENTERLINE OF THE
BH3225'NORTHBOUND LANES OF THE HIGHWAY, 60.9 M (199.8 FT) NORTH-NORTHEAST OF
BH3225'THE CENTERLINE OF THE WESTBOUND LANES OF U.S. HIGHWAY 90, 3.5 M
BH3225'(11.5 FT) SOUTH OF A UTILITY POLE, 1.5 M (4.9 FT) SOUTHWEST OF A
BH3225'WITNESS POST, AND 0.5 M (1.6 FT) ABOVE THE LEVEL OF THE HIGHWAY.
BH3225'NOTE--ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.
BH3225
BH3225                          STATION RECOVERY (2000)
BH3225
BH3225'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2000
BH3225'RECOVERED AS DESCRIBED.
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BH3225
BH3225                          STATION RECOVERY (2004)
BH3225
BH3225'RECOVERY NOTE BY COMPASSCOM INC 2004 (IR)
BH3225'RECOVERED IN GOOD CONDITION.
BH3225
BH3225                          STATION RECOVERY (2008)
BH3225
BH3225'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2008
BH3225'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:00
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BH1750 ************************************************************************
 BH1750  DESIGNATION -  P 482
 BH1750  PID         -  BH1750
 BH1750  STATE/COUNTY-  AL/MOBILE
 BH1750  USGS QUAD   -  LITTLE DAUPHIN ISLAND (1982)
 BH1750
 BH1750                        *CURRENT SURVEY CONTROL
 BH1750  ______________________________________________________________________
 BH1750* NAD 83(1986)-  30 15 04.     (N)    088 05 42.     (W)     SCALED
 BH1750* NAVD 88     -         1.921  (meters)       6.30   (feet)  ADJUSTED
 BH1750  ______________________________________________________________________
 BH1750  GEOID HEIGHT-         -27.75  (meters)                      GEOID03
 BH1750  DYNAMIC HT  -           1.918 (meters)       6.29  (feet)  COMP
 BH1750  MODELED GRAV-     979,320.4   (mgal)                        NAVD 88
 BH1750
 BH1750  VERT ORDER  -  FIRST     CLASS II
 BH1750
 BH1750.The horizontal coordinates were scaled from a topographic map and have
 BH1750.an estimated accuracy of +/- 6 seconds.
 BH1750
 BH1750.The orthometric height was determined by differential leveling
 BH1750.and adjusted in June 1991.
 BH1750
 BH1750.The geoid height was determined by GEOID03.
 BH1750
 BH1750.The dynamic height is computed by dividing the NAVD 88
 BH1750.geopotential number by the normal gravity value computed on the
 BH1750.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
 BH1750.degrees latitude (g = 980.6199 gals.).
 BH1750
 BH1750.The modeled gravity was interpolated from observed gravity values.
 BH1750
 BH1750;                    North         East     Units  Estimated Accuracy
 BH1750;SPC AL W     -    27,990.      542,740.      MT  (+/- 180 meters Scaled)
 BH1750
 BH1750                          SUPERSEDED SURVEY CONTROL
 BH1750
 BH1750  NGVD 29 (06/24/99)    1.880  (m)            6.17   (f) ADJUSTED    1 2
 BH1750
 BH1750.Superseded values are not recommended for survey control.
 BH1750.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
 BH1750.See file dsdata.txt to determine how the superseded data were derived.
 BH1750
 BH1750_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RCU946471(NAD 83)
 BH1750_MARKER: I = METAL ROD
 BH1750_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)
 BH1750_SP_SET: STAINLESS STEEL ROD
 BH1750_STAMPING: P 482 1984
 BH1750_MARK LOGO: NGS
 BH1750_PROJECTION: FLUSH
 BH1750_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL
 BH1750_ROD/PIPE-DEPTH: 24.1 meters
 BH1750
 BH1750  HISTORY     - Date     Condition        Report By
 BH1750  HISTORY     - 1984     MONUMENTED       NGS
 BH1750
 BH1750                          STATION DESCRIPTION
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BH1750
BH1750'DESCRIBED BY NATIONAL GEODETIC SURVEY 1984
BH1750'1.9 KM (1.15 MI) EAST FROM DAUPHIN ISLAND.
BH1750'1.9 KM (1.15 MI) EAST ALONG BIENVILLE BOULEVARD FROM THE JUNCTION OF
BH1750'STATE HIGHWAY 163 (LE MOYER DRIVE) ON DAUPHIN ISLAND, THE MARK IS SET
BH1750'IN THE GRASSY MEDIAN OF THE BOULEVARD AT THE JUNCTION OF BUCHANAN
BH1750'DRIVE, 6.25 METERS (20.5 FT) SOUTH OF THE CENTERLINE OF THE WESTBOUND
BH1750'LAND OF THE BOULEVARD, 6.22 METERS (20.4 FT) NORTH OF THE CENTERLINE
BH1750'OF THE EASTBOUND LANE OF THE BOULEVARD, 17.5 METERS (57.5 FT) EAST OF
BH1750'THE APPROXIMATE CENTER OF THE INTERSECTION, 0.79 METERS (2.6 FT) EAST
BH1750'OF THE EAST ONE OF TWO POWERLINE POLES WITH AN EMERGENCY SIREN
BH1750'ATTACHED.
BH1750'THE MARK IS 0.54 METERS  E FROM A WITNESS POST.
BH1750'THE MARK IS ABOVE LEVEL WITH BOULEVARD.

*** retrieval complete.
Elapsed Time = 00:00:01
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DJ9388 ***********************************************************************
 DJ9388  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 DJ9388  DESIGNATION -  CRMSP0 SM 17
 DJ9388  PID         -  DJ9388
 DJ9388  STATE/COUNTY-  LA/JEFFERSON
 DJ9388  USGS QUAD   -  PONCHATOULA (1994)
 DJ9388
 DJ9388                        *CURRENT SURVEY CONTROL
 DJ9388  ______________________________________________________________________
 DJ9388* NAD 83(2007)-  30 24 52.50012(N)    090 26 04.73343(W)     ADJUSTED
 DJ9388* NAVD 88     -         3.11   (meters)      10.2    (feet)  GPS
OBS(2006.81)
 DJ9388  **This station is located in a suspected subsidence area (see below).
 DJ9388  ______________________________________________________________________
 DJ9388  EPOCH DATE  -        2002.00
 DJ9388  X           -     -41,761.616 (meters)                     COMP
 DJ9388  Y           -  -5,504,954.474 (meters)                     COMP
 DJ9388  Z           -   3,210,079.935 (meters)                     COMP
 DJ9388  LAPLACE CORR-           0.64  (seconds)                    DEFLEC99
 DJ9388  ELLIP HEIGHT-         -23.709 (meters)          (03/12/08) ADJUSTED
 DJ9388  GEOID HEIGHT-         -26.87  (meters)                     GEOID03
 DJ9388  HORZ ORDER  -  A
 DJ9388  ELLP ORDER  -  THIRD     CLASS I
 DJ9388
 DJ9388.The horizontal coordinates were established by GPS observations
 DJ9388.and adjusted by the National Geodetic Survey in March 2008.
 DJ9388
 DJ9388.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 DJ9388.See National Readjustment for more information.
 DJ9388.The horizontal coordinates are valid at the epoch date displayed above.
 DJ9388.The epoch date for horizontal control is a decimal equivalence
 DJ9388.of Year/Month/Day.
 DJ9388
 DJ9388.The orthometric height was determined by GPS observations and a
 DJ9388.high-resolution geoid model.
 DJ9388 ** Due to the variability of land subsidence, the orthometric,
ellipsoid,
 DJ9388 ** and geoid heights are valid at the date of observation. These heights
 DJ9388 ** must always be validated when used as control.
 DJ9388 ** The orthometric height was determined by GPS observations using
 DJ9388 ** precise GPS observation and processing techniques and a new
 DJ9388 ** realization of GEOID03. It supersedes any height that may have been
 DJ9388 ** previously determined for this station.
 DJ9388 ** The geoid height was determined by a new realization of GEOID03 for
the
 DJ9388 ** epoch indicated which incorporates improved geoid heights for the
 DJ9388 ** Southern Louisiana Subsidence area.
 DJ9388 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
 DJ9388
 DJ9388.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 DJ9388
 DJ9388.The Laplace correction was computed from DEFLEC99 derived deflections.
 DJ9388
 DJ9388.The ellipsoidal height was determined by GPS observations
 DJ9388.and is referenced to NAD 83.
 DJ9388
 DJ9388.The geoid height was determined by GEOID03.
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DJ9388
DJ9388;                    North         East     Units Scale Factor Converg.
DJ9388;SPC LA S     -   212,561.012 1,086,343.045   MT  0.99995172   +0 26 57.7
DJ9388;SPC LA S     -   697,377.25  3,564,110.47   sFT  0.99995172   +0 26 57.7
DJ9388;UTM  15      - 3,367,520.050   746,427.768   MT  1.00034923   +1 17 57.7
DJ9388
DJ9388!             -  Elev Factor  x  Scale Factor =   Combined Factor
DJ9388!SPC LA S     -   1.00000372  x   0.99995172  =   0.99995544
DJ9388!UTM  15      -   1.00000372  x   1.00034923  =   1.00035295
DJ9388
DJ9388                          SUPERSEDED SURVEY CONTROL
DJ9388
DJ9388.No superseded survey control is available for this station.
DJ9388
DJ9388_U.S. NATIONAL GRID SPATIAL ADDRESS: 15RYP4642867520(NAD 83)
DJ9388_MARKER: F = FLANGE-ENCASED ROD
DJ9388_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL
DJ9388+WITH SETTING: INFORMATION.
DJ9388_STAMPING: CRMSPO-SM-17
DJ9388_MARK LOGO: LADNR
DJ9388_PROJECTION: FLUSH
DJ9388_MAGNETIC: I = MARKER IS A STEEL ROD
DJ9388_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
DJ9388+STABILITY: SURFACE MOTION
DJ9388_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
DJ9388+SATELLITE: SATELLITE OBSERVATIONS - March 06, 2009
DJ9388
DJ9388  HISTORY     - Date     Condition        Report By
DJ9388  HISTORY     - 20050701 MONUMENTED       LADNR
DJ9388  HISTORY     - 20060402 GOOD             NGS
DJ9388  HISTORY     - 20090306 GOOD             3001
DJ9388
DJ9388                          STATION DESCRIPTION
DJ9388
DJ9388'DESCRIBED BY NATIONAL GEODETIC SURVEY 2006 (RLT)
DJ9388'MARK SET JULY 2005 BY CHUSTZ SURVEYING, INCORPORATED FOR THE LOUISIANA
DJ9388'DEPARTMENT OF NATURAL RESOURCES.  FROM THE INTERSECTION OF LA HIGHWAY
DJ9388'20 AND HIGHWAY 51 IN PONCHATOULA, LA, GO SOUTH 1.6 MI (2.6 KM) ON
DJ9388'HIGHWAY 51 TO THE JUNCTION OF HIGHWAY 51 AND INTERSTATE 55, THE
DJ9388'MONUMENT IS ON THE WEST SIDE OF THE ON-RAMP TO INTERSTATE 55 SOUTH.
DJ9388'
DJ9388'10 FT (3.0 M) NORTH OF THE OVERPASS ABUTMENT, 20 FT (6.1 M) WEST OF
DJ9388'THE ON-RAMP CENTERLINE, AND 3 FT (0.9 M) NORTHWEST OF A GUARDRAIL.
DJ9388'
DJ9388'MONUMENT IS A 9/16 INCH (1 CM) STEEL ROD DRIVEN TO REFUSAL SET WITHIN
DJ9388'A 6 INCH (15 CM) PVC PIPE WITH LOGO CAP STAMPED CRMSPO-SM-17 SET FLUSH
DJ9388'WITH THE GROUND AND SET IN CONCRETE.
DJ9388
DJ9388                          STATION RECOVERY (2009)
DJ9388
DJ9388'RECOVERY NOTE BY 3001, INC 2009 (JCP)
DJ9388'COUNTY SHOULD BE TANGIPAHOA AND NOT JEFFERSON

*** retrieval complete.
Elapsed Time = 00:00:00
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BH2999 ***************************************************************************
 BH2999  CBN         -  This is a Cooperative Base Network Control Station.
 BH2999  SACS        -  This is a Secondary Airport Control Station.
 BH2999  DESIGNATION -  STENNIS
 BH2999  PID         -  BH2999
 BH2999  STATE/COUNTY-  MS/HANCOCK
 BH2999  USGS QUAD   -  WAVELAND (1976)
 BH2999
 BH2999                        *CURRENT SURVEY CONTROL
 BH2999  ______________________________________________________________________
 BH2999* NAD 83(2007)-  30 22 23.16220(N)    089 27 10.92751(W)     ADJUSTED
 BH2999* NAVD 88     -         4.911  (meters)      16.11   (feet)  ADJUSTED
 BH2999  ______________________________________________________________________
 BH2999  EPOCH DATE  -        2002.00
 BH2999  X           -      52,575.062 (meters)                     COMP
 BH2999  Y           -  -5,507,189.568 (meters)                     COMP
 BH2999  Z           -   3,206,113.785 (meters)                     COMP
 BH2999  LAPLACE CORR-          -2.34  (seconds)                    DEFLEC99
 BH2999  ELLIP HEIGHT-         -22.598 (meters)          (02/10/07) ADJUSTED
 BH2999  GEOID HEIGHT-         -27.50  (meters)                     GEOID03
 BH2999  DYNAMIC HT  -           4.904 (meters)      16.09  (feet)  COMP
 BH2999
 BH2999  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 BH2999  Type    PID    Designation                      North   East  Ellip
 BH2999  ----------------------------------------------------------------------
 BH2999  NETWORK BH2999 STENNIS                           0.45   0.45   1.25
 BH2999  ----------------------------------------------------------------------
 BH2999  MODELED GRAV-     979,332.1   (mgal)                      NAVD 88
 BH2999
 BH2999  VERT ORDER  -  FIRST     CLASS II
 BH2999
 BH2999.This mark is at Stennis Intl Airport (HSA)
 BH2999
 BH2999.The horizontal coordinates were established by GPS observations
 BH2999.and adjusted by the National Geodetic Survey in February 2007.
 BH2999
 BH2999.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 BH2999.See National Readjustment for more information.
 BH2999.The horizontal coordinates are valid at the epoch date displayed above.
 BH2999.The epoch date for horizontal control is a decimal equivalence
 BH2999.of Year/Month/Day.
 BH2999
 BH2999.The orthometric height was determined by differential leveling
 BH2999.and adjusted in February 1994.
 BH2999
 BH2999.The X, Y, and Z were computed from the position and the ellipsoidal ht.
 BH2999
 BH2999.The Laplace correction was computed from DEFLEC99 derived deflections.
 BH2999
 BH2999.The ellipsoidal height was determined by GPS observations
 BH2999.and is referenced to NAD 83.
 BH2999
 BH2999.The geoid height was determined by GEOID03.
 BH2999
 BH2999.The dynamic height is computed by dividing the NAVD 88
 BH2999.geopotential number by the normal gravity value computed on the
 BH2999.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45
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BH2999.degrees latitude (g = 980.6199 gals.).
BH2999
BH2999.The modeled gravity was interpolated from observed gravity values.
BH2999
BH2999;                    North         East     Units Scale Factor Converg.
BH2999;SPC MS E     -    96,942.452   240,434.590   MT  0.99999375   -0 18 48.1
BH2999;SPC MS E     -   318,052.03    788,825.82   sFT  0.99999375   -0 18 48.1
BH2999;UTM  16      - 3,362,681.647   264,264.979   MT  1.00028562   -1 14 27.2
BH2999
BH2999!             -  Elev Factor  x  Scale Factor =   Combined Factor
BH2999!SPC MS E     -   1.00000355  x   0.99999375  =   0.99999730
BH2999!UTM  16      -   1.00000355  x   1.00028562  =   1.00028917
BH2999
BH2999:                Primary Azimuth Mark                    Grid Az
BH2999:SPC MS E     -  STENNIS AZ MK                           180 45 16.1
BH2999:UTM  16      -  STENNIS AZ MK                           181 40 55.2
BH2999
BH2999|---------------------------------------------------------------------|
BH2999| PID    Reference Object                    Distance      Geod. Az  |
BH2999|                                                          dddmmss.s |
BH2999| BH3002 STENNIS AZ MK                     APPROX. 0.7 KM 1802628.0 |
BH2999|---------------------------------------------------------------------|
BH2999
BH2999                         SUPERSEDED SURVEY CONTROL
BH2999
BH2999  ELLIP H (03/26/02)  -22.612  (m)                      GP(       ) 4 2
BH2999  ELLIP H (08/18/00)  -22.609  (m)                      GP(       ) 4 1
BH2999  NAD 83(1993)-  30 22 23.16202(N)    089 27 10.92706(W) AD(       ) B
BH2999  ELLIP H (01/12/94)  -22.526  (m)                      GP(       ) 4 1
BH2999  NAD 83(1993)-  30 22 23.17596(N)    089 27 10.93762(W) AD(       ) 3
BH2999  ELLIP H (01/21/93)  -22.812  (m)                      GP(       ) 4 2
BH2999  NAD 83(1986)-  30 22 23.17857(N)    089 27 10.91867(W) AD(       ) 3
BH2999  NAD 27      -  30 22 22.47961(N)    089 27 10.73071(W) AD(       ) 3
BH2999  NAVD 88 (08/18/00)    4.91   (m)           16.1    (f) LEVELING    3
BH2999  NGVD 29 (09/20/88)    4.9    (m)           16.     (f) GPS OBS     3
BH2999
BH2999.Superseded values are not recommended for survey control.
BH2999.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BH2999.See file dsdata.txt to determine how the superseded data were derived.
BH2999
BH2999_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU6426562682(NAD 83)
BH2999_MARKER: DH = HORIZONTAL CONTROL DISK
BH2999_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
BH2999_SP_SET: CONCRETE POST
BH2999_STAMPING: STENNIS 1986
BH2999_MARK LOGO: NGS
BH2999_PROJECTION: PROJECTING 0 CENTIMETERS
BH2999_MAGNETIC: N = NO MAGNETIC MATERIAL
BH2999_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
BH2999+STABILITY: SURFACE MOTION
BH2999_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BH2999+SATELLITE: SATELLITE OBSERVATIONS - October 03, 2007
BH2999
BH2999  HISTORY     - Date     Condition        Report By
BH2999  HISTORY     - 1986     MONUMENTED       NGS
BH2999  HISTORY     - 1988     GOOD             NGS
BH2999  HISTORY     - 19921113 GOOD             MSHD
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BH2999  HISTORY     - 19930312 GOOD            NGS
BH2999  HISTORY     - 20000222 GOOD            NASA
BH2999  HISTORY     - 20000222 GOOD            NASA
BH2999  HISTORY     - 20070205 GOOD            NGS
BH2999  HISTORY     - 20071003 GOOD            INDIV
BH2999
BH2999                          STATION DESCRIPTION
BH2999
BH2999'DESCRIBED BY NATIONAL GEODETIC SURVEY 1988 (AJL)
BH2999'THE STATION IS LOCATED ABOUT 12.9 KM (8.0 MI)
BH2999'NORTHWEST OF BAY ST LOUIS AT THE STENNIS INTERNATIONAL AIRPORT.
BH2999'OWNERSHIP--HANCOCK COUNTY PORT AND HARBOR COMMISSION, P.O. BOX 2267,
BH2999'C/O AIRPORT MANAGER WILLIAM CARSON, BAY ST LOUIS MS 39521.
BH2999'PHONE (601) 467-5434.
BH2999'
BH2999'TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE HIGHWAY 10 AND
BH2999'STATE HIGHWAYS 43 AND 603, ABOUT 8.0 KM (5.0 MI) NORTH OF WAVELAND, GO
BH2999'NORTH FOR 2.2 KM (1.35 MI) ON HIGHWAYS 43 AND 603 TO A PAVED ROAD
BH2999'ON THE LEFT, AT SIGN STENNIS INTERNATIONAL AIRPORT.
BH2999'TURN LEFT AND GO WEST FOR 1.6 KM (1.0 MI) ON THE PAVED ROAD TO THE
BH2999'AIRPORT OFFICE AND MAIN HANGAR.  CONTINUE STRAIGHT AHEAD AND GO
BH2999'WEST FOR 0.1 KM (0.05 MI) THROUGH GATE AND ACROSS PARKING RAMP TO
BH2999'THE WINDSOCK AND STATION.
BH2999'
BH2999'THE STATION IS A STANDARD NGS DISK
BH2999'STAMPED---STENNIS 1986---,
BH2999'SET INTO THE TOP OF A ROUND CONCRETE MONUMENT
BH2999'30 CM IN DIAMETER PROJECTING 1 CM ABOVE GROUND.  LOCATED
BH2999'48.9 METERS (160.5 FT) WEST-NORTHWEST FROM THE NORTHWEST CORNER OF
BH2999'A PARKING RAMP,
BH2999'148.0 METERS (45.1 FT) NORTH FROM THE NORTH EDGE OF TAXIWAY (RAMP
BH2999'E),
BH2999'18.9 METERS (62.0 FT) EAST FROM THE EAST EDGE OF THE NORTH-SOUTH
BH2999'TAXIWAY,
BH2999'14.8 METERS (48.5 FT) WEST FROM THE CENTER POLE OF WINDSOCK, AND
BH2999'0.5 METERS (1.5 FT) SOUTH FROM A CARSONITE WITNESS POST.
BH2999'THE UNDERGROUND MARK IS A STANDARD NGS DISK
BH2999'STAMPED---STENNIS 1986---,
BH2999'SET INTO AN IRREGULAR MASS OF CONCRETE 1.2 METERS BELOW THE SURFACE.
BH2999'
BH2999'DESCRIBED BY D.D. REXRODE, TYPED BY R.L. ZURFLUH.
BH2999
BH2999                          STATION RECOVERY (1992)
BH2999
BH2999'RECOVERY NOTE BY MISSISSIPPI STATE HIGHWAY DEPARTMENT 1992
BH2999'STATION IS LOCATED ABOUT 8.0 MI (12.9 KM) NORTHWEST OF BAY ST LOUIS,
BH2999'AT THE STENNIS INTERNATIONAL AIRPORT. OWNERSHIP--HANCOCK COUNTY PORT
BH2999'AND HARBOR COMMISSION, P.O. BOX 69, BAY ST LOUIS, MS. 39520, C/O
BH2999'AIRPORT MANAGER HAROLD OLSON, PHONE (601) 467 9231.
BH2999'TO REACH THE STATION FROM THE JUNCTION OF I-10 AND STATE HIGHWAYS 43
BH2999'AND 603, ABOUT 5.0 MI (8.0 KM) NORTH OF WAVELAND, GO NORTH ON
BH2999'HIGHWAYS 43 AND 603 FOR 1.35 MI (2.17 KM) TO A PAVED ROAD ON THE
BH2999'LEFT, AT SIGN (STENNIS INTERNATIONAL AIRPORT), TURN LEFT AND GO WEST
BH2999'ON PAVED ROAD FOR 1.0 MI (1.6 KM) TO AIRPORT OFFICE AND MAIN HANGER,
BH2999'CONTINUE STRAIGHT AHEAD AND GO WEST THROUGH GATE AND ACROSS PARKING
BH2999'RAMP FOR 0.05 MI (0.08 KM) TO THE WINDSOCK AND STATION AS DESCRIBED.
BH2999'STATION MARK IS A STANDARD NGS DISK, STAMPED---STENNIS 1986---SET IN
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BH2999'TOP OF A ROUND CONCRETE MONUMENT, FLUSH WITH THE GROUND. IT IS 160.5
BH2999'FT (48.9 M) WEST NORTHWEST OF THE NORTHWEST CORNER OF PARKING RAMP,
BH2999'45.1 FT (13.7 M) NORTH OF THE NORTH EDGE OF TAXIWAY, 62.0 FT
BH2999'(18.9 M) EAST OF THE EAST EDGE OF NORTH-SOUTH TAXIWAY, 48.5 FT
BH2999'(14.8 M) WEST OF THE CENTER POLE OF WINDSOCK AND 1.5 FT (0.5 M) SOUTH
BH2999'OF A CARSONITE WITNESS POST.
BH2999
BH2999   STATION RECOVERY (1993)
BH2999
BH2999'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993
BH2999'11.0 KM (6.85 MI) NORTHERLY ALONG STATE HIGHWAY 43 FROM THE JUNCTION
BH2999'OF U.S. HIGHWAY 90 IN WAVELAND, THENCE 1.7 KM (1.05 MI) WESTERLY
BH2999'ALONG A ROAD LEADING TO THE STENNIS INTERNATIONAL AIRPORT, THENCE 0.2
BH2999'KM (0.10 MI) WESTERLY ALONG A ROAD, AN APRON AND A TAXIWAY, 59.8 M
BH2999'(196.2 FT) NORTH OF AND LEVEL WITH THE CENTERLINE OF A TAXIWAY, 26.7
BH2999'M (87.6 FT) EAST OF THE CENTERLINE OF A TAXIWAY, 14.8 M (48.6 FT)
BH2999'WEST OF THE CENTER SUPPORT POLE OF A WINDSOCK, 0.5 M (1.6 FT) SOUTH
BH2999'OF A WITNESS POST, AND THE MONUMENT IS FLUSH WITH THE GROUND SURFACE.
BH2999'NOTE--THE MARK IS ON PROPERTY OWNED BY STENNIS INTERNATIONAL AIRPORT,
BH2999'CONTACT--GENE PHILLIPS--AIRPORT MANAGER, TELEPHONE NUMBER (601)
BH2999'467-5434.
BH2999
BH2999   STATION RECOVERY (2000)
BH2999
BH2999'RECOVERY NOTE BY NAT AERO SPACE ADMIN 2000 (RBS)
BH2999'RECOVERED IN GOOD CONDITION.
BH2999
BH2999   STATION RECOVERY (2000)
BH2999
BH2999'RECOVERY NOTE BY NAT AERO SPACE ADMIN 2000 (RBS)
BH2999'RECOVERED AS DESCRIBED.
BH2999
BH2999   STATION RECOVERY (2007)
BH2999
BH2999'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2007 (RGB)
BH2999'THE STATION IS LOCATED ABOUT 3.0 MI (4.8 KM) SOUTH OF KILN MS, ON THE
BH2999'STENNIS INTERNATIONAL AIRPORT, 7250 STENNIS AIRPORT DRIVE KILM, MS
BH2999'39556 PHONE--228-467-7070.
BH2999'
BH2999'TO REACH THE STATION FROM THE POST OFFICE IN KILM, GO SOUTHERLY 2.4 MI
BH2999'(3.9 KM) ALONG STATE HIGHWAY 43 TO AIRPORT DRIVE ON THE RIGHT (
BH2999'NOTE--1.4 MILES NORTH ON STATE HIGHWAY 43 FROM THE OVERPASS JUNCTION
BH2999'OF INTERSTATE 10 AT EXIT 13), GO WEST, 1.1 MI (1.8 KM) ON STENNIS
BH2999'AIRPORT DRIVE TO A GATE ON THE SOUTH SIDE OF THE AIRPORT OFFICE AND A
BH2999'ENTRANCE GATE TO THE FIELD, CONTINUE THOUGHT THE GATE AND GO WEST FOR
BH2999'0.1 MILE TO THE STATION IN A GRASS MEDIAN BETWEEN AN AIRPORT APRON AND
BH2999'A TAXIWAY.
BH2999'
BH2999'THE STATION IS 30.0 M (98.4 FT) NORTH OF THE NORTH EDGE OF THE APRON
BH2999'TAXIWAY CONNECTOR, 28.1 M (92.2 FT) EAST OF THE TAXIWAY CENTERLINE,
BH2999'16.6 M (54.5 FT) NORTH OF THE CENTER OF A STORM DRAIN, 13.2 M (43.3
BH2999'FT) WEST OF THE WEST EDGE OF THE AIRPORT APRON, 0.5 M (1.6 FT) SOUTH
BH2999'OF A WITNESS POST AND THE STATION IS RECESSED 0.1 M (0.3 FT) BELOW THE
BH2999'THE GROUND. THIS STATION IS A SACS.
BH2999
BH2999   STATION RECOVERY (2007)
BH2999

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BH2999'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2007 (DRF)
BH2999'RECOVERED IN GOOD CONDITION.

*** retrieval complete.
Elapsed Time = 00:00:01
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BH1870 ***********************************************************************
 BH1870  HT_MOD      -  This is a Louisiana Height Modernization Survey Station.
 BH1870  CBN         -  This is a Cooperative Base Network Control Station.
 BH1870  DESIGNATION -  NICOLE
 BH1870  PID         -  BH1870
 BH1870  STATE/COUNTY-  LA/ST TAMMANY
 BH1870  USGS QUAD   -  SLIDELL (1994)
 BH1870
 BH1870                        *CURRENT SURVEY CONTROL
 BH1870  ______________________________________________________________________
 BH1870* NAD 83(2007)-  30 20 26.61135(N)    089 49 16.23849(W)     ADJUSTED
 BH1870* NAVD 88     -         7.50   (meters)      24.6    (feet)  GPS
OBS(2006.81)
 BH1870  **This station is located in a suspected subsidence area (see below).
 BH1870  ______________________________________________________________________
 BH1870  EPOCH DATE  -        2002.00
 BH1870  X           -      17,194.605 (meters)                     COMP
 BH1870  Y           -  -5,509,230.357 (meters)                     COMP
 BH1870  Z           -   3,203,018.457 (meters)                     COMP
 BH1870  LAPLACE CORR-          -0.88  (seconds)                    DEFLEC99
 BH1870  ELLIP HEIGHT-         -19.337 (meters)          (03/12/08) ADJUSTED
 BH1870  GEOID HEIGHT-         -26.89  (meters)                     GEOID03
 BH1870
 BH1870  ------- Accuracy Estimates (at 95% Confidence Level in cm) --------
 BH1870  Type    PID    Designation                      North   East  Ellip
 BH1870  ----------------------------------------------------------------------
 BH1870  NETWORK BH1870 NICOLE                            0.53   0.59   1.61
 BH1870  ----------------------------------------------------------------------
 BH1870  ELLP ORDER  -  THIRD     CLASS I
 BH1870
 BH1870.This mark is at Slidell Airport (6R0)
 BH1870
 BH1870.The horizontal coordinates were established by GPS observations
 BH1870.and adjusted by the National Geodetic Survey in February 2007.
 BH1870
 BH1870.The datum tag of NAD 83(2007) is equivalent to NAD 83(NSRS2007).
 BH1870.See National Readjustment for more information.
 BH1870.The horizontal coordinates are valid at the epoch date displayed above.
 BH1870.The epoch date for horizontal control is a decimal equivalence
 BH1870.of Year/Month/Day.
 BH1870
 BH1870.The orthometric height was determined by GPS observations and a
 BH1870.high-resolution geoid model.
 BH1870 ** Due to the variability of land subsidence, the orthometric,
ellipsoid,
 BH1870 ** and geoid heights are valid at the date of observation. These heights
 BH1870 ** must always be validated when used as control.
 BH1870 ** The orthometric height was determined by GPS observations using
 BH1870 ** precise GPS observation and processing techniques and a new
 BH1870 ** realization of GEOID03. It supersedes any height that may have been
 BH1870 ** previously determined for this station.
 BH1870 ** The geoid height was determined by a new realization of GEOID03 for
the
 BH1870 ** epoch indicated which incorporates improved geoid heights for the
 BH1870 ** Southern Louisiana Subsidence area.
 BH1870 ** (see www.ngs.noaa.gov/PC_PROD/GEOID03).
 BH1870
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BH1870.The X, Y, and Z were computed from the position and the ellipsoidal ht.
BH1870
BH1870.The Laplace correction was computed from DEFLEC99 derived deflections.
BH1870
BH1870.The ellipsoidal height was determined by GPS observations
BH1870.and is referenced to NAD 83.
BH1870
BH1870.The geoid height was determined by GEOID03.
BH1870
BH1870;                    North         East     Units Scale Factor Converg.
BH1870;SPC LA S     -   204,994.366 1,145,388.842   MT  0.99994327   +0 45 21.9
BH1870;SPC LA S     -   672,552.35  3,757,829.89   sFT  0.99994327   +0 45 21.9
BH1870;UTM  16      - 3,359,916.096   228,784.234   MT  1.00050757   -1 25 33.5
BH1870
BH1870!             -  Elev Factor  x  Scale Factor =   Combined Factor
BH1870!SPC LA S     -   1.00000304  x   0.99994327  =   0.99994631
BH1870!UTM  16      -   1.00000304  x   1.00050757  =   1.00051061
BH1870
BH1870:                Primary Azimuth Mark                    Grid Az
BH1870:SPC LA S     -  NICOLE AZ MK                            359 06 24.3
BH1870:UTM  16      -  NICOLE AZ MK                            001 17 19.7
BH1870
BH1870|---------------------------------------------------------------------|
BH1870| PID    Reference Object                    Distance      Geod. Az  |
BH1870|                                                          dddmmss.s |
BH1870| BH1871 NICOLE AZ MK                      APPROX. 0.7 KM 3595146.2 |
BH1870|---------------------------------------------------------------------|
BH1870
BH1870                          SUPERSEDED SURVEY CONTROL
BH1870
BH1870  ELLIP H (02/10/07)  -19.316  (m)                      GP(       )
BH1870  ELLIP H (02/12/02)  -19.327  (m)                      GP(       ) 4 2
BH1870  ELLIP H (08/18/00)  -19.339  (m)                      GP(       ) 4 1
BH1870  ELLIP H (01/21/93)  -19.271  (m)                      GP(       ) 4 2
BH1870  NAD 83(1992)-  30 20 26.61112(N)    089 49 16.23775(W) AD(       ) B
BH1870  ELLIP H (09/10/92)  -19.271  (m)                      GP(       ) 4 1
BH1870  NAD 83(1986)-  30 20 26.62387(N)    089 49 16.23592(W) AD(       ) 3
BH1870  NAD 27      -  30 20 25.92779(N)    089 49 15.98997(W) AD(       ) 3
BH1870  NGVD 29 (11/20/87)    7.75   (m)           25.4    (f) LEVELING    3
BH1870
BH1870.Superseded values are not recommended for survey control.
BH1870.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.
BH1870.See file dsdata.txt to determine how the superseded data were derived.
BH1870
BH1870_U.S. NATIONAL GRID SPATIAL ADDRESS: 16RBU2878459916(NAD 83)
BH1870_MARKER: DH = HORIZONTAL CONTROL DISK
BH1870_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT
BH1870_SP_SET: CONCRETE POST
BH1870_STAMPING: NICOLE 1986
BH1870_MARK LOGO: NGS
BH1870_PROJECTION: FLUSH
BH1870_MAGNETIC: N = NO MAGNETIC MATERIAL
BH1870_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO
BH1870+STABILITY: SURFACE MOTION
BH1870_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR
BH1870+SATELLITE: SATELLITE OBSERVATIONS - February 06, 2007
BH1870
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BH1870  HISTORY     - Date     Condition        Report By
BH1870  HISTORY     - 1986     MONUMENTED       NGS
BH1870  HISTORY     - 1986     GOOD             NGS
BH1870  HISTORY     - 19870319 GOOD
BH1870  HISTORY     - 19870615 GOOD             NGS
BH1870  HISTORY     - 19910904 GOOD             LADTD
BH1870  HISTORY     - 19920330 GOOD
BH1870  HISTORY     - 19930506 GOOD
BH1870  HISTORY     - 19950905 GOOD             LADTD
BH1870  HISTORY     - 20000215 GOOD             NASA
BH1870  HISTORY     - 20040321 GOOD             COMPA
BH1870  HISTORY     - 20060501 GOOD             NGS
BH1870  HISTORY     - 20060710 GOOD             LADTD
BH1870  HISTORY     - 20070202 GOOD             NGS
BH1870  HISTORY     - 20070206 GOOD             NGS
BH1870
BH1870                          STATION DESCRIPTION
BH1870
BH1870'DESCRIBED BY NATIONAL GEODETIC SURVEY 1986 (SLC)
BH1870'THE STATION IS LOCATED ABOUT 8 KM (5 MI) NORTHWEST OF SLIDELL AND
BH1870'AT THE SOUTH END OF THE SLIDELL AIRPORT.
BH1870'OWNERSHIP--ST TAMMANY PARISH, FOR ENTRANCE INTO THE AIRFIELD,
BH1870'CONTACT MR. JOHN REEVES, 232 AIRPORT DR., SLIDELL, LA 70458, PHONE
BH1870'504-641-2439.
BH1870'
BH1870'TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE 12 AND AIRPORT
BH1870'ROAD, EXIT 80,IN SLIDELL, GO LEFT, NORTH FOR 3.2 KM (2 MI) TO THE
BH1870'AIRPORT ENTRANCE GATE, GO EAST FOR 0.2 KM (0.15 MI) TO THE TAXIWAY,
BH1870'THEN RIGHT, SOUTH ON THE TAXIWAY FOR 0.2 KM (0.1 MI) TO THE STATION
BH1870'ON THE LEFT, BETWEEN THE RUNWAY AND TAXIWAY.
BH1870'
BH1870'THE STATION IS A STANDARD NGS DISK
BH1870'STAMPED---NICOLE 1986---,
BH1870'SET INTO THE TOP OF A ROUND CONCRETE MONUMENT
BH1870'30 CM IN DIAMETER FLUSH WITH GROUND.  LOCATED
BH1870'82.9 METERS (272 FT) SOUTH-SOUTHWEST FROM A GLIDE LIGHT VASI,
BH1870'69.5 METERS (228 FT) NORTH-NORTHWEST FROM A GLIDE LIGHT VASI,
BH1870'32 METERS (105 FT) SOUTHWEST FROM A RUNWAY LIGHT,
BH1870'26.4 METERS (86.5 FT) WEST FROM THE WEST EDGE OF THE RUNWAY AND
BH1870'0.5 METER (1.5 FT) EAST FROM A WITNESS POST.
BH1870'THE UNDERGROUND MARK IS A STANDARD NGS DISK
BH1870'STAMPED---NICOLE 1986---,
BH1870'SET INTO AN IRREGULAR MASS OF CONCRETE 1.1 METERS BELOW THE SURFACE.
BH1870'
BH1870'DESCRIBED S.L. CRAIN, TYPED BY DEW.
BH1870
BH1870                          STATION RECOVERY (1986)
BH1870
BH1870'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1986
BH1870'9.3 KM (5.75 MI) NW FROM SLIDELL.
BH1870'THE MARK IS ABOVE LEVEL WITH GROUND.
BH1870'4.8 KM (3.0 MILES) WEST ALONG U.S. HIGHWAY 190 FROM THE JUNCTION OF
BH1870'U.S. HIGHWAY 11 IN SLIDELL, THENCE 4.3 KM (2.75 MILES) NORTH ALONG
BH1870'AIRPORT ROAD TO THE AIRPORT OFFICE, THENCE 0.2 KM (0.1 MILES) EAST TO
BH1870'TAXIWAY, THENCE 0.1 KM (0.05 MILES) SOUTH ALONG TAXIWAY TO THE MARK ON
BH1870'THE LEFT.  IT IS 26.5 METERS (87.0 FT) WEST OF THE WEST EDGE OF
BH1870'RUNWAY, 127.7 METERS (419.0 FT) NORTH OF THE NORTH EDGE OF THE SOUTH
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BH1870'APPROACH TO RUNWAY AND 31.8 METERS (104.5 FT) SOUTHEAST OF A RUNWAY
BH1870'LIGHT.
BH1870'THE MARK IS 0.36 METERS S FROM A WITNESS POST
BH1870
BH1870   STATION RECOVERY (1987)
BH1870
BH1870'RECOVERED 1987
BH1870'RECOVERED IN GOOD CONDITION.
BH1870
BH1870   STATION RECOVERY (1987)
BH1870
BH1870'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1987
BH1870'THE STATION IS LOCATED IN THE SOUTH PART OF THE AIRPORT NEAR RUNWAY
BH1870'END 35. IT IS 478.5 FT (145.8 M) NNW OF THE CENTERLINE END OF RWY 35,
BH1870'272 FT (82.9 M) SSW OF THE NORTHERLY VASI (35), 228 FT (69.5 M) NNW OF
BH1870'THE SOUTHERLY VASI (35), 105 FT (32.0 M) SOUTHWEST OF THE THIRD RUNWAY
BH1870'LIGHT NORTH OF THE END, AND 86.5 FT (26.4 M) WEST OF THE WEST EDGE OF
BH1870'THE RUNWAY. IT IS AN NGS HORIZONTAL CONTROL MARK DISK STAMPED NICOLE
BH1870'1986, AND SET IN THE TOP OF A 12 INCH ROUND CONCRETE POST FLUSH WITH
BH1870'THE GROUND.
BH1870
BH1870   STATION RECOVERY (1991)
BH1870
BH1870'RECOVERY NOTE BY LA TRANSP AND DEV 1991
BH1870'THE STATION IS LOCATED ABOUT 5.5 MI (8.9 KM) NORTHEAST OF LACOMBE, 5.0
BH1870'MI (8.0 KM) SOUTHWEST OF HICKORY AND 5.0 MI (8.0 KM) NORTHWEST OF
BH1870'SLIDELL, AT THE SOUTH END OF THE SLIDELL AIRPORT. OWNERSHIP--ST
BH1870'TAMMANY PARISH, FOR ENTRANCE INTO THE AIRPORT, CONTACT MR. THOMAS
BH1870'WATKINS, AIRPORT MANAGER, 62512 AIRPORT RD, SUITE 2, SLIDELL, LA
BH1870'70460, TELEPHONE 504-641-7590.
BH1870'TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE HIGHWAY 12 AND
BH1870'AIRPORT RD (EXIT 80), IN WEST SLIDELL, GO NORTH FOR 2.0 MI (3.2 KM)
BH1870'ON AIRPORT RD TO THE AIRPORT ENTRANCE GATE, THEN GO EAST FOR 0.15 MI
BH1870'(0.24 KM) THROUGH THE GATE TO THE TAXIWAY, TURN RIGHT AND GO SOUTH
BH1870'FOR 0.1 MI (0.2 KM) ON THE TAXIWAY TO THE STATION ON THE LEFT, SET
BH1870'BETWEEN THE RUNWAY AND TAXIWAY.
BH1870'THE STATION IS 272.0 FT (82.9 M) SOUTH-SOUTHWEST FROM A GLIDE LIGHT
BH1870'VASI, 228.0 FT (69.5 M) NORTH-NORTHWEST FROM A GLIDE LIGHT VASI,
BH1870'105.0 FT (32.0 M) SOUTHWEST FROM A RUNWAY LIGHT, 86.5 FT (26.4 M)
BH1870'WEST FROM THE WEST EDGE OF THE RUNWAY, 1.0 FT (0.3 M) EAST FROM A
BH1870'FIBERGLASS WITNESS POST, FLUSH WITH THE GROUND SURFACE AND ABOUT
BH1870'LEVEL WITH THE RUNWAY.
BH1870
BH1870   STATION RECOVERY (1992)
BH1870
BH1870'RECOVERED 1992
BH1870'RECOVERED IN GOOD CONDITION.
BH1870
BH1870   STATION RECOVERY (1993)
BH1870
BH1870'RECOVERED 1993
BH1870'RECOVERED IN GOOD CONDITION.
BH1870
BH1870   STATION RECOVERY (1995)
BH1870
BH1870'RECOVERY NOTE BY LA TRANSP AND DEV 1995 (SLC)
BH1870'THE STATION IS LOCATED ABOUT 5.5 MI (8.9 KM) NORTHEAST OF LACOMBE, 5.0

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BH1870'MI (8.0 KM) SOUTHWEST OF HICKORY AND 5.0 MI (8.0 KM) NORTHWEST OF
BH1870'DOWNTOWN SLIDELL, AT THE SLIDELL AIRPORT.  OWNERSHIP--CITY OF SLIDELL,
BH1870'FOR ENTRANCE INTO THE AIRPORT CONTACT MS LAURA M.  ZAIDAIN, AIRPORT
BH1870'MANAGER, 62512 AIRPORT ROAD, SUITE 2, SLIDELL, LA.  70460, TELEPHONE
BH1870'504-641-7590. TO REACH THE STATION FROM THE JUNCTION OF INTERSTATE
BH1870'HIGHWAY 12 AND AIRPORT ROAD (EXIT 80) , IN WEST SLIDELL, GO NORTH FOR
BH1870'2.0 MI (3.2 KM) ON AIRPORT ROAD TO THE AIRPORT ENTRANCE, TURN RIGHT
BH1870'AND GO EAST FOR 0.15 MI (0.24 KM) THROUGH A GATE ACROSS A PARKING AREA
BH1870'TO THE TAXIWAY, TURN RIGHT AND GO SOUTH FOR 0.1 MI (0.2 KM) ON THE
BH1870'TAXIWAY TO THE STATION ON THE LEFT, SET BETWEEN THE RUNWAY AND
BH1870'TAXIWAY, 272.0 FT (82.9 M) SOUTH-SOUTHWEST FROM A VASI GLIDE LIGHT,
BH1870'264.5 FT (80.6 M) EAST FROM THE CENTER OF THE TAXIWAY, 228.0 FT (69.5
BH1870'M) NORTH-NORTHWEST FROM A VASI GLIDE LIGHT, 105.0 FT (32.0 M)
BH1870'SOUTHWEST FROM A RUNWAY LIGHT, 5.0 FT (1.5 M) NORTH FROM THE EXTENDED
BH1870'CENTER OF A TAXIWAY APPROACH LEADING TO THE NORTHSHORE AVIATION
BH1870'HANGER, 1.0 FT (0.3 M) EAST FROM A FIBERGLASS WITNESS POST, FLUSH WITH
BH1870'THE GROUND SURFACE AND ABOUT LEVEL WITH THE RUNWAY.
BH1870
BH1870                          STATION RECOVERY (2000)
BH1870
BH1870'RECOVERY NOTE BY NAT AERO SPACE ADMIN 2000 (RBS)
BH1870'RECOVERED IN GOOD CONDITION.
BH1870
BH1870                          STATION RECOVERY (2004)
BH1870
BH1870'RECOVERY NOTE BY COMPASSCOM INC 2004 (IR)
BH1870'RECOVERED IN GOOD CONDITION.
BH1870
BH1870                          STATION RECOVERY (2006)
BH1870
BH1870'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2006 (RLT)
BH1870'RECOVERED AS DESCRIBED.
BH1870
BH1870                          STATION RECOVERY (2006)
BH1870
BH1870'RECOVERY NOTE BY LA TRANSP AND DEV 2006 (SLC)
BH1870'RECOVERED IN GOOD CONDITION.
BH1870
BH1870                          STATION RECOVERY (2007)
BH1870
BH1870'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2007 (RGB)
BH1870'RECOVERED AS DESCRIBED.
BH1870
BH1870                          STATION RECOVERY (2007)
BH1870
BH1870'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2007 (RGB)
BH1870'RECOVERED AS DESCRIBED.

*** retrieval complete.
Elapsed Time = 00:00:00
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GPS LOG SHEETS

3001
a Northrop Grumman company

GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
1

658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE	POINT ID:	1B
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ST. TAMMANY	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 23 32.28		HGT. MTS
LONGITUDE	W90 13 06.59		

SESSION	DATE:	03/03/09	START TIME	15:11	Record Interval	X	U.T.C.
001B-062-1	DAY OF YEAR	62	END TIME	16:12	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 1B IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND 3.5' SW OF THE SW EDGE OF ASPHALT OF S CHENIER DR., 77' SOUTH OF A GREEN TEL. JUNCTION BOX, 209.7' SE OF A MAIL BOX.

Photo

SKETCH

3001
a Northrop Grumman company

GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
1

658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAVIKE2

POINT ID:	1C
Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	Country	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 23 26.21		HGT. MTS
LONGITUDE	W90 13 03.28		

SESSION	DATE:	03/03/09	START TIME	15:32	Record Interval	X	U.T.C.
001C-062-1	DAY OF YEAR	62	END TIME	16:04	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: 1C IS A SPIKE NAIL W/WASHER SET FLUSH W/GRD. 4' SW OF THE SW EDGE OF ASPHALT OF S CHENIER DR., 170.4' SE OF ELECT. BOXES.

OBSTRUCTION DIAGRAM

SKETCH

Photo

3001
a Northrop Grumman company

GPS CONTROL SURVEY
FIELD DATA SHEET

PAGE:
1

658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAVIKE2

POINT ID:	2B=PC06
Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ST. TAMMANY	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 20 14.74		HGT. MTS
LONGITUDE	W90 02 36.06		

SESSION	DATE:	03/03/09	START TIME	18:25	Record Interval	X	U.T.C.
002B-062-1	DAY OF YEAR	62	END TIME	19:26	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 2B=PC06 IS A 60D NAIL SET FLUSH IN THE NW CORNER END OF A CONCRETE SIDEWALK WHERE CONC MEETS ASPHALT PARKING LOT, 184.2' SE OF A RED-YELLOW PAINTED FIRE HYDRANT, 93' NE OF A LONE OAK TREE, 120' SW OF A TRASH BARREL.

Photo

SKETCH

3001
a Northrop Grumman company
658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

GPS CONTROL SURVEY
FIELD DATA SHEET

JOB REFERENCE	POINT ID:	2C
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	Country	USA	Quad	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 20 12.82		HGT. MTS
LONGITUDE	W90 02 40.22		

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

SESSION	DATE:	03/03/09	START TIME	18:34	Record Interval	X	U.T.C.
002C-062-1	DAY OF YEAR	62	END TIME	19:05	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 2C IS A PK NAIL SET FLUSH IN THE WEST EDGE OF A ASPHALT PARKING LOT, 18.7' SE OF A CORNER OF ASPHALT, 14.1' SE OF A TRASH BARREL, 20.4' NORTH OF A LONE 6" CYPRESS TREE.

Photo

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
GUSTAVIKE2

POINT ID:	3B=PC07
Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ST. TAMMANY	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 15 46.21		HGT. MTS
LONGITUDE	W89 57 23.31		

SESSION	DATE:	03/03/09	START TIME	20:03	Record Interval	X	U.T.C.
003B-062-1	DAY OF YEAR	62	END TIME	21:04	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 3B=PC07 IS A 1' WIDE X 5' X 5' LEG L-SHAPED WHITE PANEL MATERIAL WITH A SPIKE NAIL W/WASHER ON THE INSIDE CORNER FOR POSITION POINT, 5' WEST OF THE WEST EDGE OF LA 434 (LIMESTONE), 45.2' SOUTH OF A POWERPOLE, 143.8' NORTH OF A SINGLE POLE.

Photo

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

JOB REFERENCE	POINT ID:	3C
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	Country	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 15 43.44		HGT. MTS
LONGITUDE	W89 57 22.55		

SESSION	DATE:	03/03/09	START TIME	20:13	Record Interval	X	U.T.C.
003C-062-1	DAY OF YEAR	62	END TIME	20:44	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 3C IS A SPIKE NAIL W/WASHER SET FLUSH IN THE GRAVEL 2' WEST OF TOP BANK WHERE TOPBANK MEETS MARSH NEAR THE DEAD END OF LA 434, 45.5' NORTH OF A POWERPOLE, 78.3' NE OF A SINGLE POST, 148.4' SE OF A SINGLE POLE.

SKETCH

Photo

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
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JOB REFERENCE
GUSTAVIKE2

POINT ID:	4B=PC11
Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ST. TAMMANY	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 10 57.89		HGT. MTS
LONGITUDE	W89 44 10.97		

SESSION	DATE:	03/04/09	START TIME	13:42	Record Interval	X	U.T.C.
004B-063-1	DAY OF YEAR	63	END TIME	14:43	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 4B=PC11 IS A 1' WIDE X 5' X 5' LEG L-SHAPED WHITE PAINTED PANEL WITH A PK NAIL ON THE INSIDE CORNER FOR POSITION POINT PAINTED ON THE SW SIDE OF LA 433 ON AN ASPHALT APRON, 17.3' SW OF THE C/L OF LA 433, 45.5' EAST OF A POWERPOLE, 39.5' NE OF THE C/L POINT OF A METAL GATE.

Photo

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

JOB REFERENCE	POINT ID:	4C
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	Country	USA	Quad	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 10 55.80		HGT. MTS
LONGITUDE	W89 44 05.15		

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

SESSION	DATE:	03/04/09	START TIME	13:53	Record Interval	X	U.T.C.
004C-063-1	DAY OF YEAR	63	END TIME	14:24	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 4C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND ON THE SW SHOULDER OF HWY 433, 17.9' SW OF THE C/L OF HWY 433, 111.4' EAST OF A POWERPOLE.

Photo

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE	POINT ID:	5B=PC12
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	JEFFERSON	COUNTRY	USA	Quad	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 01 11.60		HGT. MTS
LONGITUDE	W90 08 32.99		

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

SESSION	DATE:	03/05/09	START TIME	15:01	Record Interval	X	U.T.C.
005B-064-1	DAY OF YEAR	64	END TIME	16:02	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD. PLANE		

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 5B=PC12 IS A 60D NAIL W/WASHER SET FLUSH IN CORNER END OF A CONCRETE SIDEWALK WHERE IT MEETS A CONCRETE WALKWAY TO BOAT AREA AND WHERE IT MEETS THE GRASSLINE, 63.7' EAST OF A POWERPOLE W/NIGHTLIGHT, 51.4' NE OF A STOP SIGN, 58.7' SW OF A NO PARKING SIGN.

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
GUSTAVIKE2

POINT ID:	5C
Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	JEFFERSON	Country	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 01 14.87		HGT. MTS
LONGITUDE	W90 08 30.28		

SESSION	DATE:	03/05/09	START TIME	15:10	Record Interval	X	U.T.C.
005C-064-1	DAY OF YEAR	64	END TIME	15:41	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: 5C IS A SPIKE NAIL W/WASHER SET FLUSH IN GROUND IN A GRAVEL AREA JUST EAST OF BOAT LAUNCH, 38.9' EAST OF A NIGHTLIGHT POLE, 63' NORTH OF A BROWN RETAINING WALL, 25.5' WEST OF TOP OF CONC. RIP-RAP.

Photo

GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
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JOB REFERENCE	POINT ID:	6B=PC13
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	COUNTRY	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 02 12.97		HGT. MTS
LONGITUDE	W89 59 50.80		

SESSION	DATE:	03/05/09	START TIME	13:19	Record Interval	X	U.T.C.
006B-064-1	DAY OF YEAR	64	END TIME	14:20	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD. PLANE		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL	X	BASE STATION

3001 Description: 6B=PC13 IS A 60D NAIL W/WASHER SET FLUSH IN THE NW CORNER END OF A CONCRETE SIDEWALK WHERE IT MEETS A ASPHALT DRIVEWAY AND GRASSLINE ON THE WEST SIDE OF CROWDER BLVD, 8.5' WEST OF WEST CONC. CURB OF RD., 46.4' SOUTH OF A STREETLIGHT POLE, 82.9' NW OF A STREETLIGHT POLE.

Photo

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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
GUSTAVIKE2

POINT ID:	6C
Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	Country	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 02 10.78		HGT. MTS
LONGITUDE	W89 59 48.67		

SESSION	DATE:	03/05/09	START TIME	13:28	Record Interval	X	U.T.C.
006C-064-1	DAY OF YEAR	64	END TIME	13:59	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: 6C IS A 60D NAIL W/WASHER SET FLUSH IN THE CORNER OF CONC. CURB AND CONC. DRIVEWAY AND GRASSLINE THAT LEADS INTO THE CHURCH OF CHRIST PARKING LOT, 5' WEST OF THE WEST EDGE OF A CONC. SIDEWALK, 41.2' SOUTH OF A FIRE HYDRANT, 58' NW OF A STREETLIGHT POLE.

Photo

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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
GUSTAVIKE2

POINT ID:	7B=PC14
Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ORLEANS	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 08 40.48		HGT. MTS
LONGITUDE	W89 51 42.86		

SESSION	DATE:	03/04/09
007B-063-1	DAY OF YEAR	63

START TIME	16:50	Record Interval	X	U.T.C.
END TIME	17:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL	X	BASE STATION

3001 Description: 7B=PC-14 IS A 1' WIDE X 5' X 5' LEG L-SHAPED WHITE PAINTED PANEL WITH A PK NAIL ON THE INSIDE CORNER FOR POSITION POINT PAINTED ON THE SE SIDE OF HWY 11, 2' NW OF THE SE EDGE OF ASPHALT, 16.5' SE OF C/L OF HWY., 87.5' NE OF A POWER POLE, 88.9' SOUTH OF A POWER POLE.

OBSTRUCTION DIAGRAM

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAVIKE2

POINT ID:	7C
Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	Country	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 08 44.78		HGT. MTS
LONGITUDE	W89 51 40.18		

SESSION	DATE:	03/04/09	START TIME	16:57	Record Interval	X	U.T.C.
007C-063-1	DAY OF YEAR	63	END TIME	17:28	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: 7C IS A PK NAIL SET FLUSH IN THE SE EDGE OF ASPHALT, 18' SE OF THE C/L OF HWY 11, 15.9' NORTH OF A JCT I10 SIGN, 90.4' SOUTH OF A POWERPOLE.

Photo

SKETCH

GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE	POINT ID:	8B=PC-17
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 05 55.55		HGT. MTS
LONGITUDE	W89 45 56.85		

SESSION	DATE:	03/04/09	START TIME	18:27	Record Interval	X	U.T.C.
008B-063-1	DAY OF YEAR	63	END TIME	19:28	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: 8B=PC-17 IS A PAINTED WHITE 5'X5'X1' L ON THE NORTHWEST SIDE OF HWY 90 W/A PK NAIL SET FLUSH W/ASPHALT SHOULDER OF HWY 90. IS 21' W OF CL HWY 90. 47' W OF CENTER EDGE OF ASPHALT AND LIMESTONE ENTRANCE TO METAL FENCE GATE. 17' E OF EDGE OF ROSSO AND TREE LINE.

Photo

SKETCH

3001
a Northrop Grumman company
658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

GPS CONTROL SURVEY
FIELD DATA SHEET

JOB REFERENCE	POINT ID:	8C
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	Country	USA	Quad	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 05 50.68		HGT. MTS
LONGITUDE	W89 45 59.11		

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

SESSION	DATE:	03/04/09	START TIME	18:29	Record Interval	X	U.T.C.
008C-063-1	DAY OF YEAR	63	END TIME	19:00	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK	X	NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: 8C IS A PK NAIL SET FLUSH IN THE NW EDGE OF ASPHALT, 20.2' NW OF THE C/L OF HWY 90, 115.5' NE OF A FIBER OPTIC SIGN POST.

Photo

SKETCH

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	009B
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	9073

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 18 33.97N		HGT. MTS
LONGITUDE	089 20 21.35W		

SESSION	DATE:	4-Mar-09	START TIME	16:48	Record Interval	X	U.T.C.
0CS9 063 1	DAY OF YEAR	63	END TIME	17:55	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	90103		
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD PLANE		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: CS9 IS A SPIKE NAIL SET FLUSH W/GRD ON THE NORTH SIDE OF BOOKTER ASP. ST. CS9 IS 17.5FT N OF THE C/L OF THE ASP. RD.-- 17FT S OF A FENCELINE--45FT E OF A 25MPH SIGN.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	010B
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	9073

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 20 37.92N		
LONGITUDE	089 28 27.03W		

SESSION	DATE:	4-Mar-09	START TIME	13:53	Record Interval	X	U.T.C.
CS10 063 1	DAY OF YEAR	63	END TIME	14:56	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	90103		
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD PLANE		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: CS10 IS A SPIKE NAIL SET FLUSH W/GRD ON THE WEST SIDE OF A ASP. RD BETWEEN I-10 E/W BOUND LANES. CS10 IS 28.4FT S/E OF A OFICIAL AND EMEREGENCY VEHICLES RD SIGN-- 15FT W OF THE ASP. MEDIAN RD-- 60FT N OF THE N/E CORNER OF A WOODSLINE.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	011B
Proj. No.:	09005.03.001.552

STATE	COUNTY	Country	Quad
MISSISSIPPI	HARRISON	USA	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	9073

APPROXIMATE POSITION (C/A/CODE)

		HGT. MTS
LATITUDE	30 23 26.35N	
LONGITUDE	089 01 31.78W	

SESSION	DATE:	5-Mar-09	START TIME	18:53	Record Interval	X	U.T.C.
CS11 064 1	DAY OF YEAR	64	END TIME	20:11	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	90103		
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD PLANE		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: CS11 IS A SPIKE NAIL W/WASHER SET FLUSH W/GRD ON THE SOUTH SIDE OF A ASP. RD(NORTH ST.). CS11 IS 14FT S OF THE C/L OF THE ASP. RD.-- 32.7FT N/W OF A POWER/LIGHT POLE-- 42.5FT E OF 15MPH CURVY ROAD YELLOW CAUTION SIGN.

SKETCH

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAV LIDAR CHECKS

POINT ID:	012C
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL
RECEIVER MODEL	4700
RECEIVER S/N	5559

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N 30 24 50.41		HGT. MTS
LONGITUDE	W 88 50 16.15		

SESSION	DATE:	03/11/09	START TIME	16:46	Record Interval	X	U.T.C.
CS12-070-1	DAY OF YEAR	70	END TIME	17:16	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: CS-12

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAV LIDAR CHECKS

POINT ID:	013C
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL
RECEIVER MODEL	4700
RECEIVER S/N	5559

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N 30 22 32.53		HGT. MTS
LONGITUDE	W 88 38 39.37		

SESSION	DATE:	03/11/09	START TIME	15:35	Record Interval	X	U.T.C.
CS13-070-1	DAY OF YEAR	70	END TIME	16:05	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: CS-17

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAV CHECK SITES

POINT ID:	14C
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	JACKSON	**Country**	USA	Quad	

OPERATOR **MARY ALYCE HOWELL**

RECEIVER MODEL	**4700**
RECEIVER S/N	**5559**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 19 59.13		**HGT. MTS**
LONGITUDE	W 88 29 38.15		

SESSION	**DATE:**	03/05/09	**START TIME**	18:29	**Record Interval**	X	**U.T.C.**
014C-064-1	**DAY OF YEAR**	64	**END TIME**	19:01	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	**MICROCENTER L1/L2**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:			**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			**PHOTO I.D.**
		PUB. BENCH MARK		X	**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 DESCRIPTION: 14C

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
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JOB REFERENCE

GUSTAV CHECK SITES

POINT ID:	15C
Proj. No.:	09005.03.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL
RECEIVER MODEL	4700
RECEIVER S/N	5559

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 22 44.50		
LONGITUDE	W 88 18 29.75		

SESSION	DATE:	03/05/09	START TIME	13:42	Record Interval	X	U.T.C.
015C-064-1	DAY OF YEAR	64	END TIME	14:12	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: 15C

SKETCH

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
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JOB REFERENCE

GUSTAV CHECK SITES

POINT ID:	16C
Proj. No.:	09005.03.001.552

STATE	ALABAMA	**COUNTY**	MOBILE	**Country**	USA	Quad	

OPERATOR	**MARY ALYCE HOWELL**
RECEIVER MODEL	**4700**
RECEIVER S/N	**5559**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 22 40.49		**HGT. MTS**
LONGITUDE	W 88 12 49.73		

SESSION	**DATE:**	03/05/09	**START TIME**	14:51	**Record Interval**	**X**	**U.T.C.**
016C-064-1	**DAY OF YEAR**	64	**END TIME**	15:21	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	**MICROCENTER L1/L2**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	**X**	**FIXED HGT**

TOP OF MONUMENT IS:			**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			**PHOTO I.D.**
		PUB. BENCH MARK		**X**	**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 DESCRIPTION: 16C

Photo: PICS

SKETCH

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HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE

GUSTAV CHECK SITES

POINT ID:	017C
Proj. No.:	09005.03.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL
RECEIVER MODEL	4700
RECEIVER S/N	5559

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N 30 18 40.95		HGT. MTS
LONGITUDE	W 88 08 17.56		

SESSION	DATE:	03/05/09	START TIME	15:43	Record Interval	X	U.T.C.
017C-064-1	DAY OF YEAR	64	END TIME	16:13	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: 17C

SKETCH

Photo: PICS

SKETCH

S

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
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JOB REFERENCE
Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	018B
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	HANCOCK	**Country**	USA	Quad	

OPERATOR	**V. MCNEAL**

RECEIVER MODEL	**TRIMBLE 4700**
RECEIVER S/N	**9073**

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 12 24.50N		**HGT. MTS**
LONGITUDE	089 30 15.88W		

SESSION	**DATE:**	4-Mar-09	**START TIME**	18:59	**Record Interval**	X	**U.T.C.**
CS18 063 1	**DAY OF YEAR**	63	**END TIME**	20:05	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	90103		
ANTENNA TYPE	**TRIMBLE MICRO-CENTERED L1/L2 W/GRD PLANE**		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			**PHOTO I.D.**
		PUB. BENCH MARK		X	**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 Description: CS18 IS A PK NAIL SET FLUSH W/ASP. FOR THE ASP. RD HERRON BAY RD. CS18 IS 0.7FT W OF THE E EDGE OF THE ASP. RD.-- 8FT E OF THE C/L OF THE ASP. RD.-- 62.8FT S TO S/W OF A POWERPOLE.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV 2

POINT ID:	ELMO
Proj. No.:	09005.03.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL

RECEIVER MODEL	4000
RECEIVER S/N	4302

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 30 02.00		
LONGITUDE	W 88 16 28.40		

SESSION	DATE:	03/06/09	START TIME	13:09	Record Interval	X	U.T.C.
ELMO-065-1	DAY OF YEAR	65	END TIME	21:48	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	24415		
ANTENNA TYPE	COMPACT L1/L2 WITH GROUND PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

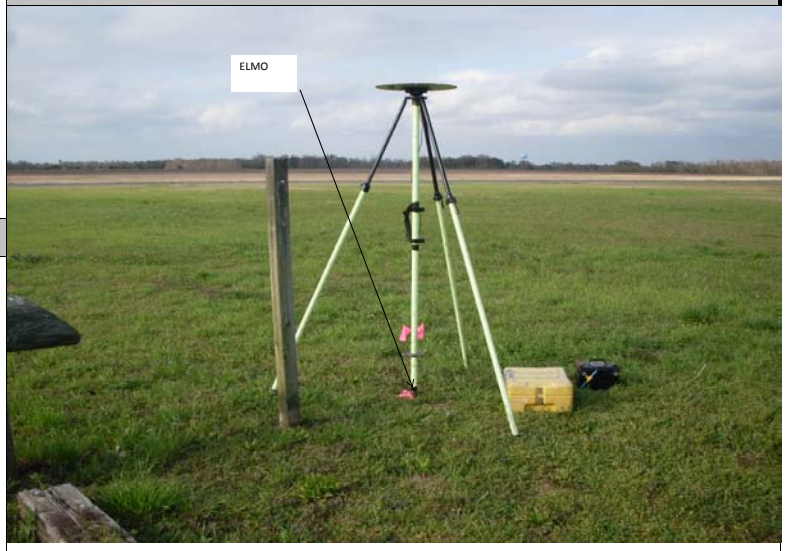
OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: ELMO=IR WITH ORANGE PLASTIC CAP SET FLUSH WITH THE GROUND ON THE ST. ELMO AIRPORT PROPERTY. FROM HWY 90 FOLLOW THE ENTRANCE RD TO THE AIRPORT NW THEN NE TO THE NORTH ENTRANCE GATE. NOT LOCKED AT THIS TIME. TURN MW AND GO THROUGH THE GATE FRO APPROX 325' TO POINT ELMO ON THERIGHT NEAR THE NE CORNER OF A GRASS/GRAVEL PARKING AREA ON THE EAST SIDE OF THE ASPHALT ENTRANCE RD. ELMO IS 44.8' NE OF THE CENTER OF THE ENTRANCE RD AND 30.5' SE OF THE CENTER OF A LID FOR A GAS TANK SET IN THE MIDDLE OF A CONCRETE

Photo: PICS



SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	F 236 PID # BH1193
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	LOGTOWN (1993)

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	9073

APPROXIMATE POSITION (C/A/CODE)

		HGT. MTS
LATITUDE	30 18 04.73N	
LONGITUDE	089 30 12.49W	6.089 FROM NGS SHEET

SESSION	DATE:	6-Mar-09	START TIME	14:30	Record Interval	X	U.T.C.
F236-065-1	DAY OF YEAR	65	END TIME	15:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	90103		
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD PLANE		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
	X	PUB. CONTROL			ABOVE GROUND

3001 Description: FOR RECOVERY OF F 236 SEE NGS DATA SHEET PID # BH1193. POINT IS A SURVEY DISK SET IN CONCRETE.

Photo: PICS

SKETCH

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

GPS CONTROL SURVEY
FIELD DATA SHEET

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	GPT ARP
Proj. No.:	09005.03.001.552

STATE	COUNTY	Country	Quad
MISSISSIPPI	HARRISON	USA	GULFPORT NORTH

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	3094

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 24 28.18965	HGT. MTS
LONGITUDE	W 089 04 05.11260	EL HT -20.749M

SESSION	DATE:	03/06/09	START TIME	15:00	Record Interval	X	U.T.C.
GARP0651	DAY OF YEAR	65	END TIME	22:00	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
	X	PUB. CONTROL			ABOVE GROUND

PID = AD9935

OBSTRUCTION DIAGRAM

SKETCH

SKETCH

-

Photo: PICS

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV 2

POINT ID:	GI06
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL
RECEIVER MODEL	4700
RECEIVER S/N	5559

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 23 35.54		
LONGITUDE	W 88 39 30.97		

SESSION	DATE:	03/06/09	START TIME	14:01	Record Interval	X	U.T.C.
GI06-065-1	DAY OF YEAR	65	END TIME	16:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: GI06=IR WITH ORANGE PLASTIC CAP SET FLUSH WITH THE GROUND IN THE NE QUARTER OF THE INTERSECTION OF HWY 90 AND N.DOLPHIN DR. SOUTH AND IN FRONT OF THE SEARS STORE AT THE SINGING RIVER MALL AND NORTH OF AND ACROSS HWY 90 FROM THE BURGER KING IN GAUTIER MISS. 105.5' SE OF A METAL LIGHT POLE,123.0' SW OF A METAL LIGHT POLE, 4.6' SOUTH OF THE BACK OF CURB ON THE SOUTH SIDE OF AN ASPHALT PARKING LOT AND 35.6' NORTH OF THE NORTH EDGE OF A TURNING LANE ON THE NORTH SIDE OF HWY 90. PICTURE TAKEN LOOKING SOUTH.

Photo: PICS

SKETCH

S

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GPS CONTROL SURVEY
FIELD DATA SHEET

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(FLIGHT POINT)

JOB REFERENCE	POINT ID:	GI07
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	Country	USA	Quad	

OPERATOR	M. HAVARD

RECEIVER MODEL	TRIMBLE 4700
RECEIVER S/N	3112

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 01 57.64		HGT. MTS
LONGITUDE	W89 58 41.90		

SESSION	DATE:	03/06/09	START TIME	14:11	Record Interval	X	U.T.C.
GI07-065-1	DAY OF YEAR	65	END TIME	16:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	59010		0.000
ANTENNA TYPE	TRIMBLE MICRO-CENTERED L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: GI07=IR WITH PLASTIC CAP SET FLUSH WITH THE GROUND 9.9' SW OF THE SW EDGE OF AN ASPHALT STREET WHICH RUNS NW TO SE, 47' SE OF A STOP SIGN, 50' SOUTH OF THE C/L OF DRAIN MANHOLE THAT IS IN THE STREET. FROM THE INTERSECTION OF READ BLVD. AND AN ASPHALT RD. ON THE SOUTH SIDE OF LOWE'S, PROCEED SW ON THE ASPHALT RD TO A STOP SIGN AT A "T " INTERSECTION AND GI07 ACROSS THE STREET. GI07 IS INLINE WITH THE MEDIAN OF THE STREET RUNNING NE TO SW. PICTURE TAKEN LOOKING NORTHEAST.

SKETCH

Photo

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JOB REFERENCE	POINT ID:	BH1821=H 375
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	COUNTRY	USA	Quad	LITTLE WOODS

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 01 41.85879		HGT. MTS
LONGITUDE	W89 59 14.36350		-1.92

SESSION	DATE:	03/06/09	START TIME	14:04	Record Interval	X	U.T.C.
H375-065-1	DAY OF YEAR	65	END TIME	16:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO

RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL	X	BASE STATION

3001 Description: SEE PID BH1821.

Photo

SKETCH

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FIELD DATA SHEET

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JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	K364
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	JACKSON	**Country**	USA	Quad	

OPERATOR	**M REVEAL**
RECEIVER MODEL	**TRIMBLE 5700**
RECEIVER S/N	**2576**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 24 09.76		**HGT. MTS**
LONGITUDE	W 088 43 07.49		

SESSION	**DATE:**	03/06/09	**START TIME**	15:50	**Record Interval**	X	**U.T.C.**
K3640651	**DAY OF YEAR**	65	**END TIME**	16:51	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	**TRIMBLE ZEPHYER GEODETIC**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			**PHOTO I.D.**
		PUB. BENCH MARK		X	**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

K364=IR FOUND WITH OUT CAP IN THE NORTH EAST CORNER OF THE INTERSECCTION OF HWY 90 AND HWY 57 ALONG TOP BANK OF DITCH JUST SOUTH OF PLANTED BUSHES .WITH FLAG STAKE .JACKSON COUNTY MISS.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY FIELD DATA SHEET

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JOB REFERENCE	POINT ID:	(BH1870) NICOLE
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 20 26.61135		HGT. MTS
LONGITUDE	W89 49 16.23849		7.50M

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

SESSION	DATE:	03/06/09	START TIME	13:29	Record Interval	X	U.T.C.
NICO-065-1	DAY OF YEAR	65	END TIME	18:33	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
X	PUB. CONTROL	X	BASE STATION

3001 Description: REF. DATASHEET BH1870

SKETCH

Photo

NICOLE--SLIDELL AIRPORT (ST. TAMMANY PARISH)

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JOB REFERENCE
GUSTAV 2

POINT ID:	P 482/PID BH1750
Proj. No.:	09005.03.001.552

STATE	ALABAMA	**COUNTY**	MOBILE	**Country**	USA	Quad	

OPERATOR MARY ALYCE HOWELL

RECEIVER MODEL	**4700**
RECEIVER S/N	**5559**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 15 04.95		**HGT. MTS**
LONGITUDE	W 88 05 42.24		

SESSION		**DATE:**	03/06/09	**START TIME**	19:03	**Record Interval**	**X**	**U.T.C.**
P482-065-3		**DAY OF YEAR**	65	**END TIME**	20:04	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	**MICROCENTER L1/L2**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	**X**	**FIXED HGT**

TOP OF MONUMENT IS:	**X**	**FLUSH**	
METERS/FEET		**ABOVE GROUND**	
METERS/FEET		**BELOW GROUND**	

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			**PHOTO I.D.**
		PUB. BENCH MARK			**NEW CONTROL**
	X	**PUB. CONTROL**			**ABOVE GROUND**

3001 DESCRIPTION: P 482/PID BH 1750

Photo: PICS

SKETCH

S

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JOB REFERENCE	POINT ID:	PC-1
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 23 27.84		HGT. MTS
LONGITUDE	W90 12 21.17		

SESSION	DATE:	03/03/09	START TIME	17:27	Record Interval	X	U.T.C.
PC01-062-1	DAY OF YEAR	62	END TIME	18:28	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: PC01 IS A PAINTED WHITE 5'X5'X1' L-SHAPED TARGET. IS PAINTED ON THE SOUTH SIDE OF PLACE LATIFFE ASPHALT RD. W/PK NAIL SET AT THE 90 DEGREE CORNER. IS 7' S OF CL PLACE LATIFFE. 26' E OF PORT LOUIS SIGN. 109' W OF PORT LOUIS A PRIVATE DEVELOPMENT RESIDENT GUEST ONLY SIGN.

Photo

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JOB REFERENCE	POINT ID:	PC-3
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 23 13.32		HGT. MTS
LONGITUDE	W90 12 49.75		

SESSION	DATE:	03/03/09	START TIME	15:13	Record Interval	X	U.T.C.
PC03-062-1	DAY OF YEAR	62	END TIME	16:14	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: PC03 IS THE NORTHWEST CORNER OF CONCRETE DRIVEWAY WHERE IT CONNECTS TO ASPHALT RD.(S. CHENIER DR.) IS 11' ENE OF CL S. CHENIER DR. 23' SSE OF BLACK MAILBOX #511. 33.8' NW OF UNDERGROUND AT&T PHONE CABLE WARNING POST #F511.

Photo

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JOB REFERENCE	POINT ID:	PC-4
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 22 43.08		HGT. MTS
LONGITUDE	W90 09 39.05		

SESSION	DATE:	03/03/09	START TIME	19:03	Record Interval	X	U.T.C.
PC04-062-1	DAY OF YEAR	62	END TIME	20:04	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

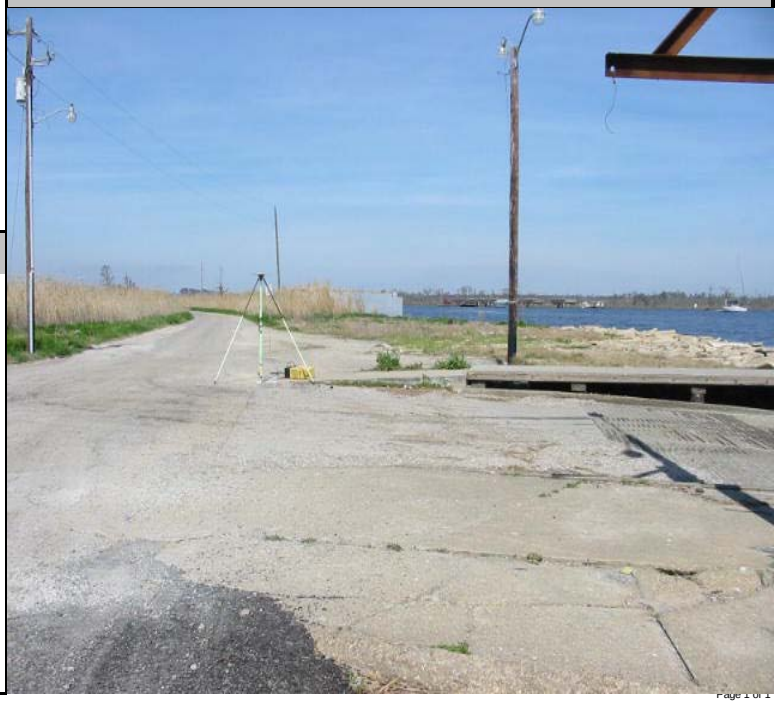
	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: PC04 IS THE SOUTH SIDE CORNER OF CONC. PIER WALK OVER WATER. AND LIMESTONE RD.(MAIN ST.) W/1'X6" WHITE PAINT FOR BETTER VISIBILITY. IS 20' W OF LIGHT POLE W/NO FISHING SIGN ATTACHED. 52' SE OF SURVEY MARKER POST FOR 1993F (2006).

Photo



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658 DISCOVERY DR.
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JOB REFERENCE	POINT ID:	PC-5
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 22 06.22		HGT. MTS
LONGITUDE	W90 05 24.78		

SESSION	DATE:	03/03/09	START TIME	20:39	Record Interval	X	U.T.C.
PC05-062-1	DAY OF YEAR	62	END TIME	21:40	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: PC05 IS SET AT THE SE CORNER OF BRICK AND ASPHALT ON MARINER'S BLVD. AT THE JUNCTION OF TRADEWINDS CT EAST AND WEST. IS 21' NW OF BELLSOUTH BURIED FIBER OPTIC CABLE MARKER. 9.5' S OF CL MARINER'S BLVD. 26.5' S OF STREET LIGHT POLE.

Photo

SKETCH

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JOB REFERENCE	POINT ID:	PC-8
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ST. TAMMANY	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 17 44.66		HGT. MTS
LONGITUDE	W89 56 46.76		

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

SESSION	DATE:	03/03/09	START TIME	21:28	Record Interval	X	U.T.C.
PC08-062-1	DAY OF YEAR	62	END TIME	22:29	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: PC-8 IS A 1' WIDE X 5' X 5' LEG L-SHAPED WHITE PAINTED PANEL WITH A PK NAIL ON THE INSIDE CORNER FOR POSITION POINT PAINTED ON THE SE SIDE OF LA 434 ON AN ASPHALT APRON, 16' SE OF THE C/L OF LA 434, 40.3' SW OF A POWERPOLE.

OBSTRUCTION DIAGRAM

SKETCH

Photo

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JOB REFERENCE	POINT ID:	PC-9
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 13 47.97		HGT. MTS
LONGITUDE	W89 51 07.57		

SESSION	DATE:	03/04/09	START TIME	13:40	Record Interval	X	U.T.C.
PC09-063-1	DAY OF YEAR	63	END TIME	14:41	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: PC09 IS THE NORTH CORNER OF A CONC./BRICK DRIVEWAY TO WHITE HOUSE (NO # PRESENT).WOODEN PLANK FENCE SURROUNDS YARD. IS 10.3' WSW OF CL CARR DR. 43.5' N OF POWER POLE W/BELLSOUTH BURIED FIBER OPTIC CABLE BOX #389 CONNECTED. 42' NE OF CENTER OF WOODEN GATE ENTRANCE.

Photo

SKETCH

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GPS CONTROL SURVEY
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JOB REFERENCE	POINT ID:	PC-10
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ST. TAMMANY	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 12 43.76		HGT. MTS
LONGITUDE	W89 46 50.85		

SESSION	DATE:	03/04/09	START TIME	15:32	Record Interval	X	U.T.C.
PC10-063-1	DAY OF YEAR	63	END TIME	16:33	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: PC10 IS A WHITE 5'X5'X1' W/6"BLACK TRIM PANEL MATERIAL SET AT THE END OF MARINA VILLA ON THE NORTH SIDE OF MARINA VILLA W/SPIKE NAIL SET FLUSH AT THE 90 DEGREE WHERE WHITE MEETS BLACK. IS 84' N OF WEST END OF METAL STAKE FENCE. 40.5' E OF ELECTRIC METER BOX. 47' E OF CENTER GREEN CLECO ELECTRIC BOX #8A4904056527.

Photo

SKETCH

GPS CONTROL SURVEY
FIELD DATA SHEET

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256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE	POINT ID:	PC-15
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 03 59.51		HGT. MTS
LONGITUDE	W89 57 19.39		

SESSION	DATE:	03/05/09	START TIME	13:14	Record Interval	X	U.T.C.
PC15-064-1	DAY OF YEAR	64	END TIME	14:15	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: PC15 IS THE SOUTHEAST CORNER OF SIDEWALK AND GRASS FOR NEW HOME MINISTRIES CHURCH ON THE SOUTHEAST SIDE OF HWY 47 AND THE CORNER OF DARLENE CT. IS 39.5' SE OF CL HWY 47. 22.5' NE OF CL DARLENE CT. 7.6' NE OF STOP SIGN FOR DARLENE CT.

Photo

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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE
GUSTAVIKE2

POINT ID:	PC-16
Proj. No.:	09005.03.001.552

STATE	LA	COUNTY	ORLEANS	COUNTRY	USA	QUAD	

OPERATOR	M. HAVARD

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 07 37.65		HGT. MTS
LONGITUDE	W89 52 01.93		

RECEIVER MODEL	TRIMBLE 4000SSI
RECEIVER S/N	4570

SESSION	DATE:	03/04/09	START TIME	15:29	Record Interval	X	U.T.C.
PC16-063-1	DAY OF YEAR	63	END TIME	16:30	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	24419		0.000
ANTENNA TYPE	TRIMBLE COMP. L1/L2 W/GRD.PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: PC-16 IS A 1' WIDE X 5' X 5' LEG L-SHAPED WHITE PAINTED PANEL WITH A PK NAIL ON THE INSIDE CORNER FOR POSITION POINT PAINTED ON THE WEST SIDE OF HWY 11, 3' EAST OF THE WEST EDGE OF ASPHALT, 65' NW OF A TEL. POLE, 102.4' SW OF A TEL. POLE.

SKETCH

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JOB REFERENCE	POINT ID:	PC-18
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 08 44.22		HGT. MTS
LONGITUDE	W89 44 46.85		

SESSION	DATE:	03/04/09	START TIME	17:08	Record Interval	X	U.T.C.
PC18-063-1	DAY OF YEAR	63	END TIME	18:09	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:	X	FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

X	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

3001 Description: PC18 IS A PAINTED WHITE 5'X5'X1' L ON THE NORTHWEST SIDE OF HWY 90 WITH AN ALREADY EXISTING PK NAIL SET AT THE 90 DEGREE FLUSH W/ASPHALT SHOULDER FOR HWY 90. IS 18' NW OF CL HWY 90.39.5' NW OF BLACK MAILBOX #25894.

Photo

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JOB REFERENCE
Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-20=018C
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	HANCOCK	**Country**	USA	Quad	

OPERATOR	**V. MCNEAL**
RECEIVER MODEL	**TRIMBLE 4000 SSi**
RECEIVER S/N	**3158**

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 12 20.41N		**HGT. MTS**
LONGITUDE	089 30 15.93W		

SESSION	**DATE:**	4-Mar-09	**START TIME**	19:01	**Record Interval**	X	**U.T.C.**
PC20-063-1	**DAY OF YEAR**	63	**END TIME**	20:02	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	**TRIMBLE COMP L1/L2**		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

	X	**AERIAL TARGET**			**PHOTO I.D.**
		PUB. BENCH MARK			**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 Description: PC-20 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE S/E INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS POINT IS 7.5FT W OF THE C/L OF HERRON BAY ASP. RD.-- 2.5FT E OF THE W EDGE OF THE ASP. RD.-- 43.6FT N OF THE S END OF THE DEAD END OF THE ASP. RD.

Photo: PICS

SKETCH

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JOB REFERENCE	POINT ID:	PC-21
GUSTAVIKE2	Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	ORLEANS	COUNTRY	USA	Quad	

OPERATOR	MITCH HAVARD

RECEIVER MODEL	TRIMBLE 4000SE
RECEIVER S/N	4305

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N30 01 23.49		HGT. MTS
LONGITUDE	W90 03 57.87		

SESSION	DATE:	03/05/09	START TIME	15:01	Record Interval	X	U.T.C.
PC21-064-1	DAY OF YEAR	64	END TIME	16:02	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	10019		0.000
ANTENNA TYPE	TRIMBLE COMPACT L1/L2 W/GRD. PLANE		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

	AERIAL TARGET	X	PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
	PUB. CONTROL		BASE STATION

OBSTRUCTION DIAGRAM

SKETCH

3001 Description: PC21 IS THE CORNER OF CONC. DRIVEWAY WHERE THE 45 DEGREE MEETS SIDEWALK AND STREET ON THE WEST SIDE OF SAINT ANTHONY AVE. IS 16' W OF CL SAINT ANTHONY AVE. 54.5' S OF POWER POLE W/TWO CUT-OFF POLES ATTACHED. 51' W OF END BIKE ROUTE SIGN.

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FIELD DATA SHEET

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JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-22
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 12 58.84N		
LONGITUDE	089 29 16.48W		

SESSION	DATE:	3-Mar-09	START TIME	16:52	Record Interval	X	U.T.C.
PC22-062-1	DAY OF YEAR	62	END TIME	17:53	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-22 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE N/E INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS IS 3.5FT N/E OF THE S/W EDGE OF THE CONC FOR A DRIVE-- 17FT S/E OF THE C/L OF THE ASP RD(ANSLEY RD)-- 5.4FT S/W OF THE C\L OF THE CONC DRIVE.

Photo: PICS

SKETCH

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JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-23
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 14 32.65N		
LONGITUDE	089 25 59.72W		

SESSION	DATE:	3-Mar-09	START TIME	18:34	Record Interval	X	U.T.C.
PC23-062-1	DAY OF YEAR	62	END TIME	19:35	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-23 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE S/E INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS POINT IS 2.4FT E OF THE W EDGE OF THE ASP RD(PKEASUE ST.)-- 9.4FT W OF THE C/L OF THE ASP. RD.-- 14.2FT S/E OF THE S/E CORNER OF A CONC DRIVE.

Photo: PICS

SKETCH

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JOB REFERENCE
Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-24
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	HANCOCK	**Country**	USA	Quad	

OPERATOR	**V. MCNEAL**

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 16 47.19N		**HGT. MTS**
LONGITUDE	089 23 25.02W		

RECEIVER MODEL	**TRIMBLE 4000 SSi**
RECEIVER S/N	**3158**

SESSION	**DATE:**	3-Mar-09	**START TIME**	21:43	**Record Interval**	**X**	**U.T.C.**
PC24-062-1	**DAY OF YEAR**	62	**END TIME**	22:44	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	**TRIMBLE COMP L1/L2**		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	**X**	**FIXED HGT**

TOP OF MONUMENT IS:		**X**	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

	X	**AERIAL TARGET**			**PHOTO I.D.**
		PUB. BENCH MARK			**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 Description: PC-24 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE S/W INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS POINT IS 2.1FT S/E OF THE N/W EDGE OF A ASP. RD.-- 9.4FT N/W OF THE C/L OF THE UNNAMED ASP. RD.

Photo: PICS

SKETCH

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JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-25=009C
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 18 35.12N		
LONGITUDE	089 20 24.78W		

SESSION	DATE:	4-Mar-09	START TIME	16:52	Record Interval	X	U.T.C.
PC25-063-1	DAY OF YEAR	63	END TIME	17:53	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET		X	PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-25 IS A SPIKE NAIL SET AT THE S/W CORNER OF A 13FTX48FT CONCRETE SLAB ON THE NORTH SIDE OF BOOKTER ASP. STREET. PC-25 IS 27FT N OF THE C/L OF THE ASP. RD.-- 13.5FT S/E OF A POWER/LIGHTPOLE.

Photo: PICS

SKETCH

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JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-26
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 20 37.10N		
LONGITUDE	089 28 26.17W		

SESSION	DATE:	4-Mar-09	START TIME	13:54	Record Interval	X	U.T.C.
PC26-063-1	DAY OF YEAR	63	END TIME	14:55	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-26 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE N/W INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS POINT IS 2.3FT W OF THE WEST EDGE OF A ASP. ROAD IN THE MEDIAN OF I-1O E/W BOUND LANES-- 63.5FT N/W OF A OFFICIAL AND EMERGENCY VEHICLES ONLY SIGN-- 8.3FT E OF THE C/L OF THE ASP. MEDIAN LANE.

Photo: PICS

SKETCH

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JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-27
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 17 36.29N		
LONGITUDE	089 26 04.94W		

SESSION	DATE:	3-Mar-09	START TIME	18:34	Record Interval	X	U.T.C.
PC27-062-1	DAY OF YEAR	62	END TIME	19:35	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-27 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE S/W INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS POINT IS 8FT N/E OF THE C/L OF THE ASP. RD.(HUNDS ST.)--1.7FT S/W OF THE N/E EDGE OF ASP. RD.

Photo: PICS

SKETCH

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JOB REFERENCE
Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-28
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	HANCOCK	**Country**	USA	Quad	

OPERATOR	**V. MCNEAL**

RECEIVER MODEL	**TRIMBLE 4000 SSi**
RECEIVER S/N	**3158**

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 22 04.19N		**HGT. MTS**
LONGITUDE	089 22 29.95W		

SESSION	**DATE:**	4-Mar-09	**START TIME**	21:09	**Record Interval**	X	**U.T.C.**
PC28-063-1	**DAY OF YEAR**	63	**END TIME**	22:10	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	**TRIMBLE COMP L1/L2**		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

	X	**AERIAL TARGET**			**PHOTO I.D.**
		PUB. BENCH MARK			**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 Description: PC-28 IS A 5FTX5FTX1FT WHITE W/BLACK TRIM PAINTED PID WHERE THE WHITE IS 1FT WIDE AND THE GPS POINT IS SET AT THE S/E INSIDE CORNER OF THE WHITE AT THE BLACK TRIM. THE GPS POINT IS 4.2FT E OF A CONC CURB-- 11FT W OF THE C/L OF THE NORTHBOUND ASP. LANE-- 17FT S/E OF A ELECTRICAL METER BOX AREA. TALKED TO MARIO FEOLA(PRESIDENT)PH. #228-342-5979 FOR PERMISION FOR SETTING OF POINT. IN PRIVATE AREA.

Photo: PICS

SKETCH

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JOB REFERENCE
Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-29
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	**COUNTY**	HARRISON	**Country**	USA	Quad	

OPERATOR	**V. MCNEAL**

RECEIVER MODEL	**TRIMBLE 4000 SSi**
RECEIVER S/N	**3158**

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 23 07.14N		**HGT. MTS**
LONGITUDE	089 14 25.47W		

SESSION	**DATE:**	5-Mar-09	**START TIME**	15:11	**Record Interval**	X	**U.T.C.**
PC29-064-1	**DAY OF YEAR**	64	**END TIME**	16:12	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)			
MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	**TRIMBLE COMP L1/L2**		

ANTENNA HEIGHT (VERTICAL)			
MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET		X	**PHOTO I.D.**
		PUB. BENCH MARK			**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 Description: **PC-29 IS THE N/E CORNER OF THE CONCRETE FOR A CONC SLAB FOR A STORM DRAIN. THE SLAB SIZE IS 3.4FT NORTH SIDE & 6FT SOUTH SIDE WITH THE N/S BEING 6.5FT. THE PC-29 IS 33.6FT W OF THE C/L OF MENGE ASP. RD.-- 35FT S OF THE C/L OF BELLE FERRY RD.**

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-30
Proj. No.:	09005.03.001.552

STATE	COUNTY	Country	Quad
MISSISSIPPI	HARRISON	USA	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

		HGT. MTS
LATITUDE	30 20 37.19N	
LONGITUDE	089 11 12.28W	

SESSION	DATE:	5-Mar-09	START TIME	17:12	Record Interval	X	U.T.C.
PC30-064-1	DAY OF YEAR	64	END TIME	18:13	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET		X	PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-30 IS THE IS THE S/E CORNER OF A CONCRET SLAB FOR WATER SYSTEM. THE CONC SLAB IS 6FT N/S X 4FT E/W. THE POINT IS 13FT S/E OF POWER/METER/LIGHT POLE-- 42.5FT E OF THE C/L OF THE ASP RD.

Photo: PICS

SKETCH

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	PC-31=011C
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HARRISON	Country	USA	Quad	

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	30 23 26.66N		
LONGITUDE	089 01 36.16W		

SESSION	DATE:	5-Mar-09	START TIME	19:02	Record Interval	X	U.T.C.
PC31-064-1	DAY OF YEAR	64	END TIME	20:03	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET		X	PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 Description: PC-31 IS A SPIKE NAIL ET FLUSH W/CONC/GROUND AT THE N/E CORNER OF A CONCRETE S/WALK. PC-31IS 7.3FT N/W OF A NORTH/COWAN ST. RD. SIGN-- 10.3FT W O THE INSIDE N/W CORNER OF THE CONC. S/WALK AT GRAS-- 74.7FT S OF A POWER/LIGHT POLE.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC 32=012B
Proj. No.:	09005.013.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	3940

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 24 53.94		
LONGITUDE	W 88 50 12.58		

SESSION	DATE:	03/11/09	START TIME	16:45	Record Interval	X	U.T.C.
PC320701	DAY OF YEAR	70	END TIME	17:16	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: PID PC 32=CS12 IS A HARD NAIL SET ON THE NORTHWEST CORNER OF A 2'X10' STOP BAR. IT IS LOCATED AT THE INTERSECTION OF LOLA ROAD AND ACCESS ROAD. IT WAS MOVED 1,091' WEST FROM THE ORIGINAL LOCATION. IT IS LOCATED IN OCEAN SPRINGS, MS AND IS LOCATED IN JACKSON COUNTY.

Photo: PICS

SKETCH

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658 DISCOVERY DR.
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256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAV LIDAR CHECKS

POINT ID:	PID PC 33
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HARRISON	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	N 30 23 52.05		HGT. MTS
LONGITUDE	W 88 55 04.57		

RECEIVER MODEL	4700
RECEIVER S/N	5559

SESSION	DATE:	03/04/09	START TIME	19:38	Record Interval	X	U.T.C.
PC33-063-1	DAY OF YEAR	63	END TIME	20:39	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO			
RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET		X	PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: PID PC 33 IS A HARD NAIL SET ON THE SOUTHWEST CORNER OF A 2'X11' STOP BAR AT THE INTERSECTION OF BRISTER PLACE AND SAINT FRANCIS STREET. IT IS LOCATED 141' SOUTH OF THE INTERSECTION OF SAINT FRANCIS AND IRISH HILL DRIVE. IT WAS MOVED 1,090' WEST FROM THE ORIGINAL LOCATION. IT IS LOCATED IN BILOXI, MS AND IS LOCATED IN HARRISON COUNTY.

Photo: PICS

SKETCH

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAV LIDAR CHECKS

POINT ID:	PID PC 34
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	MARY ALYCE HOWELL
RECEIVER MODEL	4700
RECEIVER S/N	5559

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 21 27.75		
LONGITUDE	W 88 43 57.37		

SESSION	DATE:	03/04/09	START TIME	16:31	Record Interval	X	U.T.C.
PC34-063-1	DAY OF YEAR	63	END TIME	17:32	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	104		
ANTENNA TYPE	MICROCENTER L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET		X	PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

3001 DESCRIPTION: PID PC 34 IS A NAIL WAS SET ON THE NORTHWEST CORNER OF A CONCRETE DRIVE THAT IS LOCATED ON SHELBY LANE CENTRAL. IT IS LOCATED 1,631' SOUTHEAST OF THE INTERSECTION OF MERRITT LANE CENTRAL AND SHELBY LANE CENTRAL. IT WAS MOVED 319' NORTHWEST FROM THE ORIGINAL LOCATION. IT IS LOCATED IN OCEAN SPRINGS, MS AND IS LOCATED IN JACKSON COUNTY.

Photo: PICS

SKETCH

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
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GPS CONTROL SURVEY
FIELD DATA SHEET

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JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-35
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	2576

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 22 22.67		
LONGITUDE	W 088 33 21.48		

SESSION	DATE:	03/04/09	START TIME	16:10	Record Interval	X	U.T.C.
PC350631	DAY OF YEAR	63	END TIME	17:11	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)		
S/N NUMBER	3382	
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC	

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

PC=35 5'X5'X1' PAINTED L SHAPED TARGET TRIMMED IN BLACK SET AT THE INTERSECTION OF MORGAN AVE AND PINE ST.JACKSON COUNTY ,MISS.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
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JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-36=014B
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	JACKSON	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	2576

APPROXIMATE POSITION (C/A/CODE)

		HGT. MTS
LATITUDE	N 30 22 22.67	
LONGITUDE	W 088 33 22.48	

SESSION	DATE:	03/04/09	START TIME	18:16	Record Interval	X	U.T.C.
PC360631	DAY OF YEAR	63	END TIME	19:17	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)		
S/N NUMBER	3382	
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC	

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

PC=36 5'X5'X1' PAINTED L SHAPED TARGET TRIMMED IN BLACK SET AT THE INTERSECTION OF INDUSTRIAL AVE AND SERVICE DR TO CHEVRON PLANT.JACKSON COUNTY ,MISS.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC 37=013B
Proj. No.:	09005.013.001.552

STATE	MISSISSIPPI	**COUNTY**	JACKSON	**Country**	USA	Quad	

OPERATOR	**M REVEAL**
RECEIVER MODEL	**TRIMBLE 5700**
RECEIVER S/N	**3940**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 22 32.3		**HGT. MTS**
LONGITUDE	W 088 38 42.18		

SESSION	**DATE:**	03/11/09	**START TIME**	15:34	**Record Interval**	X	**U.T.C.**
PC370701	**DAY OF YEAR**	70	**END TIME**	16:05	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	**TRIMBLE ZEPHYER GEODETIC**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			**PHOTO I.D.**
		PUB. BENCH MARK		X	**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

3001 DESCRIPTION: 5'X5'X1' PAINTED WHITE L SHAPED TARGET. A PK NAIL WAS SET ON THE INSIDE WHERE THE WHITE INTERSECTS. IT IS LOCATED AT BACOT PARK. IT IS ALSO LOCATED 556' NORTH OF THE INTERSECTION OF LADNIER ROAD AND C W WEBB ROAD. IT IS LOCATED 222' SOUTH OF THE INTERSECTION OF SOUTHERN DRIVE AND C W WEBB ROAD. IT WAS MOVED 366' WEST FROM THE ORIGINAL LOCATION. IT IS LOCATED IN GAUTIER, MS AND IN JACKSON COUNTY.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-38=015B
Proj. No.:	09005.03.001.552

STATE	ALABAMA	**COUNTY**	MOBILE	**Country**	USA	Quad	

OPERATOR	**M REVEAL**
RECEIVER MODEL	**TRIMBLE 5700**
RECEIVER S/N	**2576**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 22 49.95		**HGT. MTS**
LONGITUDE	W 088 18 30.23		

SESSION		**DATE:**	03/05/09	**START TIME**	13:00	**Record Interval**	X	**U.T.C.**
PC380641		**DAY OF YEAR**	64	**END TIME**	14:15	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		**FIXED HGT.**

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	**TRIMBLE ZEPHYER GEODETIC**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	**FIXED HGT**

TOP OF MONUMENT IS:		X	**FLUSH**
METERS/FEET			**ABOVE GROUND**
METERS/FEET			**BELOW GROUND**

OBSTRUCTION DIAGRAM

	X	**AERIAL TARGET**			**PHOTO I.D.**
		PUB. BENCH MARK			**NEW CONTROL**
		PUB. CONTROL			**ABOVE GROUND**

PC=38 =

SKETCH

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-39
Proj. No.:	09005.03.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	2576

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 23 37.86		
LONGITUDE	W 088 1551.36		

SESSION	DATE:	03/03/09	START TIME	17:49	Record Interval	X	U.T.C.
PC390621	DAY OF YEAR	62	END TIME	18:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)		
S/N NUMBER	3382	
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC	

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

	X	AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK			NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

PC-39= 5'X5'X1' PAINTED L SHAPED TARGET LOCATED AT THE INTERSECTION OF SHELLBELT RD AND COLLIER ST. BAYOU LA BATRE,ALA .

SKETCH

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-40
Proj. No.:	09005.03.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	2576

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 21 46.78		
LONGITUDE	W 088 06 54.68		

SESSION	DATE:	03/03/09	START TIME	15:16	Record Interval	X	U.T.C.
PC400621	DAY OF YEAR	62	END TIME	16:17	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

PC -40=60 D NAIL SET AT EDGE OF CONC PAD AND ASP. PARKING LOT AT A GAS STATION LOCATED AT THE INTERSECTION OF HWT 163 AND HWY 188 . CODEN ALABAMA.

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC 41 =017B
Proj. No.:	09005.013.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	2576

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 18 44.65		
LONGITUDE	W 088 08 17.85		

SESSION	DATE:	03/03/09	START TIME	14:00	Record Interval	X	U.T.C.
PC410621	DAY OF YEAR	62	END TIME	15:01	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC		

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

PC 41= 5' X5' X1' PAINTED L SHAPED TARGET LOCATED AT THE BEGINNING OF THE DAUPHIN ISLAND BRIDGE ALONG THE WEST SIDE OF HWY 163 .AT CEDAR POINT LANDING .

Photo: PICS

SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
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JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-42=016B
Proj. No.:	09005.03.001.552

STATE	ALABAMA	COUNTY	MOBILE	Country	USA	Quad	

OPERATOR	M REVEAL
RECEIVER MODEL	TRIMBLE 5700
RECEIVER S/N	2576

APPROXIMATE POSITION (C/A/CODE)

			HGT. MTS
LATITUDE	N 30 22 40.30		
LONGITUDE	W 088 12 53.79		

SESSION	DATE:	03/03/09	START TIME	16:18	Record Interval	X	U.T.C.
PC420621	DAY OF YEAR	62	END TIME	17:19	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	TRIMBLE ZEPHYER GEODETIC		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		X	FLUSH
METERS/FEET			ABOVE GROUND
METERS/FEET			BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
		PUB. CONTROL			ABOVE GROUND

PC-42=CS16 = PKNAIL SET ON SOUTHWEST CORNER OF A 1'X 8' WHITE STOP BAR AT THE INTERSECTION HWY 188 AND CALLAHAN RD CODEN ALABAMA.

Photo: PICS

SKETCH

S

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: GUSTAV IKE GROUND CONTROL AND LIDAR

POINT ID:	PC-43
Proj. No.:	09005.03.001.552

STATE	ALABAMA	**COUNTY**	MOBILE	**Country**	USA	Quad	

OPERATOR	**M REVEAL**
RECEIVER MODEL	**TRIMBLE 5700**
RECEIVER S/N	**2576**

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	N 30 24 36.12	**HGT. MTS**
LONGITUDE	W 089 19 35.46	

SESSION	**DATE:**	03/04/09	**START TIME**	14:09	**Record Interval**	X	**U.T.C.**
PC430631	**DAY OF YEAR**	63	**END TIME**	15:10	15 SEC.		**LOCAL**

ANTENNA HEIGHT (SLANT)

MTRS/FT				
	MEASURED		**FIXED HGT.**	

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	3382		
ANTENNA TYPE	**TRIMBLE ZEPHYER GEODETIC**		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	**FIXED HGT**	

TOP OF MONUMENT IS:	X	**FLUSH**	
METERS/FEET		**ABOVE GROUND**	
METERS/FEET		**BELOW GROUND**	

OBSTRUCTION DIAGRAM

SKETCH

	X	**AERIAL TARGET**		**PHOTO I.D.**	
		PUB. BENCH MARK		**NEW CONTROL**	
		PUB. CONTROL		**ABOVE GROUND**	

PC=43 5'X5'X1' L SHAPED TARGET TRIMMED IN BLACK SET ALONG EAST SIDE OF HENDERSON CAMP ROAD.

SKETCH

Photo: PICS

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE
GUSTAV/IKE 2

POINT ID:	CRMSPO SM 17
Proj. No.:	09005.03.001.552

STATE	LOUISIANA	COUNTY	TANGIPAHOA	Country	USA	Quad	

OPERATOR	J.PURPERA

APPROXIMATE POSITION (C/A/CODE)			
LATITUDE	30 24 52.50012N		HGT. MTS
LONGITUDE	090 26 04.73343W		3.11

RECEIVER MODEL	TIMBLE 4000 SSI
RECEIVER S/N	4652

SESSION	DATE:	03/06/09	START TIME	14:00	Record Interval	X	U.T.C.
SM17 065 1	DAY OF YEAR	65	END TIME	16:51	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)				
MTRS/FT				
	MEASURED		FIXED HGT.	

ANTENNA HEIGHT (VERTICAL)				
MTRS/FT	2.000M (UNCORRECTED)			
	MEASURED	X	FIXED HGT	

ANTENNA INFO			
RADIUS (M)			0.000
S/N NUMBER	50496		0.000
ANTENNA TYPE	COMPAC L1/L2 WITH GROUND PLANE		

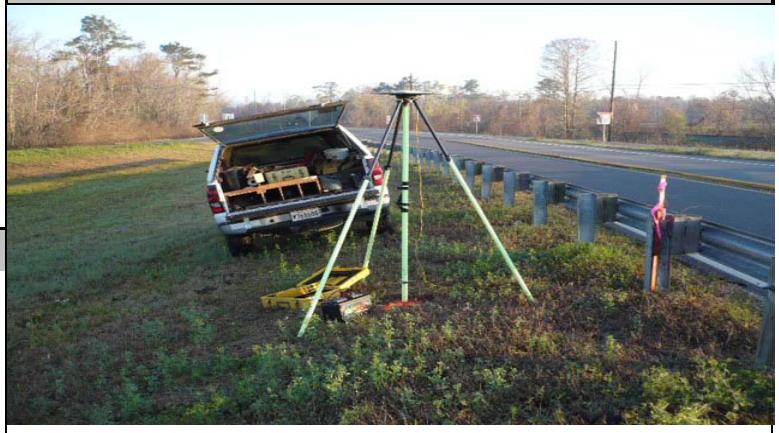
TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET		BELOW GROUND

	AERIAL TARGET		PHOTO I.D.
	PUB. BENCH MARK		NEW CONTROL
X	PUB. CONTROL	X	BASE STATION

OBSTRUCTION DIAGRAM

3001 Description: REF. NGS DATASHEET PID DJ9388. PICTURE TAKEN LOOKING NORTH.

Photo



SKETCH

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GPS CONTROL SURVEY
FIELD DATA SHEET

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658 DISCOVERY DR.
HUNTSVILLE,AL. 35806
256-327-9375 OFFICE 256-327-9314 FAX

JOB REFERENCE: Gustav-Ike_Task-2_Final_GC_200901301

POINT ID:	STENNIS PID # BH2999
Proj. No.:	09005.03.001.552

STATE	MISSISSIPPI	COUNTY	HANCOCK	Country	USA	Quad	WAVELAND (1976)

OPERATOR	V. MCNEAL
RECEIVER MODEL	TRIMBLE 4000 SSi
RECEIVER S/N	3158

APPROXIMATE POSITION (C/A/CODE)

LATITUDE	30 22 23.16220(N) FROM NGS SHEET	
LONGITUDE	089 27 10.92751(W) FROM NGS SHEET	

HGT. MTS: 4.911 FROM NGS SHEET

SESSION	DATE:	6-Mar-09	START TIME	13:21	Record Interval	X	U.T.C.
STEN-065-1	DAY OF YEAR	65	END TIME	21:10	15 SEC.		LOCAL

ANTENNA HEIGHT (SLANT)

MTRS/FT			
	MEASURED		FIXED HGT.

ANTENNA INFO

RADIUS (M)			
S/N NUMBER	10018		
ANTENNA TYPE	TRIMBLE COMP L1/L2		

ANTENNA HEIGHT (VERTICAL)

MTRS/FT	2.000M (UNCORRECTED)		
	MEASURED	X	FIXED HGT

TOP OF MONUMENT IS:		FLUSH
METERS/FEET		ABOVE GROUND
METERS/FEET	0.2	BELOW GROUND

OBSTRUCTION DIAGRAM

SKETCH

		AERIAL TARGET			PHOTO I.D.
		PUB. BENCH MARK		X	NEW CONTROL
	X	PUB. CONTROL			ABOVE GROUND

3001 Description: FOR RECOVERY STENNIS SEE NGS DATA SHEET PID # BH2999. POINT IS A SURVEY DISK SET IN CONCRETE.

Photo: PICS

SKETCH