Ground Control Point Survey Report

"Texas Neches Basin FY16 LiDAR"
USGS Contract: G16PC00020
Task Order Number: G16PD00324

Prepared for:
United States Geological Survey (USGS)

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1. INTRODUCTION

1.1 *Project Summary*

Dewberry Consultants LLC is under contract to the United States Geological Survey to provide 364 Ground Control Points in the state of Texas. Under the above referenced USGS Task Order, Dewberry is tasked to complete the quality assurance of LiDAR products. As part of this work Dewberry staff will complete Ground Control Point surveys that will be used to evaluate vertical and horizontal accuracy. The ground survey was conducted March 23 thru April 4, 2016.

Existing NGS Control Points were located and surveyed to check the accuracy of the RTK/GPS survey equipment with the results shown in Section 2.4 of this Report.

As an internal QA/QC procedure and to verify that the Ground Control Points meet the 95% confidence level approximately 50% of the points were re-observed and are shown in Section 5 of this report.

Final horizontal coordinates are referenced to UTM, Zone 15, NAD83 (2011) in meters. Final Vertical elevations are referenced to NAVD88 in meters using Geoid model 2012B (Geoid12B).

1.2 *Points of Contact*

Questions regarding the technical aspects of this report should be addressed to:

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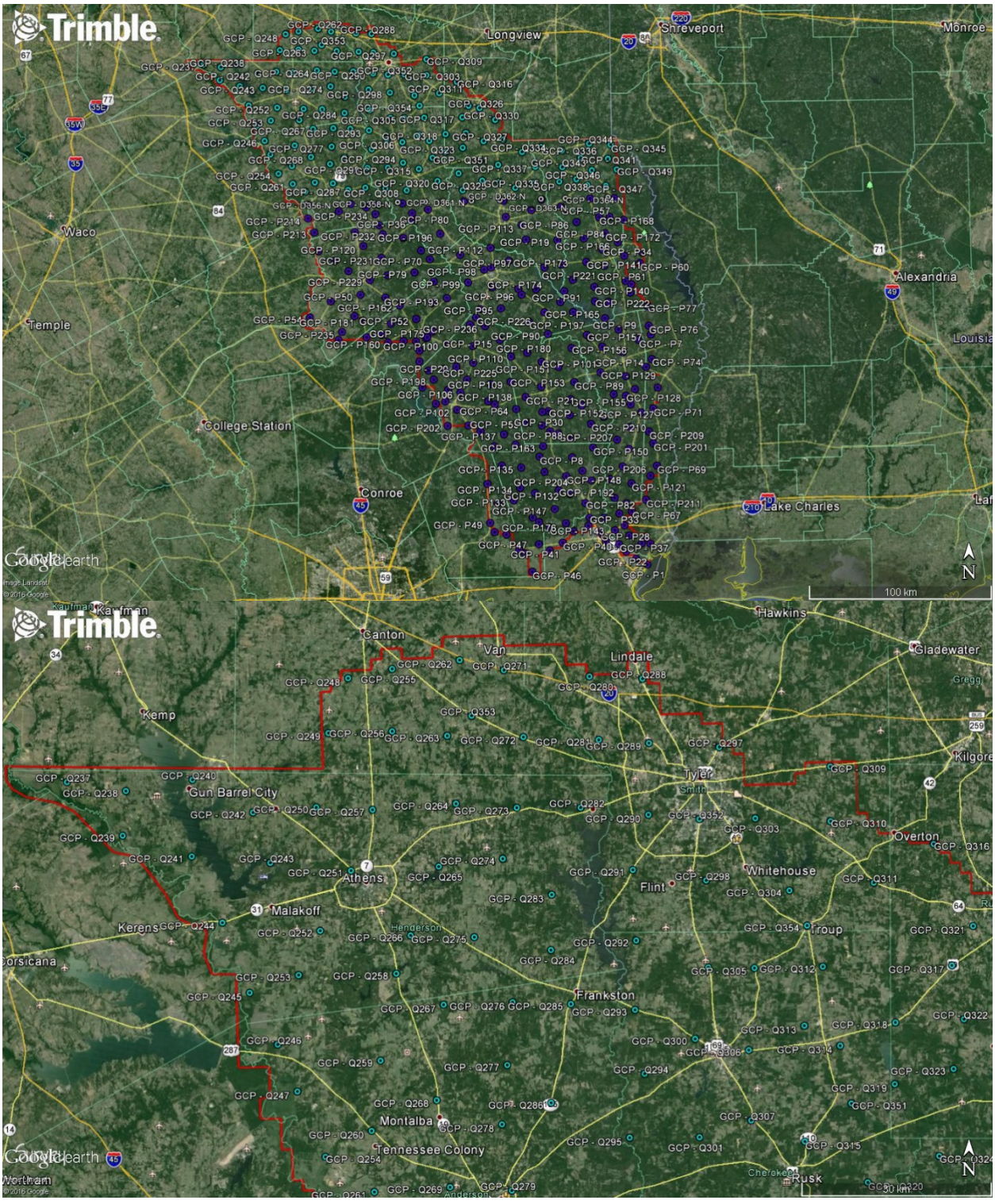
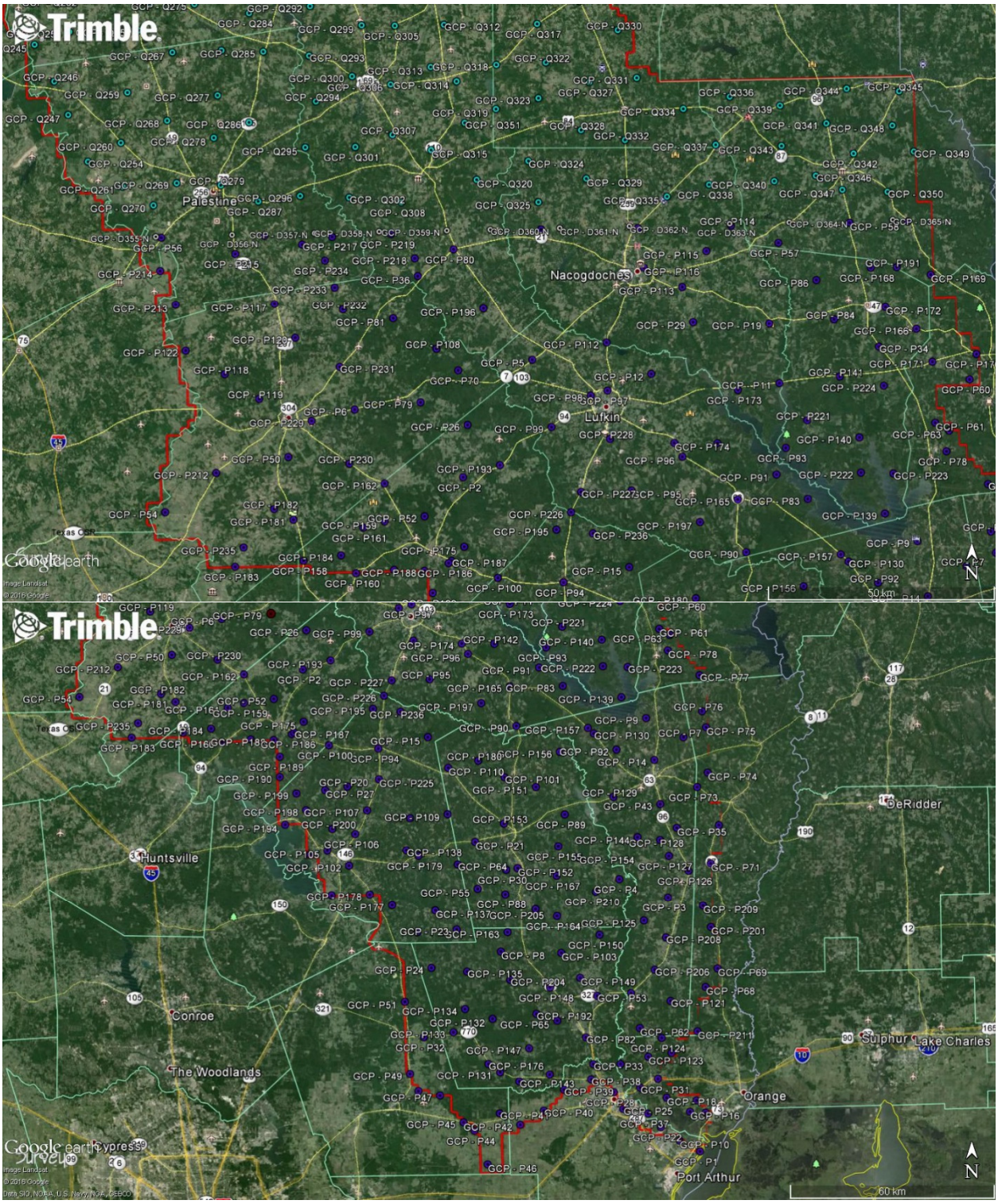
1.3 *Project Area*




Trimble
Palestine
Nacogdoches
Lufkin
Huntsville
Conroe
The Woodlands
Cypress
Orange
Port Arthur
Sulphur
Lake Charles
DeRidder
Google earth
50 km
60 km
N

PROJECT DETAILS

2.1 *Survey Equipment*

In performing the GPS observations Trimble R-10 GNSS receiver/antenna attached to a two meter fixed height pole with a Trimble TSC3 Data Collector to collect GPS raw data were used to perform the field surveys.

2.2 *Survey Point Detail*

The 364 Ground Control Points were well distributed throughout the project area.

A sketch was made for each location and a nail was set at the point where possible or at an identifiable point. The Ground Control Point locations are detailed on the "Check Point Documentation Report" sheets attached to this report.

2.3 *Network Design*

The GPS survey performed by Dewberry Consultants LLC office located in Lanham, MD was tied to a Real Time Network operated by TxDOT RTN. The network is a series of "real-time" continuously operating, high precision GPS reference stations. All of the reference stations have been linked together using Trimble GPSNet software, creating a Virtual Reference Station System (VRS).

The Trimble NetR5 Reference Station is a multi-channel, multi-frequency GNSS (Global Navigation Satellite System) receiver designed for use as a stand-alone reference station or as part of a GNSS infrastructure solution. Trimble R-Track technology in the NetR5 receiver supports the modernized GPS L2C and L5 signals as well as GLONASS L1/L2 signals.

2.4 *Field Survey Procedures and Analysis*

Dewberry field surveyors used Trimble R-10 GNSS receivers, which is a geodetic quality dual frequency GPS receiver, to collect data at each surveyed location.

All locations were occupied once with approximately 50% of the locations being re-observed. All re-observations matched the initially derived station positions within the allowable tolerance of ± 5cm or within the 95% confidence level. Each occupation which utilized the VRS network was occupied for approximately three (3) minutes in duration and measured to 180 epochs.

Each occupation which utilized OPUS (if used) was occupied between 20 and 30 minutes.

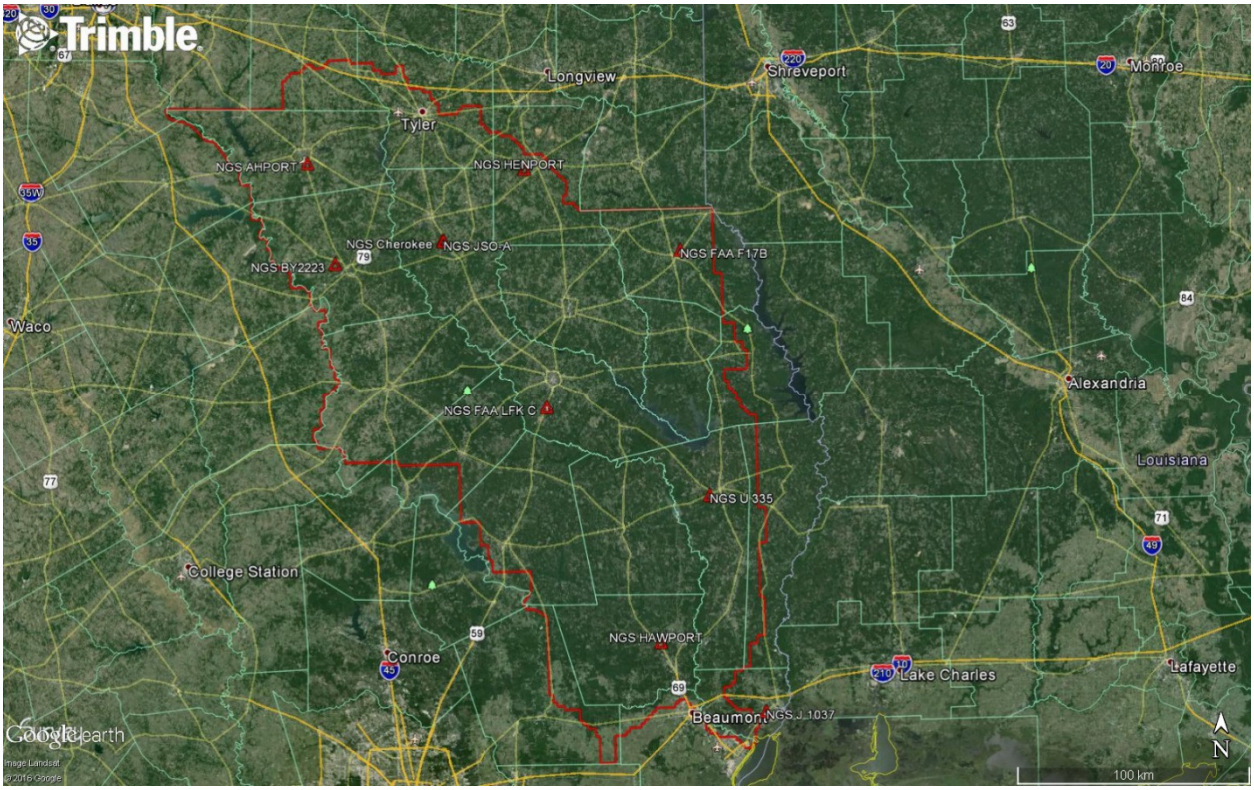
Field GPS observations are detailed on the "Control Point Documentation Reports" submitted as part of this report.

Nine (9) existing NGS monument listed in the NSRS database were located as an additional QA/QC method to check the horizontal and vertical accuracy of the VRS network as well as being the primary project control monuments designated as CR1348, BY2223,BY2779, AB6240,AB2805, BL2312, CR1373,BK1760 and BL0092. The results are as follows:

	Observed Values			Published Values					
PT. #	NORTHING	EASTING	ELEVS.	NORTHING	EASTING	ELEVS.	Δ X	Δ Y	Δ Z
BY2223	3519381.542	244222.594	123.529	3,519,381.68	244,222.62	123.483	N/A	N/A	0.046
FAA F17B	3522031.154	390704.149	91.017	3,522,031.16	390,704.16	91.02	-0.003	-0.010	-0.003
NGS AHPORT	3562283.149	233251.708	134.616	3,562,283.14	233,251.70	134.66	0.014	0.011	-0.044
NGS CHEROKEE	3528207.331	290206.614	201.419	3,528,207.32	290,206.63	201.46	0.012	-0.012	-0.041
NGS FAA LFK C	3456692.345	332827.047	84.413	3,456,692.33	332,827.02	84.57	0.020	0.024	N/A
NGS HAWPORT	3356906.755	379048.505	19.952	3,356,906.74	379,048.47	20.16	0.019	0.038	N/A
NGS J 1037	3326688.367	423096.604	3.059	3,326,688.35	423,096.59	3.22	0.022	0.011	N/A
NGS JSO-A	3527864.401	290484.308	201.594	3,527,864.38	290,484.30	201.67	0.021	0.004	0.051
NGS U 335	3418269.822	400921.062	63.827	3,418,269.82	400,921.07	63.78	0.002	-0.006	0.047

The above results indicate that the VRS network is providing positional values within the 5cm parameters for this survey.

NGS Monuments



2.5 *Adjustment*

The survey data was collected using Virtual Reference Stations (VRS) methodology within a Virtual Reference System (VRS).

The system is designed to provide a true Network RTK performance, the RTKNet software enables high-accuracy positioning in real time across a geographic region. The RTKNet software package uses real-time data streams from the TxDOT RTN system user and generates correction models for high-accuracy RTK GPS corrections throughout the network. Therefore, corrections were applied to the points as they were being collected, thus negating the need for a post process adjustment.

2.6 *Data Processing Procedures*

After field data is collected the information is downloaded from the data collectors into the office software. The Software program used is called Trimble Business Center.

Downloaded data is run through the TBC program to obtain the following reports; points report, point comparison report and a point detail report. The reports are reviewed for point accuracy and precision.

After review of the point data an "ASCII" or "txt" file which is the industry standard is created. Point files are loaded into our CADD program (Carlson Survey 2014) to make a visual check of the point data (Pt. #, Coordinates, Elev. and Description). The data can now be imported into the final product.

3. *FINAL COORDINATES/ELEVATIONS*

Point ID	Northing	Easting	Elevation
GCP-P001	3312730.237	416055.837	5.025
GCP-P002	3453934.932	304096.388	109.842
GCP-P003	3384492.839	408346.273	36.367
GCP-P004	3396078.609	399608.865	36.643
GCP-P005	3479008.047	319733.711	78.162
GCP-P006	3469089.898	280785.766	117.916
GCP-P007	3432681.398	413857.486	150.187
GCP-P008	3372190.648	359899.478	33.213
GCP-P009	3437785.630	403164.464	86.713
GCP-P010	3316008.476	410261.615	4.884
GCP-P011	3472769.673	373512.835	57.498
GCP-P012	3475401.629	345595.493	94.042
GCP-P013	3323908.887	417934.823	2.462
GCP-P014	3425725.455	405267.171	107.422
GCP-P015	3435681.136	336789.867	61.731
GCP-P016	3324270.439	413460.260	3.037
GCP-P017	3327476.928	415419.712	4.380
GCP-P018	3328470.387	406750.650	3.391
GCP-P019	3485707.748	371608.162	99.051
GCP-P020	3419965.083	316351.304	98.973
GCP-P021	3403268.377	352943.450	78.189
GCP-P022	3318435.583	402531.359	4.994
GCP-P023	3377823.480	347930.854	44.979
GCP-P024	3367219.354	339511.485	33.144
GCP-P025	3325605.383	394105.991	6.570
GCP-P026	3464559.018	305129.979	82.314
GCP-P027	3419088.577	309847.250	97.759
GCP-P028	3330442.797	391010.533	6.641
GCP-P029	3486375.129	354958.557	74.603
GCP-P030	3398523.947	364667.587	91.797
GCP-P031	3331658.178	399394.888	1.797
GCP-P032	3347384.773	336883.734	25.893
GCP-P033	3338608.543	385759.109	7.923
GCP-P034	3480034.500	395630.500	114.091
GCP-P035	3406073.226	411325.664	73.852
GCP-P036	3497812.336	295171.303	69.435
GCP-P037	3326668.011	403265.485	1.214

GCP-P038	3334147.991	384813.259	9.468
GCP-P039	3331456.525	377094.254	12.587
GCP-P040	3324781.488	371265.208	12.057
GCP-P041	3322899.933	358207.259	14.435
GCP-P042	3321613.707	364216.375	10.030
GCP-P043	3413034.259	406687.317	91.878
GCP-P044	3320211.589	350941.987	16.479
GCP-P045	3322683.791	347835.640	17.479
GCP-P046	3321862.285	354646.631	14.134
GCP-P047	3330540.710	341189.599	19.905
GCP-P048	3331929.300	334970.354	21.111
GCP-P049	3336906.554	332661.782	24.822
GCP-P050	3459493.709	264056.019	105.626
GCP-P051	3357636.609	331601.887	22.107
GCP-P052	3445665.760	295506.714	98.424
GCP-P053	3358073.306	387380.645	24.740
GCP-P054	3447094.123	239019.987	52.274
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GCP-P061	3463352.122	407535.108	102.459
GCP-P062	3349868.572	397045.700	11.115
GCP-P063	3461596.883	410584.425	109.504
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GCP-P065	3352609.750	375917.716	19.406
GCP-P066	3334223.596	403745.132	6.219
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GCP-P068	3360054.877	418285.991	11.376
GCP-P069	3366014.776	422745.127	13.794
GCP-P070	3477035.036	303461.457	88.683
GCP-P071	3395666.842	420913.362	37.893
GCP-P072	3406586.166	423541.099	47.613
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GCP-P075	3434782.990	420448.887	140.209
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GCP-P077	3449804.967	418918.335	83.635
GCP-P078	3457120.765	409905.500	77.463
GCP-P079	3470337.461	295194.663	87.071
GCP-P080	3503454.056	303115.249	131.089
GCP-P081	3488671.684	289619.181	101.537
GCP-P082	3346333.806	383743.275	11.573
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GCP-P084	3486715.410	385830.245	113.101
GCP-P085	3507146.629	343373.488	146.436
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GCP-P091	3452979.468	372514.978	56.599
GCP-P092	3428896.959	394350.140	80.326
GCP-P093	3458714.167	374726.296	55.165
GCP-P094	3430675.166	325512.620	71.851
GCP-P095	3450279.861	340771.449	65.713
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GCP-P098	3471008.453	332284.456	104.695
GCP-P099	3464385.848	323612.207	81.707
GCP-P100	3431957.381	311212.431	83.205
GCP-P101	3421612.955	361870.108	98.054
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GCP-P103	3367173.212	368533.614	30.229
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GCP-P106	3406277.703	318279.461	59.669
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GCP-P109	3411449.297	345140.963	122.404
GCP-P110	3424702.465	345600.739	102.782
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GCP-P112	3482388.285	336006.817	61.198
GCP-P113	3494213.516	352757.010	112.060
GCP-P114	3504876.071	364497.622	118.413
GCP-P115	3501866.302	358188.485	109.562

GCP-P116	3498531.621	344457.084	87.500
GCP-P117	3492370.038	263802.381	147.944
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GCP-P121	3356232.819	408461.183	14.185
GCP-P122	3482631.037	244144.120	77.564
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GCP-P125	3379240.942	401219.601	21.357
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GCP-P127	3398071.421	408858.801	47.309
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GCP-P134	3355191.163	348980.347	27.776
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GCP-P136	3377544.306	335671.790	50.192
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GCP-P138	3401325.378	333005.677	83.605
GCP-P139	3443931.611	396133.861	57.241
GCP-P140	3460580.445	390670.696	65.036
GCP-P141	3473886.259	386836.161	76.355
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GCP-P143	3334075.080	364060.572	12.804
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GCP-P146	3335807.140	373071.233	10.054
GCP-P147	3343444.448	367218.404	13.988
GCP-P148	3360844.682	373698.085	25.339
GCP-P149	3363443.291	382429.547	23.218
GCP-P150	3375065.196	387940.247	35.916
GCP-P151	3418603.649	370927.395	72.088
GCP-P152	3395509.939	365017.584	53.264
GCP-P153	3408588.220	361205.001	110.925
GCP-P154	3398289.346	382736.479	58.368

GCP-P155	3397768.661	376639.504	81.201
GCP-P156	3428616.281	377980.909	50.260
GCP-P157	3435299.317	386249.877	47.982
GCP-P158	3436532.310	268892.768	60.557
GCP-P159	3444707.404	286784.341	91.096
GCP-P160	3433618.775	280288.756	97.258
GCP-P161	3443422.630	282095.619	72.091
GCP-P162	3452978.513	286955.358	105.658
GCP-P163	3376637.164	362557.788	35.303
GCP-P164	3382339.485	375650.857	28.683
GCP-P165	3447782.777	363933.651	67.439
GCP-P166	3483869.947	403829.677	105.442
GCP-P167	3393086.969	376271.127	55.747
GCP-P168	3497482.628	394085.230	126.013
GCP-P169	3495678.368	407214.412	94.565
GCP-P170	3478086.713	416955.668	106.482
GCP-P171	3476593.729	407272.279	95.460
GCP-P172	3488623.827	396954.906	122.862
GCP-P173	3471459.760	364448.149	62.159
GCP-P174	3460343.119	350298.025	93.440
GCP-P175	3438879.883	304032.399	72.046
GCP-P176	3339295.920	355395.321	17.389
GCP-P177	3385526.910	328541.156	67.008
GCP-P178	3388811.402	322146.586	71.314
GCP-P179	3399659.976	336480.303	79.814
GCP-P180	3426557.325	354313.681	99.828
GCP-P181	3445506.856	266873.417	91.276
GCP-P182	3447915.691	262715.397	85.114
GCP-P183	3435527.955	253871.866	75.569
GCP-P184	3437557.422	277103.186	65.130
GCP-P185	3438212.972	288499.997	79.274
GCP-P186	3435401.311	300547.305	97.205
GCP-P187	3435876.815	301221.000	92.578
GCP-P188	3434551.126	296612.584	95.333
GCP-P189	3428982.049	296936.418	78.942
GCP-P190	3423042.738	296524.460	78.105
GCP-P191	3497473.366	399783.866	115.255
GCP-P192	3353358.203	369569.462	23.544
GCP-P193	3456376.496	312189.749	80.577

GCP-P194	3409443.833	298068.361	45.888
GCP-P195	3442163.397	324227.374	82.778
GCP-P196	3490403.748	309324.789	100.593
GCP-P197	3443104.348	355496.281	97.575
GCP-P198	3413494.407	304191.410	80.106
GCP-P199	3418336.428	301528.512	44.596
GCP-P200	3407906.963	311736.061	73.186
GCP-P201	3377587.878	422128.376	16.148
GCP-P202	3388854.866	311102.184	33.327
GCP-P203	3410476.753	334307.395	99.050
GCP-P204	3363338.088	362255.665	26.912
GCP-P205	3384286.888	365658.849	38.614
GCP-P206	3365346.250	404113.300	17.409
GCP-P207	3383589.495	369929.145	38.776
GCP-P208	3374544.260	407498.745	33.279
GCP-P209	3379739.260	411457.681	33.238
GCP-P210	3388299.353	387549.458	43.186
GCP-P211	3347413.938	416022.204	10.543
GCP-P212	3455967.312	250205.381	80.238
GCP-P213	3492727.918	242771.852	82.050
GCP-P214	3501418.351	233788.435	75.701
GCP-P215	3503486.871	255437.931	123.245
GCP-P216	3507298.287	261896.310	150.693
GCP-P217	3505205.414	270124.260	106.686
GCP-P218	3501663.720	294612.838	78.953
GCP-P219	3506996.780	289575.109	100.272
GCP-P220	3506656.759	276715.416	98.781
GCP-P221	3464546.830	379422.255	77.288
GCP-P222	3452948.802	391018.155	60.886
GCP-P223	3452564.795	398104.428	58.996
GCP-P224	3471684.796	396396.045	85.500
GCP-P225	3421866.617	325500.183	107.076
GCP-P226	3445836.373	327476.929	48.577
GCP-P227	3450175.312	329768.499	57.573
GCP-P228	3461531.637	336299.333	93.559
GCP-P229	3466844.787	271358.985	108.379
GCP-P230	3457373.421	279384.855	80.393
GCP-P231	3478402.655	277738.831	130.264
GCP-P232	3490878.799	278740.971	113.849

GCP-P233	3495705.288	277017.772	128.905
GCP-P234	3501608.313	275016.008	142.884
GCP-P235	3439656.816	255839.384	81.937
GCP-P236	3441130.331	332151.150	53.650
GCP-Q237	3583417.861	184240.167	112.315
GCP-Q238	3581817.310	193499.873	111.070
GCP-Q239	3576576.356	192432.023	107.163
GCP-Q240	3583315.939	203996.268	110.267
GCP-Q241	3571405.775	203630.995	96.425
GCP-Q242	3578037.124	213402.247	125.885
GCP-Q243	3570130.798	215944.813	120.671
GCP-Q244	3561011.752	208221.106	94.633
GCP-Q245	3551881.601	214428.662	79.966
GCP-Q246	3541917.276	216442.530	94.711
GCP-Q247	3534504.889	219733.290	93.788
GCP-Q248	3598507.790	228751.163	192.180
GCP-Q249	3590071.788	225480.908	194.057
GCP-Q250	3578586.102	223339.502	130.040
GCP-Q251	3568634.985	228569.614	132.652
GCP-Q252	3559412.465	223523.312	126.189
GCP-Q253	3552599.828	219991.528	112.948
GCP-Q254	3522128.485	226385.813	81.882
GCP-Q255	3599799.578	235683.117	164.503
GCP-Q256	3590113.911	235472.675	152.195
GCP-Q257	3578011.537	232127.794	146.897
GCP-Q258	3552523.705	235279.986	107.219
GCP-Q259	3539058.598	232522.793	126.921
GCP-Q260	3528160.244	230879.160	110.822
GCP-Q261	3517778.236	231804.264	86.342
GCP-Q262	3600930.494	246268.572	156.955
GCP-Q263	3589212.485	244066.339	159.020
GCP-Q264	3578668.541	245214.991	120.146
GCP-Q265	3568978.747	242270.843	145.006
GCP-Q266	3558332.185	236651.014	119.272
GCP-Q267	3547520.209	242541.113	148.470
GCP-Q268	3532759.961	241176.120	136.898
GCP-Q269	3519142.756	242884.516	118.359
GCP-Q270	3514382.297	237792.939	90.041
GCP-Q271	3599220.635	253156.673	140.859

GCP-Q272	3588756.709	255976.991	153.745
GCP-Q273	3577821.621	254703.929	115.240
GCP-Q274	3569936.758	252324.847	129.464
GCP-Q275	3557896.167	247615.305	150.386
GCP-Q276	3547684.766	253358.949	169.074
GCP-Q277	3537940.405	252324.583	164.565
GCP-Q278	3528748.087	251309.520	145.425
GCP-Q279	3518516.684	252910.985	118.994
GCP-Q280	3597939.382	266521.265	186.660
GCP-Q281	3588069.528	267757.896	152.455
GCP-Q282	3577623.535	264674.469	114.123
GCP-Q283	3564212.738	259856.832	134.773
GCP-Q284	3555612.479	259568.585	137.262
GCP-Q285	3547176.882	262513.966	114.948
GCP-Q286	3531902.152	259072.786	117.597
GCP-Q287	3514743.617	260734.768	118.756
GCP-Q288	3597404.094	274802.971	165.691
GCP-Q289	3587398.645	275600.528	141.167
GCP-Q290	3576283.254	275261.652	143.103
GCP-Q291	3567796.438	272643.737	143.441
GCP-P293	3546020.988	272507.666	108.033
GCP-Q294	3536950.936	273801.419	115.303
GCP-Q295	3526203.011	271265.006	90.641
GCP-Q296	3515725.623	269915.425	100.409
GCP-Q297	3586556.841	286566.514	145.204
GCP-Q298	3565980.908	284044.887	153.168
GCP-Q299	3552404.660	284066.234	194.141
GCP-Q300	3541357.622	281804.359	147.905
GCP-Q301	3526053.070	282177.801	198.320
GCP-Q302	3515137.913	280632.728	108.798
GCP-Q303	3575344.050	292005.209	189.953
GCP-Q304	3564039.213	297094.786	105.196
GCP-Q305	3552117.457	291335.240	125.790
GCP-Q306	3539407.157	290183.788	136.679
GCP-Q307	3528488.081	290348.611	197.903
GCP-Q308	3513851.790	291984.711	128.768
GCP-Q309	3583165.929	303941.085	144.740
GCP-Q310	3574663.722	303780.355	149.480
GCP-Q311	3564965.273	310371.953	143.849

GCP-Q312	3552066.693	302089.471	157.177
GCP-Q313	3542096.099	299362.458	112.480
GCP-Q314	3539744.941	304553.866	181.481
GCP-Q315	3525013.396	298680.081	147.344
GCP-Q316	3570765.632	319924.143	155.529
GCP-Q317	3551789.746	322413.914	131.878
GCP-Q318	3543154.958	313301.587	109.171
GCP-Q319	3533593.669	313041.606	84.070
GCP-Q320	3518359.656	308463.041	100.823
GCP-Q321	3557866.697	325861.676	127.017
GCP-Q322	3543412.605	324112.024	105.555
GCP-Q323	3535714.847	322319.913	97.756
GCP-Q324	3522186.838	319818.060	97.051
GCP-Q325	3513228.228	321811.491	127.427
GCP-Q326	3556567.514	331732.620	133.812
GCP-Q327	3538937.863	333509.211	140.630
GCP-Q328	3528581.045	331456.434	121.830
GCP-Q329	3518078.027	332359.284	129.756
GCP-Q330	3550096.226	339954.843	161.463
GCP-Q331	3539654.759	343861.737	141.779
GCP-Q332	3526249.831	340968.579	142.100
GCP-Q333	3517163.030	341164.538	129.075
GCP-Q334	3532732.579	353853.162	140.955
GCP-Q335	3513834.707	349845.816	127.565
GCP-Q336	3535197.378	364050.566	136.654
GCP-Q337	3524803.128	360749.709	104.682
GCP-Q338	3516211.649	359104.622	97.433
GCP-Q339	3533051.993	374993.813	95.737
GCP-Q340	3516670.473	373379.567	106.599
GCP-Q341	3528983.838	385065.822	73.595
GCP-Q342	3517987.159	403649.375	77.366
GCP-Q343	3524256.471	375102.734	114.312
GCP-Q344	3536408.465	389717.976	101.763
GCP-Q345	3535585.237	401192.855	74.896
GCP-Q346	3517681.010	382501.350	100.018
GCP-Q347	3514517.211	388195.854	79.142
GCP-Q348	3528287.524	399447.866	76.638
GCP-Q349	3522495.657	404148.099	87.826
GCP-Q350	3513859.552	398217.628	76.255

GCP-Q351	**3530722.676**	**306112.603**	**96.805**
GCP-Q352	**3575430.152**	**283232.566**	**148.758**
GCP-Q353	**3592232.521**	**247944.509**	**161.714**
GCP-Q354	**3558529.655**	**299754.191**	**144.895**
GCP-D355	**3507592.938**	**238107.873**	**84.508**
GCP-D356	**3507575.899**	**254854.433**	**124.360**
GCP-D357	**3508469.927**	**272719.415**	**138.972**
GCP-D358	**3507627.082**	**286965.854**	**99.223**
GCP-D359	**3507493.972**	**301724.549**	**128.722**
GCP-D360	**3507490.010**	**311191.796**	**92.546**
GCP-D361	**3507478.189**	**326311.926**	**121.667**
GCP-D362	**3507584.442**	**341508.243**	**158.162**
GCP-D363	**3507657.785**	**363403.589**	**84.530**
GCP-D364	**3507676.548**	**376395.517**	**125.793**
GCP-D365	**3507753.763**	**399136.586**	**109.048**

4. *GPS OBSERVATIONS*

POINT ID	OBSERV. DATE	JULIAN DATE	TIME OF DAY (AST)	RE-OBSERV. DATE	RE-OBSERV. TIME
GCP-P001	4/1/2016	92	9:34	4/4/2016	5:39
GCP-P002	3/30/2016	90	11:21	N/A	N/A
GCP-P003	3/30/2016	90	18:30	N/A	N/A
GCP-P004	3/30/2016	90	16:45	N/A	N/A
GCP-P005	3/30/2016	90	8:02	4/2/2016	5:33
GCP-P006	3/27/2016	87	10:30	N/A	N/A
GCP-P007	3/28/2016	88	11:01	4/4/2016	7:36
GCP-P008	4/3/2016	94	17:54	N/A	N/A
GCP-P009	3/28/2016	88	8:44	4/4/2016	5:51
GCP-P010	4/1/2016	92	9:05	N/A	N/A
GCP-P011	3/29/2016	89	8:02	4/2/2016	8:10
GCP-P012	3/1/2916	89	18:00	4/2/2016	6:43
GCP-P013	4/1/2016	92	10:56	4/4/2016	6:23
GCP-P014	3/28/2016	88	7:49	N/A	N/A
GCP-P015	3/31/2016	91	15:25	N/A	N/A
GCP-P016	4/1/2016	92	11:11	4/4/2016	6:31
GCP-P017	4/1/2016	92	11:24	4/4/2016	6:46
GCP-P018	4/1/2016	92	11:55	4/4/2016	7:23
GCP-P019	3/29/2016	89	7:00	4/2/2016	6:50
GCP-P020	4/1/2016	92	12:53	N/A	N/A
GCP-P021	4/3/2016	94	13:11	N/A	N/A
GCP-P022	4/1/2016	92	8:45	N/A	N/A
GCP-P023	4/3/2016	94	19:03	N/A	N/A
GCP-P024	4/2/2016	93	8:07	N/A	N/A
GCP-P025	4/1/2016	92	8:12	N/A	N/A
GCP-P026	3/30/2016	90	10:48	N/A	N/A
GCP-P027	4/1/2016	92	13:07	N/A	N/A
GCP-P028	3/31/2016	91	21:37	N/A	N/A
GCP-P029	3/28/2016	89	16:30	4/2/2016	6:16
GCP-P030	3/30/2016	90	13:05	N/A	N/A
GCP-P031	3/31/2016	91	21:58	4/4/2016	7:41
GCP-P032	4/2/2016	93	15:29	4/3/2016	7:31
GCP-P033	4/1/2016	92	18:25	N/A	N/A
GCP-P034	3/30/2016	90	14:34	N/A	N/A
GCP-P035	3/29/2016	89	17:22	N/A	N/A
GCP-P036	3/28/2016	88	7:58	N/A	N/A
GCP-P037	4/1/2016	92	12:12	N/A	N/A

GCP-P038	4/1/2016	92	18:00	N/A	N/A
GCP-P039	4/1/2016	92	19:43	N/A	N/A
GCP-P040	3/31/2016	91	21:05	N/A	N/A
GCP-P041	3/31/2016	91	20:35	N/A	N/A
GCP-P042	4/1/2016	92	20:12	N/A	N/A
GCP-P043	3/29/2016	89	16:31	4/4/2016	9:21
GCP-P044	4/2/2016	93	13:00	4/3/2016	5:15
GCP-P045	4/2/2016	93	13:23	4/3/2016	5:27
GCP-P046	4/1/2016	92	21:00	N/A	N/A
GCP-P047	4/2/2016	93	14:22	4/3/2016	5:51
GCP-P048	4/2/2016	93	14:53	4/3/2016	6:31
GCP-P049	4/2/2016	93	15:08	4/3/2016	5:51
GCP-P050	3/26/2016	86	17:38	3/26/2016	21:37
GCP-P051	4/2/2016	92	18:12	4/3/2016	10:27
GCP-P052	3/30/2016	90	12:08	N/A	N/A
GCP-P053	3/30/2016	90	8:40	N/A	N/A
GCP-P054	3/26/2015	86	8:05	N/A	N/A
GCP-P055	4/3/2016	94	15:16	N/A	N/A
GCP-P056	3/25/2016	85	9:15	N/A	N/A
GCP-P057	3/30/2016	90	9:50	N/A	N/A
GCP-P058	3/31/2016	91	7:58	N/A	N/A
GCP-P059	3/30/2016	90	17:55	N/A	N/A
GCP-P060	3/26/2016	86	16:30	N/A	N/A
GCP-P061	3/29/2016	89	16:07	4/2/2016	11:43
GCP-P062	4/1/2016	92	15:26	4/4/2016	9:36
GCP-P063	3/29/2016	89	15:50	4/2/2016	11:30
GCP-P064	4/3/2016	94	13:55	N/A	N/A
GCP-P065	3/31/2016	91	17:16	N/A	N/A
GCP-P066	3/31/2016	91	22:16	4/4/2016	7:30
GCP-P067	4/1/2016	92	13:23	4/4/2016	8:37
GCP-P068	3/31/2016	91	7:51	N/A	N/A
GCP-P069	3/31/2016	91	8:16	N/A	N/A
GCP-P070	3/27/2016	87	8:50	N/A	N/A
GCP-P071	3/31/2016	91	9:59	N/A	N/A
GCP-P072	3/31/2016	91	10:29	N/A	N/A
GCP-P073	3/28/2016	88	12:42	4/4/2016	8:37
GCP-P074	3/28/2016	88	12:15	4/4/2016	8:23
GCP-P075	3/28/2016	88	10:35	4/4/2016	7:23
GCP-P076	3/28/2016	88	10:09	4/4/2016	6:51

GCP-P077	3/29/2016	89	15:18	N/A	N/A
GCP-P078	3/29/2016	89	14:55	4/2/2016	17:12
GCP-P079	3/27/2016	87	9:38	3/27/2016	17:59
GCP-P080	3/28/2016	88	7:15	N/A	N/A
GCP-P081	3/28/2016	88	8:30	N/A	N/A
GCP-P082	3/31/2016	91	17:54	N/A	N/A
GCP-P083	3/29/2016	89	13:57	N/A	N/A
GCP-P084	3/30/2016	90	13:02	N/A	N/A
GCP-P085	3/31/2016	91	8:33	4/1/2016	18:12
GCP-P086	3/30/2016	90	12:25	N/A	N/A
GCP-P087	3/31/2016	91	13:35	N/A	N/A
GCP-P088	3/30/2016	90	12:02	N/A	N/A
GCP-P089	3/29/2016	89	8:31	4/4/2016	11:23
GCP-P090	3/30/2016	90	19:19	4/4/2016	14:10
GCP-P091	3/29/2016	89	14:34	N/A	N/A
GCP-P092	3/28/2016	88	14:28	N/A	N/A
GCP-P093	3/29/2016	89	10:30	N/A	N/A
GCP-P094	3/30/2016	90	15:13	4/2/2016	13:36
GCP-P095	3/31/2016	91	11:02	N/A	N/A
GCP-P096	3/29/2016	89	16:46	4/2/2016	8:33
GCP-P097	3/29/2016	89	18:42	4/2/2016	6:13
GCP-P098	3/29/2016	89	19:04	4/2/2016	5:56
GCP-P099	3/30/2016	90	8:50	N/A	N/A
GCP-P100	3/30/2016	90	14:01	N/A	N/A
GCP-P101	3/28/2016	88	19:52	4/4/2016	1:46
GCP-P102	3/31/2016	91	19:01	N/A	N/A
GCP-P103	3/31/2016	91	16:27	N/A	N/A
GCP-P104	4/1/2016	92	8:22	N/A	N/A
GCP-P105	4/1/2016	92	8:02	4/2/2016	16:56
GCP-P106	3/31/2016	91	18:22	4/2/2016	15:46
GCP-P107	3/31/2016	91	17:53	N/A	N/A
GCP-P108	3/28/2016	88	9:55	N/A	N/A
GCP-P109	4/3/2016	95	11:31	N/A	N/A
GCP-P110	3/30/2016	90	16:33	4/2/2016	12:41
GCP-P111	3/28/2016	88	12:57	3/28/2016	21:21
GCP-P112	3/28/2016	88	15:10	3/28/2016	19:16
GCP-P113	3/29/2016	89	6:35	4/2/2016	5:20
GCP-P114	4/1/2016	92	10:37	4/1/2016	18:53
GCP-P115	3/31/2016	91	7:11	4/1/2016	19:10

GCP-P116	3/29/2016	89	6:15	3/25/2016	18:50
GCP-P117	3/25/2016	85	12:40	3/25/2016	18:15
GCP-P118	3/25/2016	85	15:30	3/25/2016	17:23
GCP-P119	3/25/2016	85	15:45	3/25/2016	17:10
GCP-P120	3/25/2016	85	18:05	N/A	N/A
GCP-P121	4/1/2016	92	14:51	4/4/2016	11:10
GCP-P122	3/25/2016	85	14:05	N/A	N/A
GCP-P123	4/1/2016	92	13:00	4/4/2016	8:13
GCP-P124	4/1/2016	92	16:01	4/4/2016	8:59
GCP-P125	3/30/2016	90	19:02	N/A	N/A
GCP-P126	3/29/2016	89	18:11	3/29/2016	20:42
GCP-P127	3/29/2016	89	18:36	N/A	N/A
GCP-P128	3/29/2016	89	14:26	N/A	N/A
GCP-P129	3/29/2016	89	7:28	4/4/2016	9:39
GCP-P130	3/28/2016	88	15:13	4/4/2016	17:13
GCP-P131	4/2/2016	93	11:40	4/3/2016	9:27
GCP-P132	4/2/2016	93	9:57	4/3/2016	8:26
GCP-P133	4/2/2016	93	15:47	4/3/2016	7:50
GCP-P134	4/2/2016	93	9:13	N/A	N/A
GCP-P135	4/2/2016	93	8:27	4/3/2016	12:33
GCP-P136	4/3/2016	94	19:58	N/A	N/A
GCP-P137	4/3/2016	94	19:26	N/A	N/A
GCP-P138	4/3/2016	94	10:03	N/A	N/A
GCP-P139	3/29/2016	89	12:35	N/A	N/A
GCP-P140	3/29/2016	89	11:25	N/A	N/A
GCP-P141	3/30/2016	90	14:14	4/2/2016	9:15
GCP-P142	3/29/2016	89	15:42	N/A	N/A
GCP-P143	3/31/2016	91	19:49	N/A	N/A
GCP-P144	3/29/2016	89	14:04	3/29/2016	21:03
GCP-P145	4/1/2016	92	16:55	N/A	N/A
GCP-P146	4/1/2016	92	19:24	N/A	N/A
GCP-P147	3/31/2016	91	19:30	N/A	N/A
GCP-P148	3/30/2016	90	9:45	N/A	N/A
GCP-P149	3/31/2016	91	14:39	N/A	N/A
GCP-P150	3/31/2016	91	15:21	N/A	N/A
GCP-P151	3/29/2016	89	8:03	4/4/2016	13:13
GCP-P152	3/30/2016	90	12:40	N/A	N/A
GCP-P153	3/28/2016	88	19:19	4/4/2016	12:59
GCP-P154	3/29/2016	89	11:44	N/A	N/A

GCP-P155	3/29/2016	89	12:10	N/A	N/A
GCP-P156	3/28/2016	88	16:13	4/4/2016	14:59
GCP-P157	3/28/2016	88	15:27	4/4/2016	17:29
GCP-P158	3/26/2016	86	10:48	3/26/2016	18:21
GCP-P159	3/26/2016	86	14:22	N/A	N/A
GCP-P160	3/26/2016	86	11:55	3/26/2016	19:26
GCP-P161	3/26/2016	86	14:15	3/26/2016	19:59
GCP-P162	3/26/2016	86	15:05	N/A	N/A
GCP-P163	3/30/2016	90	10:27	N/A	N/A
GCP-P164	3/30/2016	90	14:52	N/A	N/A
GCP-P165	3/29/2016	89	15:03	4/2/2016	9:13
GCP-P166	3/30/2016	90	15:10	N/A	N/A
GCP-P167	3/29/2016	89	12:58	N/A	N/A
GCP-P168	3/30/2016	90	16:35	N/A	N/A
GCP-P169	3/30/2016	90	17:20	N/A	N/A
GCP-P170	3/29/2016	89	17:25	4/2/2016	12:56
GCP-P171	3/29/2016	89	18:10	4/2/2016	12:36
GCP-P172	3/30/2016	90	15:28	N/A	N/A
GCP-P173	3/29/2016	89	8:35	N/A	N/A
GCP-P174	3/29/2016	89	16:33	4/2/2016	8:16
GCP-P175	3/30/2016	90	12:33	N/A	N/A
GCP-P176	4/2/2016	93	11:55	4/3/2016	9:16
GCP-P177	4/2/2016	93	19:20	N/A	N/A
GCP-P178	4/2/2016	93	19:37	N/A	N/A
GCP-P179	4/1/2016	92	18:22	N/A	N/A
GCP-P180	3/30/2016	90	17:26	4/2/2016	11:13
GCP-P181	3/26/2016	86	9:40	3/26/2016	20:18
GCP-P182	3/26/2016	86	10:20	3/26/2016	20:41
GCP-P183	3/26/2016	86	9:22	N/A	N/A
GCP-P184	3/26/2016	86	13:10	3/26/2016	19:10
GCP-P185	3/26/2016	86	12:50	3/26/2016	19:37
GCP-P186	3/30/2016	90	12:49	N/A	N/A
GCP-P187	3/30/2016	90	13:14	4/2/2016	19:41
GCP-P188	3/26/2016	86	12:30	N/A	N/A
GCP-P189	4/1/2016	92	11:28	4/2/2016	19:13
GCP-P190	4/1/2016	92	11:10	4/2/2016	18:56
GCP-P191	3/30/2016	90	16:55	N/A	N/A
GCP-P192	3/31/2016	91	16:50	N/A	N/A
GCP-P193	3/30/2016	90	10:11	N/A	N/A

GCP-P194	4/1/2016	92	9:36	N/A	N/A
GCP-P195	3/31/2016	91	13:37	N/A	N/A
GCP-P196	3/28/2016	88	11:05	N/A	N/A
GCP-P197	3/31/2016	91	10:07	N/A	N/A
GCP-P198	4/1/2016	92	9:03	4/2/2016	18:09
GCP-P199	4/1/2016	92	10:36	4/2/2016	18:21
GCP-P200	4/1/2016	92	14:05	N/A	N/A
GCP-P201	3/31/2016	91	9:14	N/A	N/A
GCP-P202	3/31/2016	91	19:41	N/A	N/A
GCP-P203	4/1/2016	92	17:58	4/2/2016	14:59
GCP-P204	4/3/2016	94	18:24	N/A	N/A
GCP-P205	3/30/2016	90	11:18	N/A	N/A
GCP-P206	3/31/2016	91	13:14	N/A	N/A
GCP-P207	3/30/2016	90	14:26	N/A	N/A
GCP-P208	3/31/2016	91	11:51	N/A	N/A
GCP-P209	3/31/2016	91	11:32	N/A	N/A
GCP-P210	3/30/2016	90	16:15	N/A	N/A
GCP-P211	4/1/2016	92	13:51	N/A	N/A
GCP-P212	3/26/2016	86	6:55	N/A	N/A
GCP-P213	3/25/2016	85	11:29	4/4/2016	6:21
GCP-P214	3/25/2016	85	10:25	4/4/2016	6:39
GCP-P215	3/25/2016	85	19:06	N/A	N/A
GCP-P216	3/27/2016	87	13:45	4/4/2016	7:16
GCP-P217	3/27/2016	87	15:05	4/4/2016	7:51
GCP-P218	3/28/2016	88	7:35	N/A	N/A
GCP-P219	3/27/2016	87	16:20	N/A	N/A
GCP-P220	3/27/2016	87	14:40	4/4/2016	8:21
GCP-P221	3/29/2016	89	10:00	N/A	N/A
GCP-P222	3/29/2016	89	11:40	N/A	N/A
GCP-P223	3/29/2016	89	13:30	N/A	N/A
GCP-P224	3/29/2016	89	19:00	4/2/2016	10:16
GCP-P225	3/31/2016	91	17:27	4/2/2016	14:03
GCP-P226	3/31/2016	91	13:16	4/2/2016	20:31
GCP-P227	3/31/2016	91	13:02	4/2/2016	20:43
GCP-P228	3/31/2016	91	11:30	4/2/2016	21:19
GCP-P229	3/27/2016	87	12:03	3/27/2016	18:51
GCP-P230	3/26/2016	86	15:37	N/A	N/A
GCP-P231	3/27/2016	87	11:45	3/27/2016	19:19
GCP-P232	3/27/2016	87	12:25	N/A	N/A

GCP-P233	3/27/2016	87	12:42	3/27/2016	19:51
GCP-P234	3/27/2016	87	15:45	3/27/2016	20:09
GCP-P235	3/26/2016	86	9:00	N/A	N/A
GCP-P236	3/31/2016	91	14:04	N/A	N/A
GCP-Q237	3/29/2016	89	12:15	4/4/2016	10:28
GCP-Q238	3/29/2016	89	11:45	4/4/2016	9:58
GCP-Q239	3/28/2016	88	19:37	4/4/2016	9:39
GCP-Q240	3/29/2016	89	10:40	4/4/2016	11:31
GCP-Q241	3/28/2016	88	18:33	N/A	N/A
GCP-Q242	3/28/2016	88	14:40	4/4/2016	12:10
GCP-Q243	3/28/2016	88	15:54	4/4/2016	13:40
GCP-Q244	3/28/2016	88	17:46	4/4/2016	9:10
GCP-Q245	3/29/2016	89	21:15	N/A	N/A
GCP-Q246	3/24/2016	84	10:55	3/24/2016	20:46
GCP-Q247	3/24/2016	84	11:25	3/24/2016	20:21
GCP-Q248	3/27/2016	87	11:01	N/A	N/A
GCP-Q249	3/27/2016	87	12:09	N/A	N/A
GCP-Q250	3/28/2016	88	12:49	3/28/2016	20:27
GCP-Q251	3/28/2016	88	12:12	N/A	N/A
GCP-Q252	3/27/2016	87	19:45	N/A	N/A
GCP-Q253	3/27/2016	87	18:13	N/A	N/A
GCP-Q254	3/24/2016	84	12:30	3/24/2016	19:41
GCP-Q255	3/27/2016	87	10:35	4/1/2016	8:10
GCP-Q256	3/27/2016	87	9:26	N/A	N/A
GCP-Q257	3/27/2016	87	12:49	4/1/2016	9:16
GCP-Q258	3/27/2016	87	16:51	N/A	N/A
GCP-Q259	3/24/2016	84	14:45	N/A	N/A
GCP-Q260	3/24/2016	84	13:27	3/24/2016	22:11
GCP-Q261	3/25/2016	85	8:25	3/25/2016	20:59
GCP-Q262	3/26/2016	86	19:28	N/A	N/A
GCP-Q263	3/27/2016	87	8:34	N/A	N/A
GCP-Q264	3/27/2016	87	13:34	N/A	N/A
GCP-Q265	3/27/2016	87	14:55	3/27/2016	21:03
GCP-Q266	3/27/2016	87	16:18	N/A	N/A
GCP-Q267	3/24/2016	84	8:45	N/A	N/A
GCP-Q268	3/24/2016	84	15:53	N/A	N/A
GCP-Q269	3/24/2016	84	17:25	N/A	N/A
GCP-Q270	3/25/2016	85	8:50	3/25/2016	20:41
GCP-Q271	3/26/2016	86	19:05	4/1/2016	5:53

GCP-Q272	3/26/2016	86	17:59	4/1/2016	6:37
GCP-Q273	3/26/2016	86	12:36	N/A	N/A
GCP-Q274	3/26/2016	86	11:22	N/A	N/A
GCP-Q275	3/26/2016	86	10:17	N/A	N/A
GCP-Q276	3/24/2016	84	7:25	N/A	N/A
GCP-Q277	3/24/2016	84	7:01	N/A	N/A
GCP-Q278	3/24/2016	84	6:35	N/A	N/A
GCP-Q279	3/23/2016	83	18:10	N/A	N/A
GCP-Q280	3/26/2016	86	16:48	4/1/2016	5:32
GCP-Q281	3/26/2016	86	17:25	N/A	N/A
GCP-Q282	3/26/2016	86	13:20	N/A	N/A
GCP-Q283	3/26/2016	86	8:47	N/A	N/A
GCP-Q284	3/29/2016	89	15:24	N/A	N/A
GCP-Q285	3/23/2016	83	7:20	3/23/2016	21:13
GCP-Q286	3/23/2016	83	9:55	3/23/2016	18:37
GCP-Q287	3/23/2016	83	17:15	N/A	N/A
GCP-Q288	3/26/2016	86	16:20	4/1/2016	5:15
GCP-Q289	3/26/2016	86	15:11	3/26/2016	20:46
GCP-Q290	3/26/2016	86	13:59	N/A	N/A
GCP-Q291	3/26/2016	86	8:00	N/A	N/A
GCP-Q293	3/23/2016	83	17:57	N/A	N/A
GCP-Q294	3/29/2016	89	16:29	4/1/2016	10:50
GCP-Q295	3/23/2016	83	10:35	3/23/2016	19:33
GCP-Q296	3/23/2016	83	16:30	4/2/2016	17:37
GCP-Q297	3/24/2016	84	11:04	3/28/2016	6:45
GCP-Q298	3/23/2016	83	12:48	3/23/2016	20:06
GCP-Q299	3/23/2016	83	15:42	3/23/2016	18:53
GCP-Q300	3/23/2016	83	17:18	4/1/2016	10:15
GCP-Q301	3/25/2016	85	15:51	4/1/2016	12:16
GCP-Q302	3/23/2016	83	15:55	N/A	N/A
GCP-Q303	3/24/2016	84	11:51	3/24/2016	21:10
GCP-Q304	3/28/2016	88	9:26	N/A	N/A
GCP-Q305	3/29/2016	89	19:12	N/A	N/A
GCP-Q306	3/25/2016	85	18:54	N/A	N/A
GCP-Q307	3/29/2016	89	17:11	4/1/2016	13:26
GCP-Q308	3/23/2016	83	14:00	N/A	N/A
GCP-Q309	3/24/2016	84	13:37	N/A	N/A
GCP-Q310	3/24/2016	84	12:43	N/A	N/A
GCP-Q311	3/24/2016	84	14:49	3/25/2016	5:40

GCP-Q312	3/25/2016	85	8:54	N/A	N/A
GCP-Q313	3/25/2016	85	22:39	N/A	N/A
GCP-Q314	3/25/2016	85	11:33	4/1/2016	14:27
GCP-Q315	3/25/2016	85	13:03	N/A	N/A
GCP-Q316	3/24/2016	84	16:57	N/A	N/A
GCP-Q317	3/30/2016	90	16:04	N/A	N/A
GCP-Q318	3/30/2016	90	16:43	4/1/2016	14:41
GCP-Q319	3/30/2016	90	17:54	4/4/2016	12:21
GCP-Q320	3/23/2016	83	12:30	4/4/2016	11:37
GCP-Q321	3/29/2016	89	20:24	N/A	N/A
GCP-Q322	3/31/2016	91	13:54	4/4/2016	13:31
GCP-Q323	3/31/2016	91	13:07	4/4/2016	12:50
GCP-Q324	3/31/2016	91	22:59	4/4/2016	10:21
GCP-Q325	3/31/2016	91	10:28	4/4/2016	11:10
GCP-Q326	3/30/2016	90	14:34	N/A	N/A
GCP-Q327	3/31/2016	91	15:45	N/A	N/A
GCP-Q328	3/31/2016	91	16:51	4/4/2016	9:39
GCP-Q329	3/31/2016	91	21:18	4/4/2016	10:49
GCP-Q330	3/30/2016	90	13:19	4/4/2016	13:59
GCP-Q331	3/31/2016	91	17:20	N/A	N/A
GCP-Q332	3/30/2016	90	11:04	4/1/2016	16:56
GCP-Q333	3/30/2016	90	10:36	4/1/2016	17:36
GCP-Q334	3/31/2016	91	18:38	4/4/2016	9:10
GCP-Q335	4/1/2016	92	8:01	4/4/2016	6:21
GCP-Q336	4/1/2016	92	14:29	4/4/2016	7:51
GCP-Q337	4/1/2016	92	15:46	4/4/2016	6:46
GCP-Q338	4/1/2016	92	8:53	N/A	N/A
GCP-Q339	3/31/2016	91	15:58	4/4/2016	8:21
GCP-Q340	4/1/2016	92	11:55	N/A	N/A
GCP-Q341	3/31/2016	91	15:19	4/4/2016	8:39
GCP-Q342	3/31/2016	91	14:10	N/A	N/A
GCP-Q343	4/1/2016	92	12:29	N/A	N/A
GCP-Q344	3/31/2016	91	10:30	N/A	N/A
GCP-Q345	3/31/2016	91	11:40	4/1/2016	6:51
GCP-Q346	3/31/2016	91	13:30	N/A	N/A
GCP-Q347	3/31/2016	91	13:11	N/A	N/A
GCP-Q348	3/31/2016	91	10:07	4/1/2016	20:51
GCP-Q349	3/31/2016	91	9:40	N/A	N/A
GCP-Q350	3/31/2006	91	9:52	N/A	N/A

GCP-Q351	3/25/2016	85	12:54	N/A	N/A
GCP-Q352	3/24/2016	84	9:59	3/24/2016	21:29
GCP-Q353	3/27/2016	87	9:50	N/A	N/A
GCP-Q354	3/28/2016	88	8:18	N/A	N/A
GCP-D355	3/25/2016	85	9:50	3/26/2016	11:10
GCP-D356	3/25/2016	85	19:18	N/A	N/A
GCP-D357	3/27/2016	87	15:26	3/27/2016	20:43
GCP-D358	3/27/2016	87	16:05	N/A	N/A
GCP-D359	3/28/2016	88	7:01	3/30/2016	18:21
GCP-D360	3/28/2016	88	6:25	3/30/2016	19:11
GCP-D361	3/28/2016	88	13:15	3/28/2016	21:06
GCP-D362	4/1/2016	92	16:26	N/A	N/A
GCP-D363	4/1/2016	92	10:23	4/3/2016	21:21
GCP-D364	3/30/2016	90	10:15	N/A	N/A
GCP-D365	3/31/2016	91	8:20	N/A	N/A

5. *POINT COMPARISON*

POINT ID	POINT CK	DELTA NORTH (M)	DELTA EAST (M)	VERT. DIFF (M)
GCP-P001	GCP-P001CK	-0.002	-0.015	-0.016
GCP-P005	GCP-P005CK	-0.010	-0.002	0.005
GCP-P007	GCP-P007CK	-0.002	-0.002	0.012
GCP-P009	GCP-P009CK	-0.003	0.003	0.003
GCP-P011	GCP-P011CK	-0.008	-0.004	0.000
GCP-P012	GCP-P012CK	0.000	0.001	-0.007
GCP-P013	GCP-P013CK	-0.002	0.001	0.019
GCP-P016	GCP-P016CK	-0.002	0.004	-0.010
GCP-P017	GCP-P017CK	-0.001	0.000	-0.004
GCP-P018	GCP-P018CK	0.003	0.009	0.008
GCP-P019	GCP-P019CK	-0.002	-0.001	-0.008
GCP-P029	GCP-P029CK	-0.002	-0.001	-0.007
GCP-P031	GCP-P031CK	-0.001	-0.001	-0.006
GCP-P032	GCP-P032CK	0.013	-0.003	0.008
GCP-P043	GCP-P043CK	0.014	0.001	0.006
GCP-P044	GCP-P044CK	0.003	0.005	0.001
GCP-P045	GCP-P045CK	0.000	0.000	0.008
GCP-P047	GCP-P047CK	-0.001	-0.004	-0.010
GCP-P048	GCP-P048CK	-0.004	-0.003	0.009
GCP-P049	GCP-P049CK	0.001	0.003	0.011
GCP-P050	GCP-P050CK	0.001	-0.001	0.021
GCP-P051	GCP-P051CK	-0.001	0.005	0.011
GCP-P061	GCP-P061CK	0.000	-0.004	0.000
GCP-P062	GCP-P062CK	0.007	0.001	-0.020
GCP-P063	GCP-P063CK	0.000	0.001	0.000
GCP-P066	GCP-P066CK	0.002	0.000	0.001
GCP-P067	GCP-P067CK	0.005	-0.001	0.002
GCP-P073	GCP-P073CK	-0.003	0.005	0.010
GCP-P074	GCP-P074CK	-0.001	0.003	0.012
GCP-P075	GCP-P075CK	0.000	0.002	-0.002
GCP-P076	GCP-P076CK	0.003	0.006	-0.004
GCP-P078	GCP-P078CK	-0.002	-0.004	-0.002
GCP-P079	GCP-P079CK	0.005	-0.006	-0.015
GCP-P085	GCP-P085CK	0.005	-0.002	-0.011
GCP-P089	GCP-P089CK	0.001	0.004	-0.013
GCP-P090	GCP-P090CK	-0.001	-0.014	0.020
GCP-P094	GCP-P094CK	-0.003	-0.001	0.010
GCP-P096	GCP-P096CK	-0.005	0.000	-0.016
GCP-P097	GCP-P097CK	-0.003	0.000	0.003
GCP-P098	GCP-P098CK	0.002	-0.004	0.001

GCP-P101	GCP-P101CK	-0.041	-0.020	-0.037
GCP-P105	GCP-P105CK	-0.004	0.002	-0.004
GCP-P106	GCP-P106CK	-0.011	-0.002	-0.032
GCP-P110	GCP-P110CK	0.008	-0.004	0.006
GCP-P111	GCP-P111CK	-0.004	0.003	-0.010
GCP-P112	GCP-P112CK	0.004	0.001	0.005
GCP-P113	GCP-P113CK	0.002	0.000	-0.005
GCP-P114	GCP-P114CK	0.006	-0.011	-0.019
GCP-P115	GCP-P115CK	-0.001	-0.002	0.007
GCP-P116	GCP-P116CK	-0.001	0.000	-0.001
GCP-P117	GCP-P117CK	0.001	-0.019	-0.038
GCP-P118	GCP-P118CK	-0.002	-0.001	-0.007
GCP-P119	GCP-P119CK	0.001	-0.001	0.000
GCP-P121	GCP-P121CK	-0.001	0.016	0.035
GCP-P123	GCP-P123CK	0.002	0.007	0.005
GCP-P124	GCP-P124CK	0.003	0.016	0.020
GCP-P126	GCP-P126CK	0.002	0.002	0.016
GCP-P129	GCP-P129CK	-0.002	-0.001	-0.015
GCP-P130	GCP-P130CK	-0.002	-0.001	0.000
GCP-P131	GCP-P131CK	-0.003	0.008	0.004
GCP-P132	GCP-P132CK	0.004	-0.002	0.011
GCP-P133	GCP-P133CK	-0.008	-0.003	-0.015
GCP-P135	GCP-P135CK	-0.013	-0.001	-0.010
GCP-P141	GCP-P141CK	-0.005	0.000	-0.025
GCP-P144	GCP-P144CK	0.005	-0.011	-0.005
GCP-P151	GCP-P151CK	0.019	-0.003	0.040
GCP-P153	GCP-P153CK	-0.007	0.001	0.017
GCP-P156	GCP-P156CK	-0.004	0.001	-0.017
GCP-P157	GCP-P157CK	-0.010	-0.014	-0.036
GCP-P158	GCP-P158CK	-0.002	-0.003	-0.002
GCP-P160	GCP-P160CK	-0.004	0.005	0.007
GCP-P161	GCP-P161CK	-0.003	0.003	-0.006
GCP-P165	GCP-P165CK	0.003	-0.012	-0.014
GCP-P170	GCP-P170CK	-0.003	-0.001	0.003
GCP-P171	GCP-P171CK	0.002	-0.002	-0.002
GCP-P174	GCP-P174CK	0.005	0.001	0.017
GCP-P176	GCP-P176CK	0.000	-0.005	-0.013
GCP-P180	GCP-P180CK	-0.010	0.006	-0.014
GCP-P181	GCP-P181CK	0.002	0.002	-0.008
GCP-P182	GCP-P182CK	0.009	0.001	0.010
GCP-P184	GCP-P184CK	0.007	0.012	0.038

GCP-P185	GCP-P185CK	0.002	0.002	-0.004
GCP-P187	GCP-P187CK	0.003	0.001	-0.019
GCP-P189	GCP-P189CK	-0.005	-0.011	-0.018
GCP-P190	GCP-P190CK	0.000	0.005	-0.004
GCP-P198	GCP-P198CK	0.002	-0.001	0.003
GCP-P199	GCP-P199CK	0.004	0.003	-0.003
GCP-P203	GCP-P203CK	-0.004	0.005	0.015
GCP-P213	GCP-P213CK	0.001	-0.002	-0.004
GCP-P214	GCP-P214CK	0.017	-0.009	-0.029
GCP-P216	GCP-P216CK	0.002	0.000	0.002
GCP-P217	GCP-P217CK	-0.002	-0.004	0.014
GCP-P220	GCP-P220CK	-0.018	0.017	-0.003
GCP-P224	GCP-P224CK	-0.007	0.003	-0.001
GCP-P225	GCP-P225CK	0.003	-0.014	-0.012
GCP-P226	GCP-P226CK	0.003	0.006	-0.013
GCP-P227	GCP-P227CK	-0.010	0.007	-0.034
GCP-P228	GCP-P228CK	-0.007	0.019	0.034
GCP-P229	GCP-P229CK	0.004	0.003	-0.002
GCP-P231	GCP-P231CK	0.002	0.001	0.003
GCP-P233	GCP-P233CK	0.005	0.001	0.011
GCP-P234	GCP-P234CK	0.002	-0.006	-0.002
GCP-Q237	GCP-Q237CK	-0.001	0.010	0.003
GCP-Q238	GCP-Q238CK	0.000	-0.005	-0.009
GCP-Q239	GCP-Q239CK	-0.007	0.009	-0.009
GCP-Q240	GCP-Q240CK	-0.001	-0.006	-0.010
GCP-Q242	GCP-Q242CK	0.000	0.000	0.004
GCP-Q243	GCP-Q243CK	-0.009	0.000	-0.011
GCP-Q244	GCP-Q244CK	-0.007	0.004	0.015
GCP-Q246	GCP-Q246CK	0.001	0.007	0.007
GCP-Q247	GCP-Q247CK	0.002	0.001	-0.001
GCP-Q250	GCP-Q250CK	0.004	-0.001	0.002
GCP-Q254	GCP-Q254CK	0.005	-0.002	0.001
GCP-Q255	GCP-Q255CK	-0.016	-0.015	-0.026
GCP-Q257	GCP-Q257CK	0.000	0.003	0.009
GCP-Q260	GCP-Q260CK	-0.004	-0.011	-0.008
GCP-Q261	GCP-Q261CK	0.002	-0.001	0.007
GCP-Q265	GCP-Q265CK	-0.001	0.003	-0.006
GCP-Q270	GCP-Q270CK	0.002	0.001	-0.020
GCP-Q271	GCP-Q271CK	-0.007	-0.003	0.000
GCP-Q272	GCP-Q272CK	-0.006	0.006	-0.003
GCP-Q280	GCP-Q280CK	0.009	0.007	-0.024

GCP-Q285	GCP-Q285CK	0.002	-0.002	-0.014
GCP-Q286	GCP-Q286CK	0.005	0.000	0.012
GCP-Q288	GCP-Q288CK	-0.001	-0.008	-0.020
GCP-Q289	GCP-Q289CK	0.003	0.004	-0.007
GCP-Q294	GCP-Q294CK	-0.004	0.004	-0.011
GCP-Q295	GCP-Q295CK	-0.005	0.004	-0.029
GCP-Q296	GCP-Q296CK	-0.010	-0.002	-0.010
GCP-Q297	GCP-Q297CK	-0.006	-0.001	-0.012
GCP-Q298	GCP-Q298CK	0.002	0.002	-0.008
GCP-Q299	GCP-Q299CK	-0.002	-0.001	-0.008
GCP-Q300	GCP-Q300CK	0.005	0.011	-0.010
GCP-Q301	GCP-Q301CK	-0.010	-0.007	-0.018
GCP-Q303	GCP-Q303CK	0.004	0.005	0.009
GCP-Q307	GCP-Q307CK	0.001	-0.002	-0.003
GCP-Q311	GCP-Q311CK	0.004	0.007	0.004
GCP-Q314	GCP-Q314CK	-0.001	-0.001	-0.014
GCP-Q318	GCP-Q318CK	0.005	0.010	-0.007
GCP-Q319	GCP-Q319CK	-0.003	-0.003	0.000
GCP-Q320	GCP-Q320CK	-0.001	-0.006	0.018
GCP-Q322	GCP-Q322CK	0.003	-0.006	0.004
GCP-Q323	GCP-Q323CK	0.005	-0.010	0.028
GCP-Q324	GCP-Q324CK	-0.003	0.000	0.006
GCP-Q325	GCP-Q325CK	-0.004	0.001	0.008
GCP-Q328	GCP-Q328CK	-0.002	-0.005	-0.007
GCP-Q329	GCP-Q329CK	0.002	0.000	0.016
GCP-Q330	GCP-Q330CK	-0.012	-0.019	0.023
GCP-Q332	GCP-Q332CK	0.000	0.003	0.005
GCP-Q333	GCP-Q333CK	0.005	0.002	-0.003
GCP-Q334	GCP-Q334CK	0.001	-0.001	-0.014
GCP-Q335	GCP-Q335CK	-0.007	0.003	0.012
GCP-Q336	GCP-Q336CK	-0.003	0.001	0.015
GCP-Q337	GCP-Q337CK	0.001	-0.002	0.014
GCP-Q339	GCP-Q339CK	-0.005	-0.011	0.001
GCP-Q341	GCP-Q341CK	0.004	-0.002	0.021
GCP-Q345	GCP-Q345CK	-0.001	0.007	0.010
GCP-Q348	GCP-Q348CK	-0.013	0.005	-0.007
GCP-Q352	GCP-Q352CK	0.001	-0.004	0.003
GCP-D355	GCP-D355CK	0.001	-0.001	0.005
GCP-D357	GCP-D357CK	0.009	0.006	0.012
GCP-D359	GCP-D359CK	-0.003	-0.002	-0.003
GCP-D360	GCP-D360CK	-0.006	0.003	-0.009

GCP-D361	**GCP-D361CK**	**0.007**	**-0.007**	**-0.006**
GCP-D363	**GCP-D363CK**	**0.000**	**0.000**	**-0.004**