



Survey Report- LiDAR Check Points

Mobile County, AL

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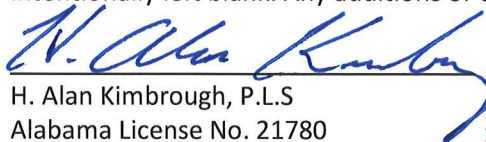
May 2014
Revised September 2014



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I, H. Alan Kimbrough, hereby state that this document was prepared by me or under my direct supervision. This volume contains 83 pages beginning with a title sheet and ends with a sheet intentionally left blank. Any additions or deletions of this volume will void this certification.


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1 Narrative

1.1 Introduction

A survey was performed to support the acquisition of Light Detection and Ranging (LiDAR) data for Mobile County in the State of Alabama.

1.2 Applicable Standards

This Geodetic Control Survey was conducted so as to support Light Detection and Ranging (LiDAR) data in accordance with the National Digital Elevation Program (NDEP) and the American Society for Photogrammetry and Remote Sensing (ASPRS) guidelines.

2 Ground Network Survey

2.1 Field Control Points

A GPS control network was performed for the purposes of establishing a three-dimensional coordinates on each of the base station locations. The control network included a combination of a National Geodetic Survey (NGS) Control Monument (**MOB AP STA A1**), National Geodetic Survey (NGS) CORS (**AL84, AL90, AL92, ALDI, ALM**), Mobile Control Monuments (**MCC1062, MCC1067, MCC1070, MCC1072, MCC1073, MOB1000, MOB1008, MOB1009, MOB1011, MOB1023, MOB1031, MOB1034**) and a capped iron found (**CIPF**).

A graphical representation of all the control points is provided in figure 1:

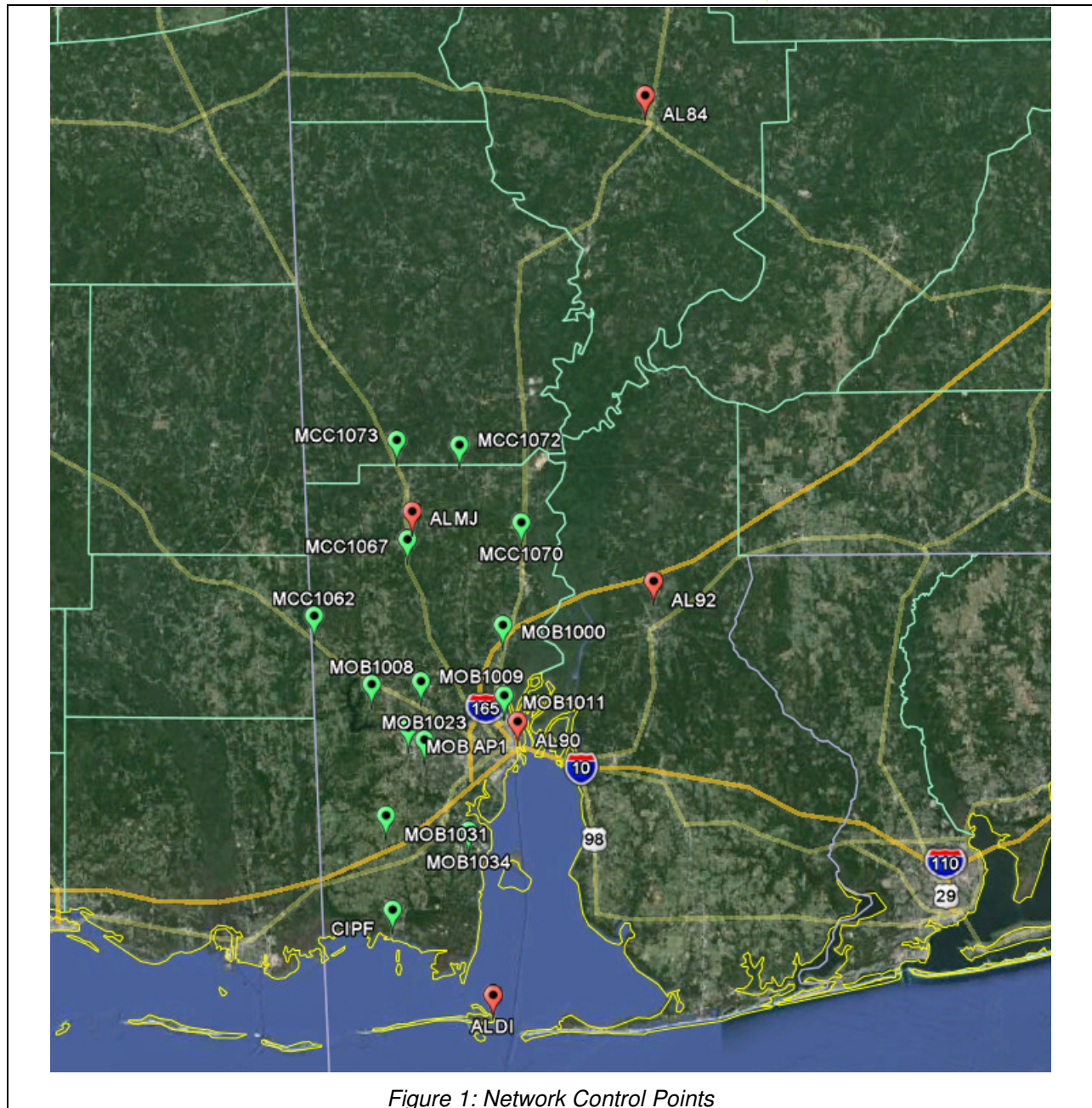


Figure 1: Network Control Points

2.2 Ground Station Collection

GPS observations at all ground control points in the network were made with Leica System 500 dual-frequency GPS-receivers w/ Leica AT502 antenna and a NovAtel DL 4=L1L2 receiver w/ NovAtel NOV702 3.00 antenna between April 30, 2014 and May 2, 2014. Session lengths were based upon the distance between points and were set for a minimum of one hour per every 10 km. Some baselines were collected during LiDAR acquisition, and therefore, are much longer than typically required.



2.3 Data Processing and Analysis

Data collected during each GPS session was processed using GrafNet 8.30.2105 with their respective GPS antenna type, and antenna height reading. The RMS values for the latitude, longitude and ellipsoid heights for all results were reviewed to ensure that they are within acceptable limits.

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

The network development involved performing a minimally constrained adjustment, holding NGS CORS (**ALDI**) as a horizontal and vertical control point. This minimally constrained adjustment allowed for blunders and errors to appear within the network. These blunders were analyzed and the baselines were rejected if they had high residuals against other redundant baselines. In all, a total of ninety (90) baselines were kept in the minimally constrained adjustment.

Five (5) control points within the network were then fully constrained for a final network adjustment, holding NGS CORS (**AL84, AL90, AL92, ALDI, ALMJ**) as horizontal and vertical control. Mobile Control Monuments (**MCC1062, MCC1067, MCC1070, MCC1072, MCC1073, MOB1000, MOB1008, MOB1009, MOB1011, MOB1023, MOB1031, MOB1034**) and NGS monument **MOB AP STA A1** were held as check points. Geoid12A was utilized during GPS processing. In all, eighty eight (88) baselines were kept in the fully constrained adjustment after the final network analyses. Final network control values were then assigned to control points **MOB AP STA A1, MCC1062, MCC1067, MCC1070, MCC1072, MCC1073, MOB1000, MOB1008, MOB1009, MOB1011, MOB1023, MOB1031, MOB1034**, and **CIPF**.

A tabulated summary of the final coordinates resulting from the network survey are listed in section 2.3.1 and section 2.3.2.

2.3.1 Network Survey Output Station Geographic Coordinates

Geographic (NAD83), Ellipsoidal (GRS80) meters

Ground Control Points			
Point ID	Latitude	Longitude	Ellipsoid Height meters
AL84	31 42 01.32765	87 47 20.98252	112.864
AL90	30 41 26.96906	88 01 54.13718	-15.994
AL92	30 54 58.98597	87 46 32.46231	62.350
ALDI	30 14 56.98778	88 04 40.68847	-17.795
ALMJ	31 01 44.31301	88 13 47.06832	71.501
MOB1000	30 50 46.22754	88 03 32.61383	-23.051
MOB1008	30 45 01.86875	88 18 20.12843	39.861



Point ID	Latitude	Longitude	Ellipsoid Height meters
MOB1009	30 45 19.24597	88 12 46.82664	39.057
MOB1011	30 43 57.95308	88 03 23.67063	-20.109
MOB1023	30 39 40.79363	88 12 23.21421	7.381
MOB1031	30 32 20.68780	88 16 41.77824	16.538
MOB1034	30 30 52.47294	88 07 25.25505	-19.580
MCC1062	30 51 37.87852	88 24 50.65756	-2.831
MCC1067	30 59 01.99492	88 14 18.54174	10.807
MCC1069	30 59 56.56494	88 25 15.99791	20.930
MCC1070	31 00 40.21711	88 01 27.80949	-13.659
MCC1072	31 08 10.34802	88 08 26.80339	63.446
MCC1073	31 08 37.72724	88 15 32.03723	37.798
CIPF	30 23 12.32153	88 15 58.21904	-27.255
MOB AP STA A1	30 40 50.96020	88 14 12.44591	35.405

2.3.2 Network Survey Output Station Coordinates in State Plane Coordinate System

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88
(Geoid12A) US survey feet

Ground Control Points			
Point ID	Easting (x) US Survey Feet	Northing (y) US Survey Feet	Ortho Height US Survey Feet
AL84	1878570.664	618563.233	461.204
AL90	1801373.949	251637.249	40.921
AL92	1882049.282	333386.579	297.509
ALDI	1786010.195	91077.154	32.481
ALMJ	1739929.075	374981.424	327.240
MOB1000	1793057.733	308182.039	17.979
MOB1008	1715439.334	273862.198	224.560
MOB1009	1744534.667	275420.792	221.875
MOB1011	1793632.22	266929.229	27.588
MOB1023	1746379.675	241213.062	117.797
MOB1031	1723488.987	196897.684	147.378
MOB1034	1772107.821	187682.871	28.610
MCC1062	1681687.996	314135.123	84.305
MCC1067	1737081.728	358599.314	128.380
MCC1070	1804219.559	368142.57	48.520
MCC1072	1768019.871	413813.672	300.531



Point ID	Easting (x) US Survey Feet	Northing (y) US Survey Feet	Ortho Height US Survey Feet
MCC1073	1731081.579	416813.486	215.886
CIPF	1726922.669	141470.489	2.723
MOB AP1	1736885.806	248363.427	209.803

2.4 Real Time Kinematic (RTK) Test Point Collection

GPS observations at each Real Time Kinematic (RTK) ground control point were made with a Leica SR530 dual-frequency GPS-receivers w/ Leica AT502 antenna. The GPS units were configured to log data at 1 Hz, and at 10 degrees mask. RTK test points collected represent differing types of ground cover. All observations were conducted between March 20, 2014 and May 2, 2014.

Test Point Final Solutions may be found in Appendix C. A graphical representation of all the RTK Test Points is provided in figure 2:

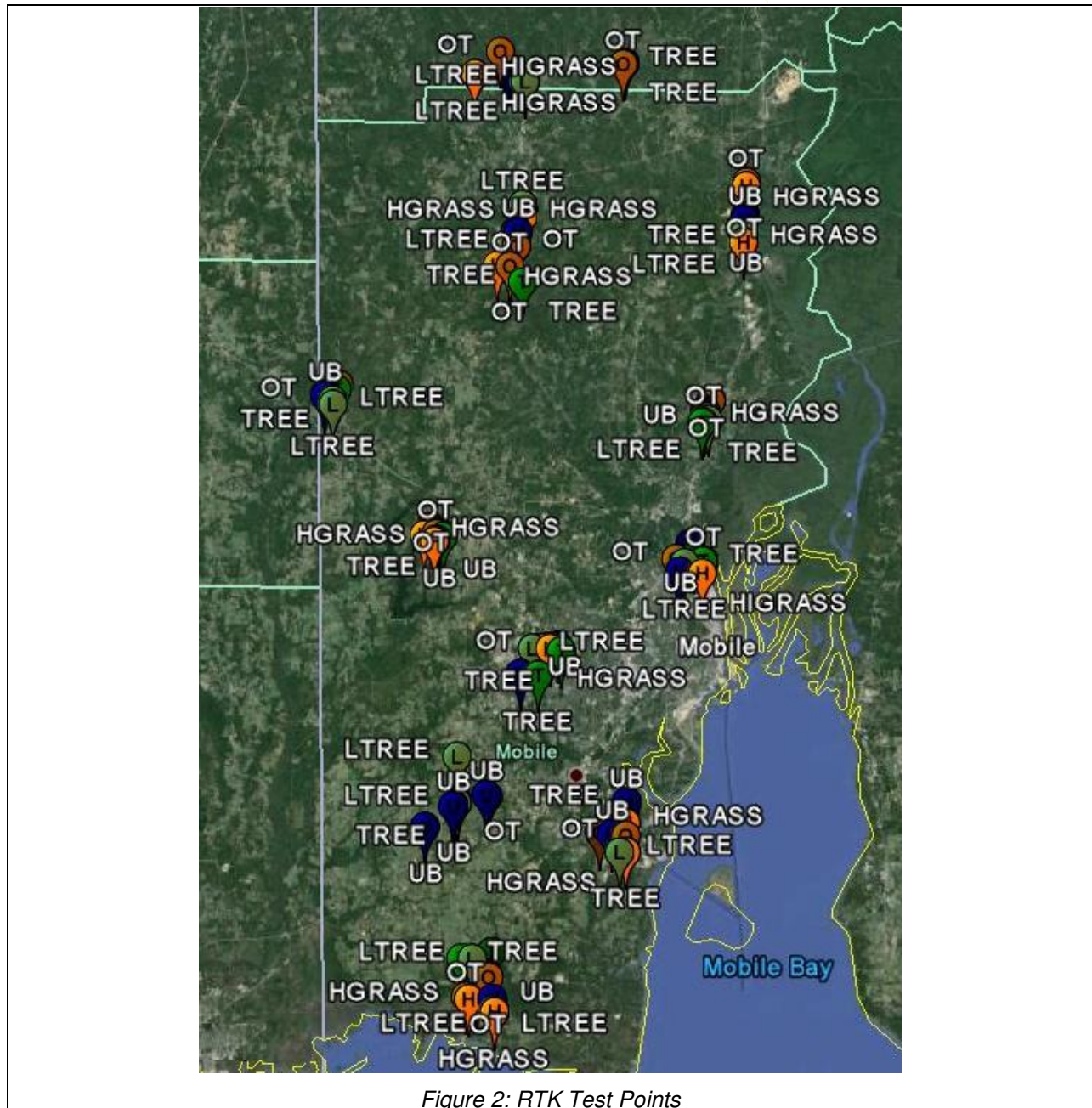


Figure 2: RTK Test Points

2.5 Real Time Kinematic (RTK) Test Point Data Processing and Analysis

Data collected was processed using Leica Geosystems SKI-Pro Version 3.0 with their respective GPS antenna type, and antenna height reading. Final coordinates were output in Alabama West State Plane Coordinate System (SPCS), NAVD88, Orthometric and may be found in Section 2.5.1 through 2.5.5.



2.5.1 RTK Test Points (Open Terrain)

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88 (Geoid12A) US survey feet

LiDAR Check Points						
Field Code	Easting	Northing	Ortho Height	Description	File	Point No
OT	1764576.8501	188471.7064	46.7260	Open Terrain	MOB1034_20MARCH2014	13
OT	1748558.6335	241328.3085	115.9413	Open Terrain	MOB1023_21MARCH2014	16
OT	1733350.1884	147041.6745	6.6157	Open Terrain	CIPF_21MARCH2014	14
OT	1714069.2097	274604.6948	226.4208	Open Terrain	MOB1008_22MARCH2014	8
OT	1793852.7777	308910.7420	17.0138	Open Terrain	MOB1000_22MARCH2014	10
OT	1804571.2648	378510.3705	42.7338	Open Terrain	MCC1070_29MARCH2014	6
OT	1735280.9805	352697.1977	187.4725	Open Terrain	MCC1067_1MAY2014	15
OT	1735281.2906	352697.1775	187.2690	Open Terrain	MCC1067_1MAY2014	16
OT	1767796.2890	413977.5444	299.4522	Open Terrain	MCC1072_2MAY2014	7
OT	1767601.6428	413447.4940	291.0394	Open Terrain	MCC1072_2MAY2014	11
OT	1733725.6739	411821.1359	281.7750	Open Terrain	MCC1073_2MAY2014	8
OT	1733727.4989	411812.9086	281.7611	Open Terrain	MCC1073_2MAY2014	9
OT	1785395.9450	267440.8609	31.3017	Open Terrain	MOB1011_29MARCH2014	16
OT	1793057.733	308182.039	17.980	Open Terrain	MOB1000_22MARCH2014	MOB1000
OT	1715439.334	273862.198	224.560	Open Terrain	MOB1008_22MARCH2014	MOB1008
OT	1793632.220	266929.229	27.588	Open Terrain	MOB1011_29MARCH2014	MOB1011
OT	1746379.675	241213.062	117.797	Open Terrain	MOB1023_21MARCH2014	MOB1023
OT	1723488.987	196897.684	147.378	Open Terrain	MOB1031_21MARCH2014	MOB1031
OT	1772107.821	187682.871	28.612	Open Terrain	MOB1034_20MARCH2014	MOB1034
OT	1681687.996	314135.123	84.308	Open Terrain	MCC1062_22MARCH2014	MCC1062
OT	1737081.728	358599.314	128.378	Open Terrain	MCC1067_1MAY2014	MCC1067
OT	1804219.559	368142.570	48.822	Open Terrain	MCC1070_29MARCH2014	MCC1070
OT	1768019.871	413813.672	300.531	Open Terrain	MCC1072_2MAY2014	MCC1072
OT	1731081.579	416813.486	215.885	Open Terrain	MCC1073_2MAY2014	MCC1073
OT	1726922.669	141470.489	2.722	Open Terrain	CIPF_21MARCH2014	CIPF



2.5.2 RTK Test Points (High Grass)

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88 (Geoid12A) US survey feet

LiDAR Check Points						
Field Code	Easting	Northing	Ortho Height	Description	File	Point No
HGRASS	1772176.5181	183012.9697	21.4844	High Grass-Crops	MOB1034_20MARCH2014	12
HGRASS	1772034.3654	191265.2584	26.1873	High Grass-Crops	MOB1034_20MARCH2014	18
HGRASS	1723338.4910	196583.4097	147.3284	High Grass-Crops	MOB1031_21MARCH2014	18
HGRASS	1749246.2844	241060.3035	134.9435	High Grass-Crops	MOB1023_21MARCH2014	18
HGRASS	1735272.1304	137296.6291	3.6489	High Grass-Crops	CIPF_21MARCH2014	12
HGRASS	1730132.9435	143155.7169	6.6480	High Grass-Crops	CIPF_21MARCH2014	19
HGRASS	1727795.5583	140796.5203	1.5045	High Grass-Crops	CIPF_21MARCH2014	9
HGRASS	1711936.0425	273535.2885	200.2458	High Grass-Crops	MOB1008_22MARCH2014	17
HGRASS	1714948.2350	271685.7363	202.1889	High Grass-Crops	MOB1008_22MARCH2014	4
HGRASS	1793064.2428	308099.7457	17.3795	High Grass-Crops	MOB1000_22MARCH2014	34
HGRASS	1794993.2992	313680.1302	19.7604	High Grass-Crops	MOB1000_22MARCH2014	4
HGRASS	1685861.6511	317210.0923	190.7192	High Grass-Crops	MCC1062_22MARCH2014	4
HGRASS	1804459.3764	377353.2547	46.6369	High Grass-Crops	MCC1070_29MARCH2014	5
HGRASS	1803871.0110	360581.5432	42.5948	High Grass-Crops	MCC1070_29MARCH2014	7
HGRASS	1738877.0733	367535.0230	197.6005	High Grass-Crops	MCC1067_1MAY2014	7
HGRASS	1738885.4780	367526.1724	197.6611	High Grass-Crops	MCC1067_1MAY2014	8
HGRASS	1731551.5292	352906.2857	273.7347	High Grass-Crops	MCC1067_1MAY2014	14
HGRASS	1767994.8557	413837.5159	300.8741	High Grass-Crops	MCC1072_2MAY2014	4
HGRASS	1767948.2519	413944.6890	300.7709	High Grass-Crops	MCC1072_2MAY2014	5
HIGRASS	1723638.9731	410056.0107	179.3019	High Grass-Crops	MCC1073_2MAY2014	10
HIGRASS	1723639.0889	410056.1704	179.3921	High Grass-Crops	MCC1073_2MAY2014	11
HIGRASS	1723642.6153	410050.4658	179.8634	High Grass-Crops	MCC1073_2MAY2014	12
HIGRASS	1793097.3338	263323.4121	3.5078	High Grass-Crops	MOB1011_29MARCH2014	4



2.5.3 RTK Test Points (Urban)

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88 (Geoid12A) US survey feet

LiDAR Check Points						
Field Code	Easting	Northing	Ortho Height	Description	File	Point No
UB	1768036.5188	187953.7985	26.3294	Urban Build-up	MOB1034_20MARCH2014	14
UB	1772014.7922	197122.2371	16.5710	Urban Build-up	MOB1034_20MARCH2014	16
UB	1714177.3247	189525.1783	125.2201	Urban Build-up	MOB1031_21MARCH2014	4
UB	1731678.1117	198826.3284	150.1655	Urban Build-up	MOB1031_21MARCH2014	5
UB	1722181.2220	195580.5084	151.3687	Urban Build-up	MOB1031_21MARCH2014	8
UB	1722233.0688	195615.1329	150.9953	Urban Build-up	MOB1031_21MARCH2014	9
UB	1740885.4935	233675.9486	151.0497	Urban Build-up	MOB1023_21MARCH2014	12
UB	1751569.2299	241855.7964	156.5292	Urban Build-up	MOB1023_21MARCH2014	15
UB	1734569.3260	140936.5251	13.8229	Urban Build-up	CIPF_21MARCH2014	13
UB	1732885.1923	148017.3603	6.5221	Urban Build-up	CIPF_21MARCH2014	15
UB	1715467.0158	272233.0004	219.7922	Urban Build-up	MOB1008_22MARCH2014	18
UB	1716309.2468	274390.5459	215.4331	Urban Build-up	MOB1008_22MARCH2014	20
UB	1793264.5505	310910.2328	19.2797	Urban Build-up	MOB1000_22MARCH2014	6
UB	1792712.9655	307408.2348	23.4084	Urban Build-up	MOB1000_22MARCH2014	8
UB	1681841.7576	313884.0877	76.9943	Urban Build-up	MCC1062_22MARCH2014	8
UB	1804097.8414	367200.8952	45.4851	Urban Build-up	MCC1070_29MARCH2014	10
UB	1804336.6666	368094.2630	49.7069	Urban Build-up	MCC1070_29MARCH2014	11
UB	1737434.9801	362944.8773	148.1999	Urban Build-up	MCC1067_1MAY2014	5
UB	1737440.4913	362944.3522	147.8425	Urban Build-up	MCC1067_1MAY2014	6
UB	1739170.4018	368578.7722	201.4962	Urban Build-up	MCC1067_1MAY2014	9
UB	1739144.0709	368586.1414	201.3343	Urban Build-up	MCC1067_1MAY2014	10
UB	1733440.3947	411137.3361	313.6496	Urban Build-up	MCC1073_2MAY2014	4
UB	1733435.4625	411129.7532	313.9139	Urban Build-up	MCC1073_2MAY2014	5
UB	1767881.4604	413984.3631	301.2452	Urban Build-up	MCC1072_2MAY2014	6
UB	1768162.1338	413702.3017	298.5797	Urban Build-up	MCC1072_2MAY2014	14
UB	1786572.6381	263812.2796	33.5568	Urban Build-up	MOB1011_29MARCH2014	12
UB	1789502.5179	271846.6320	30.9961	Urban Build-up	MOB1011_29MARCH2014	17



2.5.4 RTK Test Points (Low Trees-Brush)

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88 (Geoid12A) US survey feet

LiDAR Check Points						
Field Code	Easting	Northing	Ortho Height	Description	File	Point No
LTREE	1771873.4823	192858.7813	25.2017	Low Trees-Brush	MOB1034_20MARCH2014	17
LTREE	1770361.7006	182907.8944	10.2409	Low Trees-Brush	MOB1034_20MARCH2014	4
LTREE	1722981.4514	209712.4676	163.7825	Low Trees-Brush	MOB1031_21MARCH2014	6
LTREE	1723187.0499	196521.8706	146.3022	Low Trees-Brush	MOB1031_21MARCH2014	19
LTREE	1744135.8504	241032.4009	161.2891	Low Trees-Brush	MOB1023_21MARCH2014	13
LTREE	1748511.7029	241610.9727	113.4206	Low Trees-Brush	MOB1023_21MARCH2014	17
LTREE	1735124.6874	137415.3665	1.3961	Low Trees-Brush	CIPF_21MARCH2014	10
LTREE	1735153.3216	137400.5288	1.7307	Low Trees-Brush	CIPF_21MARCH2014	11
LTREE	1728542.7284	152211.4229	12.4191	Low Trees-Brush	CIPF_21MARCH2014	17
LTREE	1713808.1132	274939.7512	225.4518	Low Trees-Brush	MOB1008_22MARCH2014	5
LTREE	1713730.6826	275982.8820	226.5517	Low Trees-Brush	MOB1008_22MARCH2014	7
LTREE	1794257.0490	308089.1018	20.2477	Low Trees-Brush	MOB1000_22MARCH2014	9
LTREE	1684189.5502	312599.7651	110.4590	Low Trees-Brush	MCC1062_22MARCH2014	6
LTREE	1684321.2893	311337.9246	153.5806	Low Trees-Brush	MCC1062_22MARCH2014	7
LTREE	1804341.4729	368606.9858	49.0486	Low Trees-Brush	MCC1070_29MARCH2014	4
LTREE	1803689.7011	362749.4266	34.2922	Low Trees-Brush	MCC1070_29MARCH2014	9
LTREE	1736995.2625	358609.8952	129.8558	Low Trees-Brush	MCC1067_1MAY2014	7
LTREE	1736994.9640	358610.1672	129.8299	Low Trees-Brush	MCC1067_1MAY2014	8
LTREE	1738645.0166	371052.3203	250.0380	Low Trees-Brush	MCC1067_1MAY2014	19
LTREE	1738645.1561	371052.5557	250.0049	Low Trees-Brush	MCC1067_1MAY2014	20
LTREE	1767832.0758	413906.8321	301.3745	Low Trees-Brush	MCC1072_2MAY2014	12
LTREE	1767984.0008	413786.7517	303.7997	Low Trees-Brush	MCC1072_2MAY2014	13
LTREE	1738637.2701	407731.3043	325.7813	Low Trees-Brush	MCC1073_2MAY2014	6
LTREE	1738639.3998	407731.0583	325.2929	Low Trees-Brush	MCC1073_2MAY2014	7
LTREE	1787863.8861	266284.6658	24.6004	Low Trees-Brush	MOB1011_29MARCH2014	14



2.5.4 RTK Test Points (Trees)

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88 (Geoid12A) US survey feet

LiDAR Check Points						
Field Code	Easting	Northing	Ortho Height	Description	File	Point No
TREE	1772298.9653	197265.0910	13.8833	Trees-Forrest	MOB1034_20MARCH2014	15
TREE	1772178.9277	183241.2881	20.1781	Trees-Forrest	MOB1034_20MARCH2014	19
TREE	1722291.2661	195720.6742	149.9949	Trees-Forrest	MOB1031_21MARCH2014	7
TREE	1732160.1867	198410.2360	134.9052	Trees-Forrest	MOB1031_21MARCH2014	17
TREE	1752551.3454	240383.4479	187.1428	Trees-Forrest	MOB1023_21MARCH2014	14
TREE	1745958.0488	233328.4102	101.0911	Trees-Forrest	MOB1023_21MARCH2014	11
TREE	1734064.3152	154193.7868	18.2980	Trees-Forrest	CIPF_21MARCH2014	16
TREE	1725375.6355	152226.1503	14.4290	Trees-Forrest	CIPF_21MARCH2014	18
TREE	713813.2141	275904.5764	226.7454	Trees-Forrest	MOB1008_22MARCH2014	6
TREE	1717515.5248	273089.6630	208.5609	Trees-Forrest	MOB1008_22MARCH2014	19
TREE	1795005.6983	313727.3756	19.5097	Trees-Forrest	MOB1000_22MARCH2014	5
TREE	1792447.8844	307252.3785	20.9795	Trees-Forrest	MOB1000_22MARCH2014	7
TREE	1685356.0183	315758.6567	162.6190	Trees-Forrest	MCC1062_22MARCH2014	5
TREE	1803855.7625	360659.7308	43.2199	Trees-Forrest	MCC1070_29MARCH2014	8
TREE	1736613.2148	363032.2391	189.2833	Trees-Forrest	MCC1067_1MAY2014	13
TREE	1739087.4203	348015.1115	109.4602	Trees-Forrest	MCC1067_1MAY2014	17
TREE	1739091.8055	348015.3266	109.3814	Trees-Forrest	MCC1067_1MAY2014	18
TREE	1767665.9760	413846.6658	297.3550	Trees-Forrest	MCC1072_2MAY2014	8
TREE	1767578.5919	413685.3578	292.9286	Trees-Forrest	MCC1072_2MAY2014	9
TREE	1767621.3028	413674.7660	295.1888	Trees-Forrest	MCC1072_2MAY2014	10
TREE	1793275.0784	266858.6117	26.3734	Trees-Forrest	MOB1011_29MARCH2014	8
TREE	1790696.0244	268301.8658	32.7819	Trees-Forrest	MOB1011_29MARCH2014	18

3 Client Provided Data

3.1 Client Provided Coordinates Processing and Analysis

The Client Provided Coordinates used were converted using Corpscon 6.0.1 to provide orthometric heights in Geoid model 12A and coordinates in Alabama West State Plane and Geographic formats. A tabulated summary of the Client Provided Data used is listed in section 3.1.1. A tabulated summary of the final coordinates resulting from the data conversion are listed in section 3.1.2 through section 3.1.3.



3.1.1 Client Provided Coordinates

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88
(Geoid99/09) US survey feet

Ground Control Points				
Point ID	Easting (x) US Survey Feet	Northing (y) US Survey Feet	Ortho Height US Survey Feet	Geoid Model
MOB1000	1793057.899	308181.859	18.570	GEOID 99
MOB1008	1715439.409	273862.189	224.957	GEOID 99
MOB1009	1744534.919	275420.679	222.462	GEOID 99
MOB1011	1793632.330	266929.120	28.143	GEOID 99
MOB1023	1746379.730	241213.106	118.155	GEOID 99
MOB1031	1723488.987	196897.684	147.378	GEOID 99
MOB1034	1772107.860	187682.820	29.145	GEOID 99
MCC1062	1681687.977	314135.190	84.522	GEOID 09
MCC1067	1737081.764	358599.384	128.646	GEOID 09
MCC1069	1679895.638	364539.765	161.361	GEOID 09
MCC1070	1804219.496	368142.653	48.828	GEOID 09
MCC1072	1768019.857	413813.719	300.662	GEOID 09
MCC1073	1731081.575	416813.570	216.050	GEOID 09

3.1.2 Client Provided Coordinates Converted Geographic

Geographic (NAD83), Ellipsoidal (GRS80) meters

Ground Control Points			
Point ID	Latitude	Longitude	Ellipsoid Height meters
MOB1000	30 50 46.22754	88 03 32.61383	-23.051
MOB1008	30 45 01.86875	88 18 20.12843	39.861
MOB1009	30 45 19.24597	88 12 46.82664	39.057
MOB1011	30 43 57.95308	88 03 23.67063	-20.109
MOB1023	30 39 40.79363	88 12 23.21421	7.381
MOB1031	30 32 20.68780	88 16 41.77824	16.538
MOB1034	30 30 52.47294	88 07 25.25505	-19.580
MCC1062	30 51 37.87852	88 24 50.65756	-2.831
MCC1067	30 59 01.99492	88 14 18.54174	10.807
MCC1069	30° 59' 56.56494	88° 25' 15.99791	20.930
MCC1070	31 00 40.21711	88 01 27.80949	-13.659
MCC1072	31 08 10.34802	88 08 26.80339	63.446
MCC1073	31 08 37.72724	88 15 32.03723	37.798



3.1.3 Client Provided Coordinates Converted State Plane

Alabama West State Plane Coordinate System (SPCS) US survey feet, NAVD88
(Geoid12A) US survey feet

Ground Control Points			
Point ID	Easting (x) US Survey Feet	Northing (y) US Survey Feet	Ortho Height US Survey Feet
MOB1000	1793057.733	308182.039	17.979
MOB1008	1715439.334	273862.198	224.560
MOB1009	1744534.667	275420.792	221.875
MOB1011	1793632.22	266929.229	27.588
MOB1023	1746379.675	241213.062	117.797
MOB1031	1723488.987	196897.684	147.378
MOB1034	1772107.821	187682.871	28.610
MCC1062	1681687.996	314135.123	84.305
MCC1067	1737081.728	358599.314	128.380
MCC1070	1804219.559	368142.57	48.520
MCC1072	1768019.871	413813.672	300.531
MCC1073	1731081.579	416813.486	215.886



Appendix A: GPS Session Forms



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, March 21, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1054					MCC1054				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670800.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.184			5.184	1.580			1.580		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.184			5.184	1.580			1.580		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.220	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
21-Mar-2014			14:24			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
21-Mar-2014			16:39			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1054					MCC1054				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44671200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.115			5.115	1.559			1.559		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.115			5.115	1.559			1.559		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.199	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			13:22			N 30 23 12.38			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			16:47			W 88 15 58.16			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Saturday, March 22, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1062					MCC1062				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670810.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.509			5.509	1.679			1.679		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.509			5.509	1.679			1.679		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.319	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
22-Mar-2014			17:14			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
22-Mar-2014			18:32			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Thursday, May 01, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1062					MCC1062				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44671210.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input checked="" type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.640	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
1-May-2014			14:23			N 30 51 37.88			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
1-May-2014			23:03			W 88 24 50.66			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form										
Contract # / TO #		Client / Project Name			Date					
		Mobile County			Thursday, May 01, 2014					
Atlantic Project No.		Survey Firm			GPS System Operator					
13-165		The Atlantic Group, LLC			Ben Kimbrough					
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)					
MOB1067					MOB1067					
Collection Type (check all that apply)				File Name (receiver generated)						
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				01921210.000						
GPS Receiver Information										
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N					
<input checked="" type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319					
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609					
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376					
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151					
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526					
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894					
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048					
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002					
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004					
<input type="checkbox"/> Other										
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)		
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant		
5.131			5.131	1.564			1.564			
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)		
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant		
5.131			5.131	1.564			1.564			
Antenna Reference Point Measurement (diagram in survey report)						NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.204	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000		
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)				
1-May-2014			16:21			N 30 59 02.00				
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)				
1-May-2014			23:43			W 88 14 18.54				
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.						Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, May 02, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1067					MOB1067				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				DMBP1220.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input checked="" type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.640	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
2-May-2014			15:45			N 30 59 02.00			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
2-May-2014			17:31			W 88 14 18.54			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Thursday, May 01, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1070					MOB1070				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				00021211.pdc					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input checked="" type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		2.042	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
1-May-2014			20:50			N 31 00 40.22			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
2-May-2014			0:33			W 88 01 27.81			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Saturday, March 29, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1070					MCC1070				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670880.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.184			5.184	1.580			1.580		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.184			5.184	1.580			1.580		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.220	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
29-Mar-2014			14:28			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
29-Mar-2014			17:24			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, May 02, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1070					MOB1070				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				00021220.pdc					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input checked="" type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		2.042	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
2-May-2014			13:01			N 31 00 40.22			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
2-May-2014			17:45			W 88 01 27.81			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, May 02, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1072					MCC1072				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				DMBP1210.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.640	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
2-May-2014			13:28			N 31 08 10.35			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
2-May-2014			19:15			W 88 08 26.80			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, May 02, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MCC1073					MCC1073				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				01921220.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input checked="" type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.299			5.299	1.615			1.615		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.299			5.299	1.615			1.615		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.255	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
2-May-2014			14:06			N 31 08 37.73			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
2-May-2014			18:43			W 88 15 32.04			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Thursday, May 01, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1000					MOB1000				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				00001210.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input checked="" type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.957			4.957	1.511			1.511		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.957			4.957	1.511			1.511		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.151	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
1-May-2014			15:32			N 30 51 37.88			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
2-May-2014			0:14			W 88 24 50.66			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Saturday, March 22, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1000					MOB1000				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670810.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.262			5.262	1.604			1.604		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.262			5.262	1.604			1.604		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.244	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
22-Mar-2014			19:55			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
22-Mar-2014			21:39			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1000					MOB1000				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				01921200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input checked="" type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.640	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			20:06			N 30 50 46.23			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			23:06			W 88 03 32.61			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Saturday, March 22, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1008					MOB1008				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670810.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.331			5.331	1.625			1.625		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.331			5.331	1.625			1.625		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.265	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
22-Mar-2014			14:03			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
22-Mar-2014			16:20			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Thursday, May 01, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1008					MOB1008				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				DMBP1210.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input checked="" type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.640	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
1-May-2014			19:01			N 30 45 01.87			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
1-May-2014			22:31			W 88 18 20.13			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Thursday, May 01, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1009					MOB1009				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				00021210.pdc					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input checked="" type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		2.042	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
1-May-2014			13:55			N 30 45 19.25			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
1-May-2014			20:01			W 88 12 46.82			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1009					MOB1009				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				DMP1200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input checked="" type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.410			5.410	1.649			1.649		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.410			5.410	1.649			1.649		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.289	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			20:39			N 30 45 19.25			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			22:35			W 88 12 46.82			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Monday, February 17, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1010									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
17-Feb-2014			19:53			N 30 45 10.3			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
17-Feb-2014			20:13			W 88 07 19.6			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Saturday, March 29, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1011					MOB1011				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670880.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.118			5.118	1.560			1.560		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.118			5.118	1.560			1.560		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.200	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
29-Mar-2014			18:45			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
29-Mar-2014			20:15			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1011					MOB1011				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				00021200.pdc					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input checked="" type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.560			6.560	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		2.042	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			15:54			N 30 43 57.95			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			22:06			W 88 03 23.67			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, March 21, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1023					MOB1023				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670800.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.925			4.925	1.501			1.501		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.925			4.925	1.501			1.501		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.141	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
21-Mar-2014			20:49			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
21-Mar-2014			22:49			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1023					MOB1023				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				00001200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input checked="" type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q01QSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.646			4.646	1.416			1.416		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.646			4.646	1.416			1.416		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.056	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			15:09			N 30 39 40.79			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			21:14			W 88 12 23.21			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Friday, March 21, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Alan Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1031					MOB1031				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670800.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.433			5.433	1.656			1.656		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.433			5.433	1.656			1.656		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.296	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
21-Mar-2014			17:46			N			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
21-Mar-2014			19:42			W			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				




GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1031					MOB1031				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				DMBP1200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input checked="" type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.941			4.941	1.506			1.506		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
4.941			4.941	1.506			1.506		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.146	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			14:38			N 30 32 20.69			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			18:54			W 88 16 41.78			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				





GPS Station Session Form										
Contract # / TO #		Client / Project Name			Date					
		Mobile County			Thursday, March 20, 2014					
Atlantic Project No.		Survey Firm			GPS System Operator					
13-165		The Atlantic Group, LLC			Alan Kimbrough					
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)					
MOB1034					MOB1034					
Collection Type (check all that apply)				File Name (receiver generated)						
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input checked="" type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44670790.000						
GPS Receiver Information										
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N					
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319					
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609					
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376					
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151					
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526					
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894					
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048					
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002					
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004					
<input type="checkbox"/> Other	_____	_____	_____	_____	_____					
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)		
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant		
5.184			5.184	1.580			1.580			
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)		
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant		
5.184			5.184	1.580			1.580			
Antenna Reference Point Measurement (diagram in survey report)						NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.220	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000		
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)				
20-Mar-2014			18:35			N				
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)				
20-Mar-2014			21:31			W				
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.						Site Diagram or Control Point Photograph				





GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB1034					MOB1034				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				01921200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input checked="" type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.562			6.562	2.000			2.000		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.640	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			14:06			N 30 30 52.47			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			19:21			W 88 07 25.26			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				


GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Saturday, February 15, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB_01									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
15-Feb-2014			20:51			N 30 38 06.4			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
15-Feb-2014			21:18			W 88 19 44.9			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				
									

GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Sunday, February 16, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB_02									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
16-Feb-2014			15:07			N 30 14 55.9			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
16-Feb-2014			15:27			W 88 11 30.3			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				
									

GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Sunday, February 16, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB_03									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
16-Feb-2014			19:05			N 30 32 34.5			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
16-Feb-2014			19:25			W 88 04 58.3			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				
									

GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Monday, February 17, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB_04									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
17-Feb-2014			15:46			N 31 09 16.9			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
17-Feb-2014			16:06			W 88 00 35.2			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				
									

GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Monday, February 17, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB_05									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
17-Feb-2014			20:56			N 30 36 03.7			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
17-Feb-2014			21:16			W 88 04 17.9			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				
									

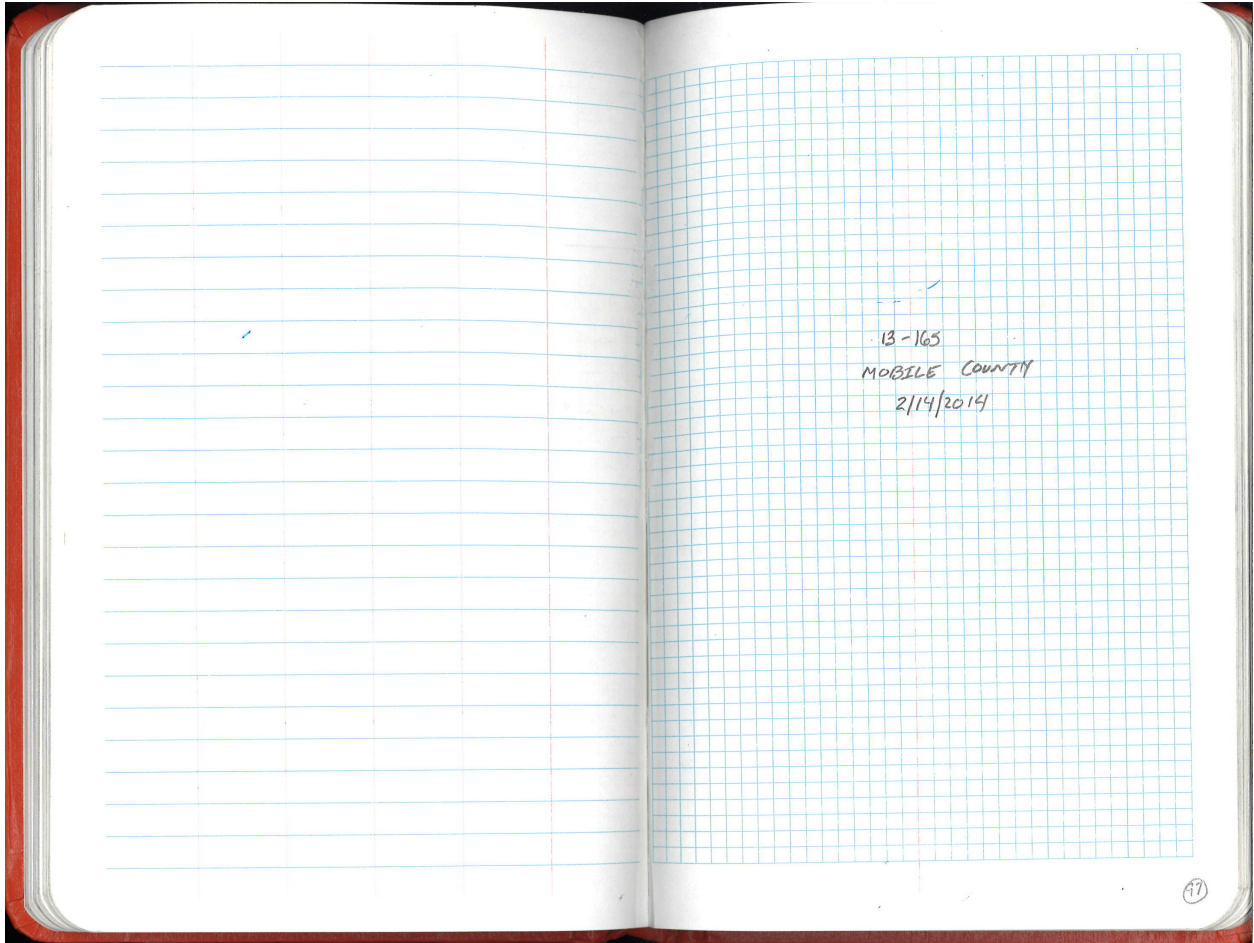
GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Tuesday, February 18, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB_06									
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC									
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input checked="" type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other									
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
6.374			6.374	1.943			1.943		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		0.000	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		2.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
18-Feb-2014			14:54			N 30 55 48.9			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
18-Feb-2014			15:14			W 88 01 37.6			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				
									



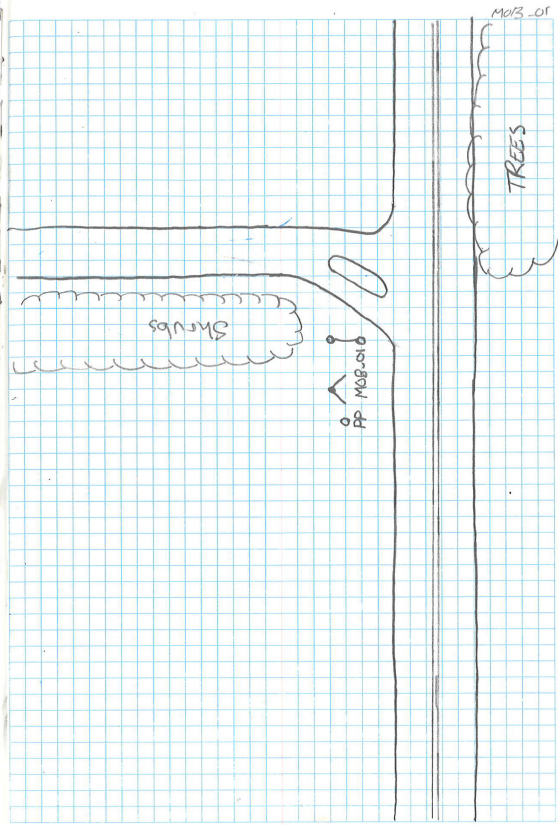
GPS Station Session Form									
Contract # / TO #		Client / Project Name			Date				
		Mobile County			Wednesday, April 30, 2014				
Atlantic Project No.		Survey Firm			GPS System Operator				
13-165		The Atlantic Group, LLC			Ben Kimbrough				
Monument Name/Designation		NGS Permanent ID # (PID)			Exact Stamping (photo in survey report)				
MOB AP STA A1					MOB AP STA A1				
Collection Type (check all that apply)				File Name (receiver generated)					
<input type="checkbox"/> ABGPS <input checked="" type="checkbox"/> STATIC <input type="checkbox"/> RTK <input type="checkbox"/> OPUS-RS <input type="checkbox"/> OPUS-STATIC				44671200.000					
GPS Receiver Information									
Unit No.	Receiver Model	Receiver S/N	Antenna P/N	Antenna Model	Antenna S/N				
<input type="checkbox"/> B1	Leica SR530	30192	667126	LEIAT502	11319				
<input type="checkbox"/> R1	Leica SR530	130521	667126	LEIAT502	12609				
<input checked="" type="checkbox"/> B2	Leica SR530	34467	667126	LEIAT502	8376				
<input type="checkbox"/> R2	Leica SR530	136534	667126	LEIAT502	5151				
<input type="checkbox"/> B3	Leica SR530	136512	667126	LEIAT502	7526				
<input type="checkbox"/> R3	Leica SR530	136496	667126	LEIAT502	15894				
<input type="checkbox"/> NOV1	NovAtel DL-4=L1L2	SVA06250545	1017187	NOV702_3.00	NVH05510048				
<input type="checkbox"/> TOP1	Topcon 1001137-xx	Q0IQSN28B2O		HiPerV	1132-10002				
<input type="checkbox"/> TOP2	Topcon 1001137-xx	Q0362CYEP00		HiPerV	1132-10004				
<input type="checkbox"/> Other	_____	_____	_____	_____	_____				
Beginning Antenna Height in Feet				Beginning Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.056			5.056	1.541			1.541		
Ending Antenna Height in Feet				Ending Antenna Height in Meters				Type of Measurement (check one)	
1	2	3	AVG	1	2	3	AVG	<input checked="" type="checkbox"/> True Vertical <input type="checkbox"/> Slant	
5.056			5.056	1.541			1.541		
Antenna Reference Point Measurement (diagram in survey report)					NOTE: True Vertical = ARP Height				
Leica Height Hook Measurement		1.181	NovAtel Slope Measurement		0.000	Topcon Slope Measurement		0.000	
Start Date (UTC)			Start Time (UTC)			Approx. Lat. (if available)			
30-Apr-2014			18:21			N 30 40 50.96			
End Date (UTC)			End Time (UTC)			Approx. Lat. (if available)			
1-May-2014			5:09			W 88 14 12.45			
Describe any abnormalities and/or problems encountered during the session, include time of occurrence and duration.					Site Diagram or Control Point Photograph				



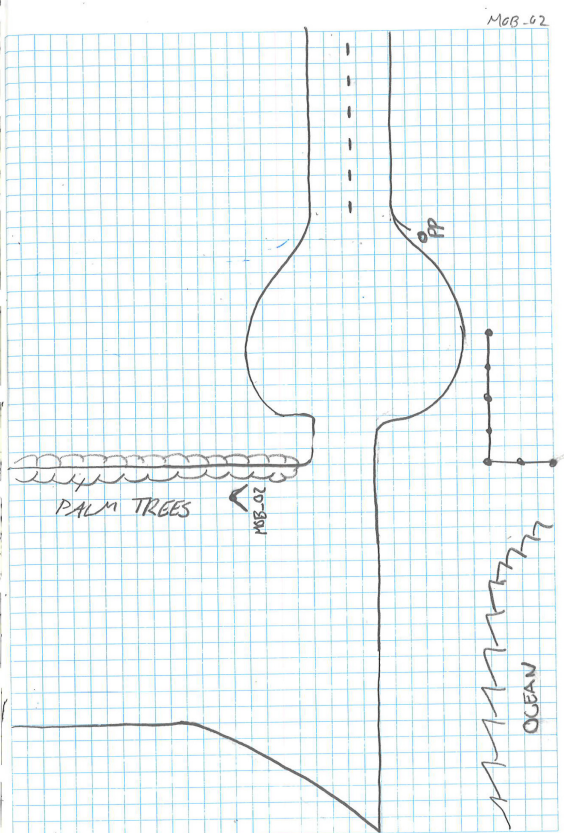
Appendix B: Field Notes



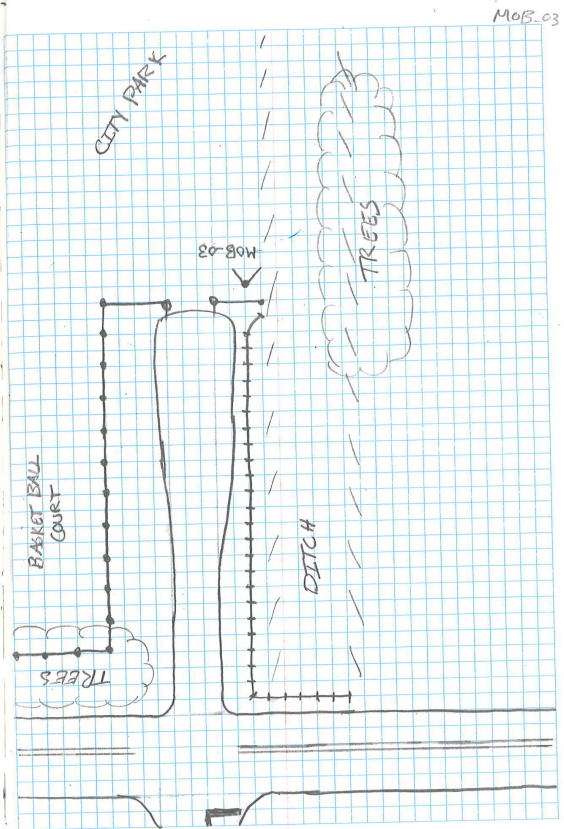
DATE	NAME	REC	ALT	ALT.NAME	
2/14/2014	MCC1054	Yes	—	—	
2/14/2014	MCC1058	Yes	—	—	
2/14/2014	MOB1031	Yes	—	—	
2/14/2014	MCC1060	Yes	—	—	
2/14/2014	MOB1008	Yes	—	—	
2/15/2014	MCC1073	Yes	—	—	
2/15/2014	MCC1071	Yes	—	—	
2/15/2014	MCC1069	Yes	—	—	
2/15/2014	MCC1063	Yes	—	—	
2/15/2014	MCC1062	Yes	—	—	
2/15/2014	MOB1025	No	Yes	MOB_01	
2/15/2014	MOB1023	Yes	—	—	
2/15/2014	MOB1008	Yes	—	—	
2/16/2014	MCC1051	No	Yes	MOB_02	
2/16/2014	MCC1050	Yes	—	—	
2/16/2014	MOB1034	Yes	—	—	
2/16/2014	MCC1053	Yes	—	—	
2/16/2014	MOB1032	No	Yes	MOB_03	
2/16/2014	03-42-12	Yes	—	—	
2/16/2014	MOB1011	Yes	—	—	
2/17/2014	MCC1072	Yes	—	—	
2/17/2014	MCC1074	No	Yes	MOB_04	
2/17/2014	MCC1070	Yes	—	—	
2/17/2014	MCC1066	Yes	—	—	
2/17/2014	MCC1064	Yes	—	—	



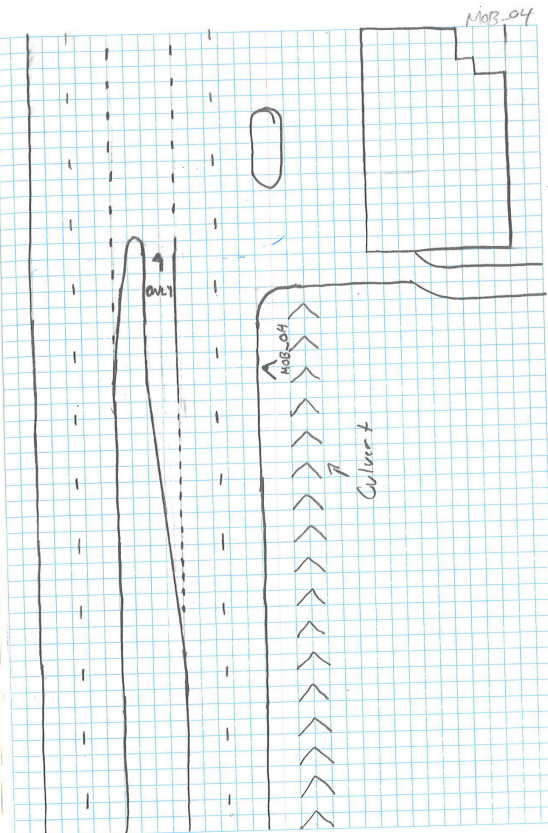
Unit	T1	T2	T3	T4	T5
Date	2/15/2014	2/16/2014	2/16/2014	2/17/2014	2/17/2014
Station	MOB_01	MOB_02	MOB_03	MOB_04	MOB_010
Ant Type	H:PerV	H:PerV	H:PerV	H:PerV	H:PerV
Ant HT	2.00	2.00	2.00	2.00	2.00
Off Set	—	—	—	—	—
Ant ARP	2.00	2.00	2.00	2.00	2.00
Start	20:51	15:07	19:05	15:46	19:53
Stop	21:18	15:27	19:25	16:06	20:13
Notes					

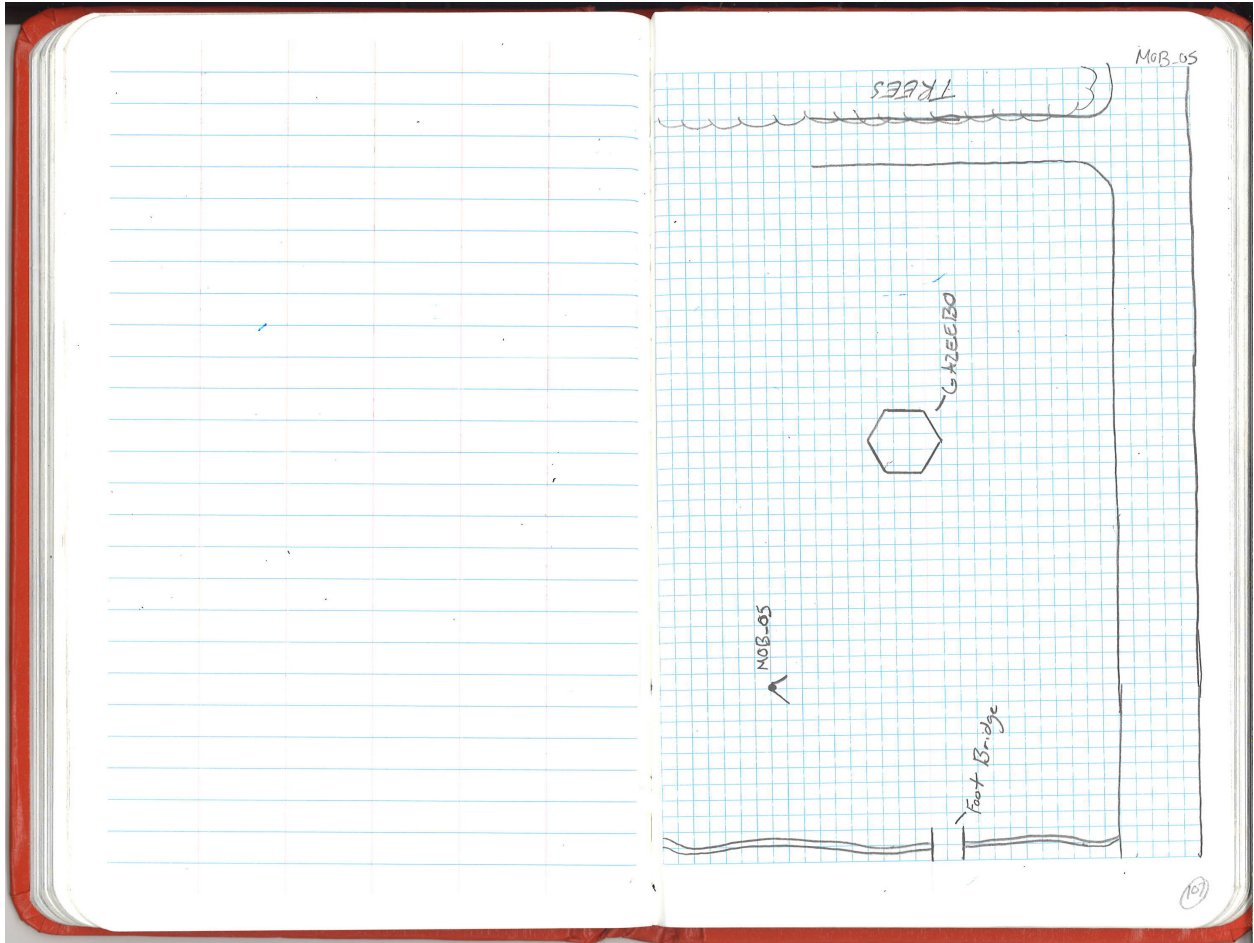


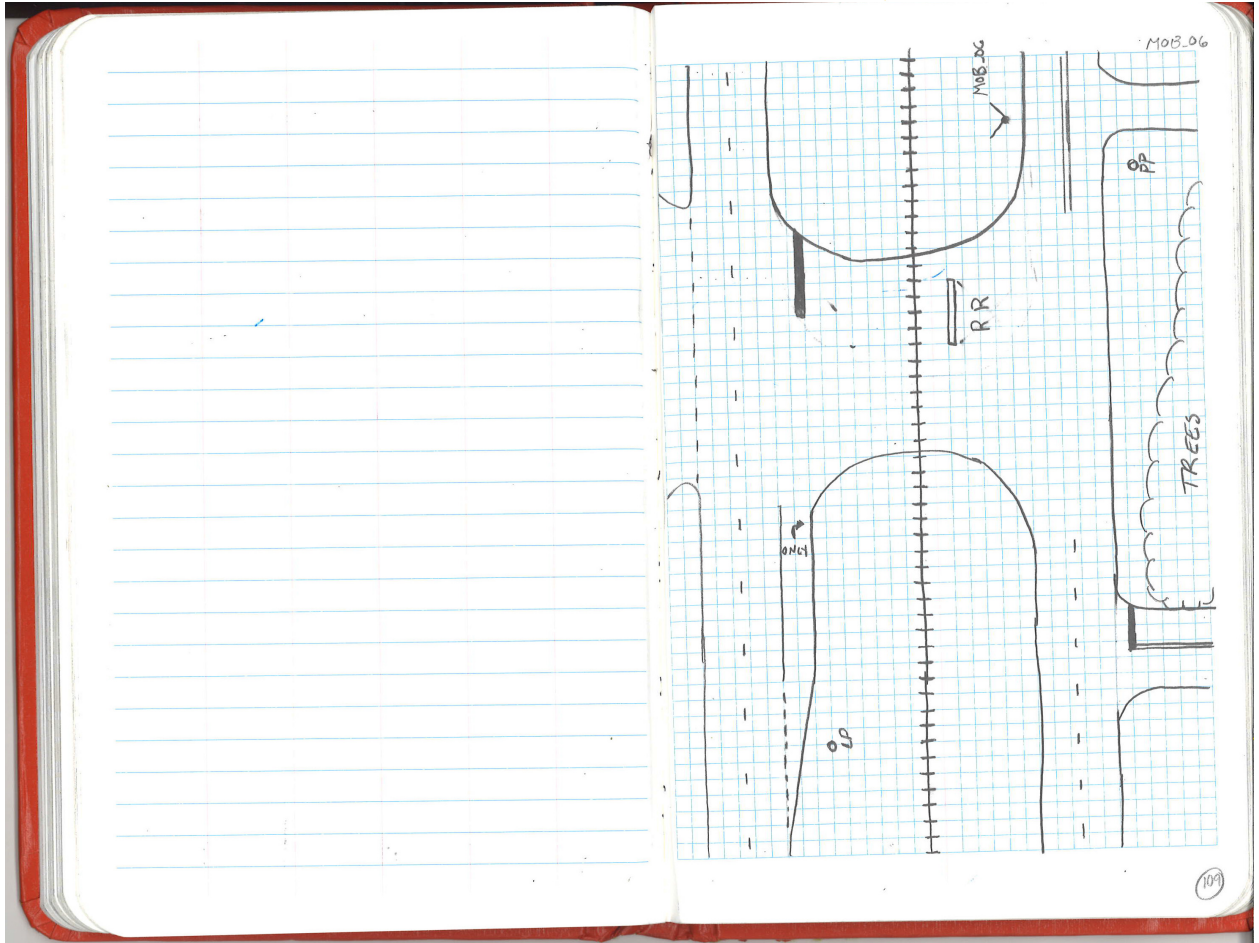
Date	Name	Rec	ACT	Aff. Name
2/12/2014	MOB1065	NO	—	MOB-06
2/11/2014	MOB1000	Yes	—	—
2/12/2014	MOB1018	Yes	—	—
2/17/2014	MOB1027	No	Yes	MOB-05



Unit	T3	T3
Date	2/17/2014	2/18/2014
Station	MOB.05	MOB.06
Ant Type	Hi Per V	Hi Per V
Ant HT	2.00	2.00
Off Set	—	—
Ant ARP	2.00	2.00
Start	20:56	14:54
Stop	21:16	15:14
Notes:		







Unit	B2	B2	R2	R2	Notes
Date	4/30/2014	4/30/2014	4/30/2014	4/30/2014	4/30/2014
Station	M081034	M081034	M081031	M081023	M081011
AntType	LeiATS12	LeiATS02	LeiATS02	LeiATS02	
Ant HT	1.199	2.00	1.146	1.056	2.00
Off Set	0.36	—	0.36	0.36	—
Ant APP	1.559	2.00	1.506	1.416	2.00
Start	13:22	14:06	14:38	15:09	15:34
Stop	16:47	19:21	18:54	21:14	22:06
Total	3:25	5:15	4:16	6:05	6:12
Notes	—	—	—	—	—

Unit	B2	BZ	RZ	Navate 1	B2
Date	4/30/2014	4/30/2014	4/30/2014	5/1/2014	5/1/2014
Station	MOBAPSTA2	MOB1000	MOB1009	MOB1009	MOB1002
Act Type	Li:AT502	Li:AT502	Li:AT502		Li:AT502
Arr HT	1.181	2.00	1.289	2.00	2.00
Off Set	0.36	—	0.36	—	—
Arr ARP	1.541	2.00	1.649	2.00	2.00
Start	18:21	20:06	20:39	13:55	14:23
Stop	05:09	23:06	22:35	20:01	23:03
Total		3:00	1:55	6:06	8:39
Notes	—	—	—	18:05	19:00

Unit	R2	BZ	Novatel	R2	Novatel
Date	5/1/2014	5/1/2014	5/1/2014	5/1/2014	5/2/2014
Station	MoB1000	MCC1067	MCC1070	MoB1008	MCC1070
Ant Type	LeiATS02	LeiATS02		LeiATS02	
Ant HT	1.151	1.204	2.00	2.00	2.00
Off Set	0.36	0.36	—	—	—
Ant ARP	1.511	1.564	2.00	2.00	2.00
Start	15:32	16:21	20:50	19:01	13:01
Stop	00:19	23:43	00:33	22:31	17:45
Total	8:42	7:22		3:30	
Notes	—	RTK	—	—	—

6:30

Unit	BZ	BZ	RZ
Date	5/2/2014	5/2/2014	5/2/2014
Station	MIC1072	MIC1073	MIC1067
Ant Type	6.1ATS02	6.1ATS02	6.1ATS02
Ant HT	2.00	1.255	2.00
Off Set	—	0.36	—
Ant ARP	2.00	1.615	2.00
Start	13:28	14:00	15:45
Stop	14:15	14:43	17:31
Total	0:	4:37	1:46
Notes	RTK	RTK	—

UNIT	B2	B2	B2	B2
DATE	3-20-14	3-21-14	3-21-14	3-21-14
STATION	MOB1034	MCC1054	MOB1031	MOB1023
COLL TYPE	RTK	RTK	RTK	RTK
ANT TYPE	LEIATS02	LEIATS02	LEIATS02	LEIATS02
ANT HGT	1.220m	1.220m	1.296m	1.141m
OFFSET	0.36m	0.36m	0.36m	0.36m
ANT ARP	1.580m	1.580m	1.658m	1.501m
START	18:35	14:24	17:46	20:49
STOP	21:31	16:39	19:42	22:49
LOCK	2664	—	—	—

DATE: 3-20-14
 STATION: MOB1034
 POINTS COLLECTED: LT05, HG05, OT15, U04
 T06, U03, LT06, HG06
 T05

DATE: 3-21-14
 STATION: MCC1054
 POINTS COLLECTED: HG02, LT01, U2
 OT13, U01, T02
 LT02, T01, HG01

DATE: 3-21-14
 STATION: MOB1031
 POINTS COLLECTED: U6, OT14, LT04
 T03, U05, T04
 HG04, LT03

DATE: 3-21-14
 STATION: MOB1023
 POINTS COLLECTED: T08, U7, LT07
 T07, U8, OT16
 LT08, HG07

38 PTS

38%

	✓	✓	✓
UNIT	BZ	BZ	BZ
DATE	3-22-14	3-22-14	3-22-14
STATION	MOB1008	MCC1062	MOB1000
Coll Type	RTK	RTK	RTK
Ant Type	LE1A502	LE1A502	LE1A507
Ant MEAS	1.265m	1.319m	1.244m
OFFSET	0.36m	0.36m	0.36m
ANTARP	1.625m	1.679m	1.604m
START	14:03	17:14	19:55
STOP	16:20	18:32	21:39
LOCK		+0.60m	+0.65m
		TO TARGET	FR 14661

DATE:	3-22-14
STATION	MOB1008
POINTS COLLECTED	HG09, LT09, T10 LT10, OT18, HG10 U10, T09, U09
DATE:	
STATION	
POINTS COLLECTED	HG11, T11, LT11 LT20, UB20
DATE:	
STATION	
POINTS COLLECTED	T18, HG18, U14 T17, U13, LT18 OT19, HG19

24 PTS
62%

UNIT			
DATE	3-29-13	3-29-14	3-30-14
STATION	MOB1011	MCC1070	MCC1072
COLLTYPE	RTK	RTK	RTK
ANT TYPE	LEATS02	LEATS02	LEATS02
ANT MEAS	1.220m	1.200m	1.286m
OFFSET	0.36m	0.36m	0.36m
ANT ARP	1.560m	1.560m	1.646m
START	14:28	18:45	13:02
STOP	17:24	20:15	14:12
LOCK 1	4623	—	—
LOCK 2	2664	—	—

GPS ROVER
MAGNETRON

DATE	3-29-14
STATION	MOB1011
POINTS COLLECTED	HG20, T13, UB11 LT19, OT17, UB12 T14

DATE	3-29-14
STATION	MCC1070
POINTS COLLECTED	LT16, HG16, OT20 HG17, T16, U15 LT17

DATE	
STATION	MCC1072
POINTS COLLECTED	

DATE	
STATION	MCC1073
POINTS COLLECTED	

DATE	
STATION	MCC1067
POINTS COLLECTED	

16 PTS
78%⁰¹



Appendix C: Real Time Kinematic Test Point Solutions



File Name: MOB1034_20MARCH2014

1772108.1318187683.3760	29.2568	BASECHEC	0001
1772108.1507187683.3860	29.2473	BASECHEC	0002
1772108.1419187683.3880	29.2727	BASECHEC	0003
1770361.7006182907.8944	10.2409	LTREE0004	
1770354.0637182935.8370	25.8038	EP	0005
1770302.9123182936.3689	25.7675	EP	0006
1770270.7355182936.5539	25.7611	EP	0007
1770218.1221182937.0777	25.8762	EP	0008
1770176.6230182937.5981	25.8733	EP	0009
1770138.6111182937.7366	25.9185	EP	0010
1770088.0508182938.3119	25.9876	EP	0011
1772176.5773183012.9240	22.0196	HGRASS	0012
1764576.9096188471.6606	47.2611	OT	0013
1768036.5781187953.7527	26.8645	UB	0014
1772299.0245197265.0449	14.4184	TREE	0015
1772014.8515197122.1911	17.1061	UB	0016
1771873.5416192858.7354	25.7368	LTREE0017	
1772034.4246191265.2125	26.7224	HGRASS	0018
1772178.9870183241.2424	20.7132	TREE	0019
1772108.2035187683.2315	29.2740	BASECHEC	0020
1772108.2162187683.2391	29.2947	BASECHEC	0021
1772108.2137187683.2427	29.2935	BASECHEC	0022
1772106.7246187687.5099	14.1532		00000320_1907168
1772107.8806187682.8256	29.1469		MOB1034
1772299.6141197264.6890	15.4307		TEMP0320_2014586
1772297.5042197259.0551	14.3919		TEMP0320_2016403
1771871.7765192859.7992	20.3805		TEMP0320_2053488
1771874.5948192858.1119	25.1767		TEMP0320_2054205
1771875.1930192857.1602	30.1653		TEMP0320_2055294



File Name: CIPF_21MARCH2014

1726923.4571	141470.5351	3.2390	BASECHEC	0001
1726923.4701	141470.4991	3.2396	BASECHEC	0002
1726923.4889	141470.5201	3.2233	BASECHEC	0003
1726878.5702	141436.9983	4.5650	EP	0004
1726862.3112	141378.0959	4.6464	EP	0005
1726848.1252	141324.0262	4.7922	EP	0006
1726839.3828	141291.6099	4.8689	EP	0007
1726827.9353	141249.2515	4.9540	EP	0008
1727795.6827	140796.5397	2.0728	HGRASS	0009
1735124.8117	137415.3859	1.9645	LTREE0010	
1735153.4458	137400.5483	2.2991	LTREE0011	
1735272.2547	137296.6486	4.2172	HGRASS	0012
1734569.4503	140936.5445	14.3913	UB	0013
1733350.3127	147041.6937	7.1841	OT	0014
1732885.3166	148017.3795	7.0905	UB	0015
1734064.4395	154193.8058	18.8664	TREE	0016
1728542.8528	152211.4420	12.9875	LTREE0017	
1725375.7600	152226.1694	14.9973	TREE	0018
1730133.0680	143155.7363	7.2163	HGRASS	0019
1726922.7931	141470.5085	3.2907	MCC1054	
1726848.3915	141322.0106	3.3826	TEMP0321_1432170	
1734066.4761	154195.8381	18.7208	TEMP0321_1530526	
1734065.7013	154195.1230	18.9418	TEMP0321_1532194	
1734065.7393	154195.2152	18.8802	TEMP0321_1533202	
1734065.4297	154194.4842	22.3208	TEMP0321_1533353	
1728566.0625	152214.3046	13.6081	TEMP0321_1547072	



File Name: MOB1023_21MARCH2014

1746379.3481 241213.4673	118.0673	BASECHEC	0001
1746379.3408 241213.4857	118.0126	BASECHEC	0002
1746379.3683 241213.4879	118.0787	BASECHEC	0003
1746315.3218 241200.7053	117.5054	EC	0004
1746297.6159 241200.8728	117.6128	EC	0005
1746279.9072 241201.2277	117.6451	EC	0006
1746262.4308 241201.2956	117.6489	EC	0007
1746244.1609 241201.4753	117.8148	EC	0008
1746227.6163 241201.6171	118.0319	EC	0009
1746215.6407 241201.8783	117.9042	EC	0010
1745958.1422 233328.4057	101.4635	TREE	0011
1740885.5871 233675.9441	151.4220	UB	0012
1744135.9438 241032.3962	161.6615	LTREE0013	
1752551.4387 240383.4433	187.5152	TREE	0014
1751569.3232 241855.7918	156.9016	UB	0015
1748558.7269 241328.3039	116.3137	OT	0016
1748511.7963 241610.9681	113.7929	LTREE0017	
1749246.3778 241060.2988	135.3159	HGRASS	0018
1746379.2286 241213.4659	118.1445	BASECHEC	0019
1746379.2483 241213.4754	118.1669	BASECHEC	0020
1746379.2530 241213.4727	118.1864	BASECHEC	0021
1746379.7684 241213.0581	118.1691		MOB1023
1745957.6727 233328.2387	101.6902		TEMP0321_2107063



File Name: MOB1031_21March2014

1723488.6788	196897.3165	147.8862	BASECHEC	0001
1723488.6619	196897.2993	147.8776	BASECHEC	0002
1723488.6530	196897.2926	147.8670	BASECHEC	0003
1714177.5164	189525.2893	125.7653	UB	0004
1731678.3030	198826.4391	150.7109	UB	0005
1722981.6429	209712.5781	164.3279	LTREE0006	
1722291.4575	195720.7851	150.5401	TREE	0007
1722181.4134	195580.6193	151.9139	UB	0008
1722233.2602	195615.2438	151.5406	UB	0009
1722233.3137	195615.2263	151.5547	EC	0010
1722233.3036	195647.9051	152.1685	EC	0011
1722231.2097	195679.9991	152.6540	EC	0012
1722229.3244	195714.3812	152.8093	EC	0013
1722227.6304	195745.8949	153.0546	EC	0014
1722226.1822	195768.7793	153.2431	EC	0015
1722224.7639	195795.8107	153.2088	EC	0016
1732160.3779	198410.3468	135.4505	TREE	0017
1723338.6824	196583.5205	147.8736	HGRASS	0018
1723187.2414	196521.9814	146.8474	LTREE0019	
1723488.6597	196897.5439	147.9251	BASECHEC	0020
1723488.6573	196897.5534	147.9056	BASECHEC	0021
1723488.6738	196897.5415	147.9047	BASECHEC	0022
1723489.1784	196897.7952	147.9229	MOB1031	
1722297.1872	195704.8946	150.4578	TEMP0321_1904056	
1722297.0682	195705.0413	150.6214	TEMP0321_1904126	



File Name: MCC1062_22MARCH2014

1681688.5382314135.0020	84.4677	BASECHEC	0001
1681688.5416314134.9926	84.4502	BASECHEC	0002
1681688.5550314134.9819	84.4367	BASECHEC	0003
1685861.6350317210.1520	190.9390	HGRASS	0004
1685356.0021315758.7164	162.8389	TREE	0005
1684189.5341312599.8249	110.6788	LTREE0006	
1684321.2732311337.9843	153.8004	LTREE0007	
1681841.7415313884.1475	77.2142	UB	0008
1681872.2766314040.9245	85.5768	EP	0009
1681854.3924314054.5842	85.4271	EP	0010
1681838.5862314066.8194	85.3865	EP	0011
1681821.5599314079.7173	85.3004	EP	0012
1681806.5532314091.1890	85.2714	EP	0013
1681786.0103314106.5238	85.0932	EP	0014
1681739.4002314141.1033	85.1166	EP	0015
1681716.6637314158.1990	85.1532	EP	0016
1681697.6333314172.3027	85.1875	EP	0017
1681680.4024314184.7738	85.2156	EP	0018
1681659.0792314200.8194	85.2121	EP	0019
1681688.6039314135.0420	84.5430	BASECHEC	0020
1681688.5626314135.0469	84.5525	BASECHEC	0021
1681688.5764314135.0561	84.5318	BASECHEC	0022
1681687.9800314135.1830	84.5274		MCC1062
1685361.2234315759.8270	163.1080		TEMP0322_1751040
1685357.9543315759.8896	162.7741		TEMP0322_1751217
1684189.6144312599.9625	110.8392		TEMP0322_1804123



File Name: MOB1000_22MARCH2014

1793057.5352308181.5986	18.7097	BASECHEC	0001
1793057.5137308181.6280	18.7830	BASECHEC	0002
1793057.5430308181.6300	18.7594	BASECHEC	0003
1794993.4502313680.0091	20.3470	HGRASS	0004
1795005.8494313727.2544	20.0963	TREE	0005
1793264.7016310910.1118	19.8663	UB	0006
1792448.0354307252.2575	21.5661	TREE	0007
1792713.1166307408.1138	23.9950	UB	0008
1794257.2000308088.9808	20.8343	LTREE	0009
1793852.9288308910.6210	17.6004	OT	0010
1794126.0578308940.9227	17.2002	EP	0011
1794103.3360308941.3428	17.4770	EP	0012
1794077.2001308941.6846	17.7317	EP	0013
1794055.1777308942.1466	17.9260	EP	0014
1794029.3970308942.3474	17.9030	EP	0015
1794004.2976308942.7460	17.8493	EP	0016
1793979.2655308942.6439	17.9807	EP	0017
1793957.7681308942.7483	18.0111	EP	0018
1793938.9993308943.0962	17.4397	EP	0019
1793937.0458308941.0384	17.3671	EP	0020
1793935.9050308939.1487	17.3914	EP	0021
1793936.0415308915.4484	17.7767	EP	0022
1793935.7495308891.5123	17.9865	EP	0023
1793935.5644308869.8086	18.1570	EP	0024
1793935.2645308847.9175	18.3305	EP	0025
1793935.0120308819.8604	18.6046	EP	0026
1793933.5621308799.2347	19.0025	EP	0027
1793932.2559308784.4661	19.4422	EP	0028
1793931.2455308775.4769	19.8986	EP	0029
1793929.3983308764.2892	20.1869	EP	0030
1793929.1291308764.2943	20.1155	EP	0031
1793931.1044308760.6551	20.1924	EP	0032
1793934.5768308754.9717	20.1543	EP	0033
1793064.3939308099.6247	17.9662	HGRASS	0034
1793057.4211308181.6662	18.5814	BASECHEC	0035
1793057.4286308181.6790	18.5633	BASECHEC	0036
1793057.4216308181.6895	18.5848	BASECHEC	0037
1793057.8843308181.9181	18.5662	MOB1000	
1795006.1155313727.1020	20.1748	TEMP0322_2016426	
1795005.9610313727.2355	20.3749	TEMP0322_2016492	
1795005.8103313727.2229	20.3073	TEMP0322_2017018	
1793265.0488310909.8236	19.4513	TEMP0322_2026258	
1793264.9580310909.7602	19.4817	TEMP0322_2026579	
1793264.8489310910.2068	19.7182	TEMP0322_2040166	
1793264.6880310910.1195	19.7998	TEMP0322_2041002	
1793264.8912310909.9607	20.1852	TEMP0322_2041130	



1793264.7618310910.1233 19.7087
1793264.8064310910.1565 19.6729
1793264.8235310910.1864 19.7837
1793264.8179310910.1462 19.6011
1793264.8036310910.1550 19.5864
1793264.8867310910.1760 19.5107
1792443.4148307248.7866 21.6589
1792443.3792307248.8011 21.6271

TEMP0322_2041579
TEMP0322_2042297
TEMP0322_2042367
TEMP0322_2042406
TEMP0322_2042517
TEMP0322_2043236
TEMP0322_2055363
TEMP0322_2055426



File Name: MOB1008_22MARCH2014

1715438.8408273862.3063	224.9216	BASECHEC	0001
1715438.8473273862.3012	224.9182	BASECHEC	0002
1715438.8522273862.3230	224.9240	BASECHEC	0003
1711936.1210273535.2809	200.6431	HGRASS	0004
1713808.1917274939.7436	225.8491	LTREE0005	
1713813.2926275904.5687	227.1427	TREE	0006
1713730.7611275982.8743	226.9490	LT-A	0007
1714069.2882274604.6872	226.8181	OT	0008
1714030.8637274536.8935	228.6361	EP	0009
1714014.5035274554.8253	228.4478	EP	0010
1713997.4584274575.1966	228.2944	EP	0011
1713982.0181274595.7370	228.0986	EP	0012
1713967.9812274615.0239	228.0129	EP	0013
1713955.3652274634.5175	227.9262	EP	0014
1713941.2777274657.1400	227.8112	EP	0015
1713928.8103274679.6967	227.7143	EP	0016
1714948.3135271685.7287	202.5862	HGRASS	0017
1715467.0943272232.9928	220.1895	UB	0018
1717515.6033273089.6554	208.9582	TREE	0019
1716309.3252274390.5382	215.8304	UB	0020
1715439.6721273861.6306	225.0041	BASECHEC	0021
1715439.6618273861.6374	225.0045	BASECHEC	0022
1715439.6680273861.6194	225.0130	BASECHEC	0023
1715439.4122273862.1911	224.9569		MOB1008
1713814.6900275904.6579	227.2721		TEMP0322_1532497
1713813.2332275904.6094	227.0961		TEMP0322_1533050



File Name: MOB1011_29MARCH2014

1793632.0177266928.7099	28.0889	BASECHEC	0001
1793632.0196266928.6942	28.1210	BASECHEC	0002
1793632.0063266928.6981	28.1417	BASECHEC	0003
1793097.4416263323.3237	4.0567	HGRASS	0004
1793562.0322266921.5541	27.7334	TEST	0005
1793562.0346266921.5781	27.7223	TEST	0006
1793562.0575266921.4446	27.9489	TEST	0007
1793275.1862266858.5233	26.9223	TREE	0008
1793562.0962266921.4005	27.9595	TEST	0009
1788586.7595265356.9153	26.9644	TEST	0010
1786619.6197263760.7362	33.1777	TEST	0011
1786572.7460263812.1913	34.1057	UB	0012
1787967.4767266265.1207	24.7660	TEST	0013
1787863.9940266284.5774	25.1493	LTREE	0014
1785335.5231267422.2287	30.8115	TEST	0015
1785396.0530267440.7725	31.8505	OT	0016
1789502.6258271846.5434	31.5449	UB	0017
1790633.5660268215.7098	34.9866	TEST	0018
1790696.1323268301.7773	33.3308	TREE	0019
1793632.2131266929.7310	28.0521	BASECHEC	0020
1793632.2218266929.7221	28.0889	BASECHEC	0021
1793632.2188266929.7231	28.0748	BASECHEC	0022
1793632.3274266929.1411	28.1364	MOB1011	
1793275.1614266858.8227	26.6946	TEMP0329_1607117	
1793275.1816266858.6015	26.8898	TEMP0329_1607155	
1793562.6793266923.0737	25.9742	TEMP0329_1609048	



File Name: MCC1070_29MARCH2014

1804219.5904368143.2389	48.8375	BASECHEC	0001
1804219.5957368143.2628	48.8465	BASECHEC	0002
1804219.5813368143.2602	48.8249	BASECHEC	0003
1804341.4297368607.0568	49.3514	LTREE0004	
1804459.3332377353.3255	46.9397	HGRASS	0005
1804571.2217378510.4413	43.0366	OT	0006
1803870.9679360581.6142	42.8976	HGRASS	0007
1803855.7194360659.8018	43.5227	TREE	0008
1803689.6579362749.4976	34.5950	LTREE0009	
1804097.7982367200.9662	45.7879	UB	0010
1804336.6234368094.3339	50.0097	UB	0011
1804219.5808368143.2401	48.8094	BASECHEC	0012
1804219.5805368143.2595	48.8035	BASECHEC	0013
1804219.6160368143.2479	48.7749	BASECHEC	0014
1804219.5158368142.6415	48.8221	MCC1070	
1803854.7992360667.6008	43.6315	TEMP0329_1936417	
1804341.2451367948.4596	49.7386	TEMP0329_2004265	
1804341.0991367948.8080	49.8431	TEMP0329_2004578	
1804341.2880367948.6524	49.3313	TEMP0329_2005042	
1804340.3767367948.4114	49.9115	TEMP0329_2005249	
1804336.6678368094.3490	49.9677	TEMP0329_2008048	
1804219.5215368143.3281	48.7259	TEMP0329_2009467	



File Name: MCC1067_1MAY2014

1737081.3419358599.5204	128.7424	BASECHEK	001
1737081.3401358599.5432	128.6852	BASECHEK	002
1737081.3578358599.5468	128.7049	BASECHEK	003
1737075.2956358615.3639	129.4897		004
1737435.0144362944.9295	148.4699	URBAN	005
1737440.5256362944.4044	148.1125	URBAN	006
1738877.1076367535.0752	197.8706	HIGRASS	007
1738885.5123367526.2246	197.9312	HIGRASS	008
1739170.4361368578.8244	201.7662	URBAN	009
1739144.1051368586.1936	201.6043	URBAN	010
1738645.0509371052.3724	250.3081	LOTREES	011
1738645.1904371052.6078	250.2749	LOTREES	012
1736613.2491363032.2914	189.5533	TREES	013
1731551.5636352906.3381	274.0047	HIGRASS	014
1735281.0149352697.2501	187.7425	TOE	015
1735281.3250352697.2299	187.5390	TOE	016
1739087.4545348015.1640	109.7302	TREES	017
1739091.8397348015.3790	109.6514	TREES	018
1736995.2968358609.9475	130.1258	LOTREES	019
1736994.9983358610.2195	130.0999	LOTREES	020
1737081.7628358599.3662	128.6480		MCC1067



File Name: MCC1072_2MAY2014

1768019.9750413814.2799	300.6647	BASECHEC	1
1768019.9869413814.2802	300.6787	BASECHEC	2
1768019.9332413814.2706	300.6339	BASECHEC	3
1767994.8386413837.5645	301.0083	HG-A	4
1767948.2348413944.7376	300.9051	HG-A	5
1767881.4433413984.4117	301.3794	URBAN	6
1767796.2719413977.5930	299.5864	OT	7
1767665.9589413846.7144	297.4891	TREE	8
1767578.5748413685.4064	293.0628	TREE	9
1767621.2857413674.8146	295.3230	TREE	10
1767601.6257413447.5426	291.1736	OT	11
1767832.0587413906.8807	301.5087	LT-A	12
1767983.9837413786.8003	303.9339	LT-A	13
1768162.1167413702.3503	298.7138	URBAN	14
1768019.8542413813.7210	300.6654		MCC1072



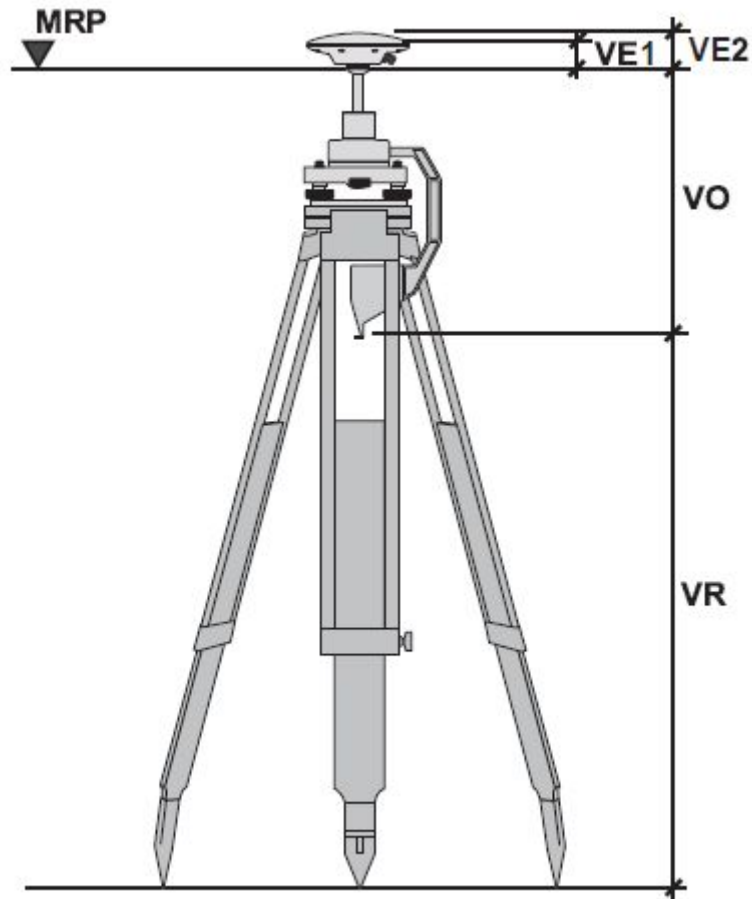
File Name: MCC1073_2MAY2014

1731081.5207416814.1477	216.0751	BASECHEK	001
1731081.5397416814.1516	216.0399	BASECHEK	002
1731081.5510416814.1625	216.0659	BASECHEK	003
1733440.3883411137.4160	313.8143	URBAN	004
1733435.4560411129.8331	314.0786	URBAN	005
1738637.2636407731.3842	325.9459	LOTREES	006
1738639.3933407731.1383	325.4576	LOTREES	007
1733725.6675411821.2158	281.9397	GS	008
1733727.4925411812.9885	281.9258	GS	009
1723638.9668410056.0906	179.4666	HIGRASS	010
1723639.0826410056.2503	179.5568	HIGRASS	011
1723642.6089410050.5457	180.0281	HIGRASS	012
1731081.5728416813.5664	216.0494		MCC1073



Appendix D: GPS System Vertical Height Diagrams

Leica Tripod Setup



VO Vertical Offset

VR Vertical Height Reading

VE1 Vertical Phase Center Eccentricity for L1.

VE2 Vertical Phase Center Eccentricity for L2

MRP Mechanical Reference Plane

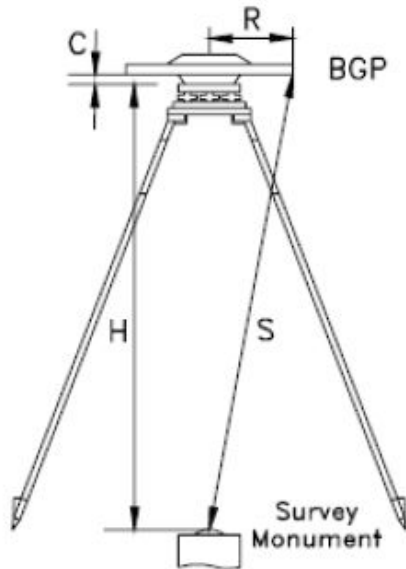
Although an AT502 Antenna is shown, the same principles apply to the AX1202 and SR399 Antennas.

The Vertical Height Reading (VR) value is measured using the Height Hook.

The Vertical Offset (VO) value is stored in the Antenna Setup record and for a Tripod Setup with the Height Hook as shown is 0.36m for AT502 and AX1202 Antennas. For the SR399 Antenna, an offset of 0.441m was added to the Height Hook bringing the true height to the VE1.

The Vertical Phase Center Eccentricities are stored in the Receiver for all Leica System Antennas.

NovAtel DL-4+L1 L2 receiver w/ NovAtel NOV702_3.00 Antenna
and Topcon HiPerV receiver



- H = True height of fixed height tripod rod
- S = Slant height field measurement
- C = Distance for addition of ground plane
- R = Radius from antenna phase center to edge of ground plane
- BGP = Bottom of ground plane (or antenna)

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