Final Survey Report Appendix

USGS Mississippi NRCS East LiDAR

Task Order name MS-NRCS_East_2018-D19

Contract Number G16PC00042

Atlantic Project Number 19059

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Section 1. Appendix

1.1 LiDAR Survey Point Summary

POINT ID	EASTING	NORTHING	ELEVATION	POINT DESCRIPTION	POINT TYPE	BLOCK	EPSG
BE001	656143.278	1290311.268	107.672	BARE EARTH	NVA	1	6350
BE002	657650.742	1276684.396	97.021	BARE EARTH	NVA	1	6350
BE003	682723.564	1200996.381	76.878	BARE EARTH	NVA	1	6350
BE004	686705.346	1288086.921	93.416	BARE EARTH	NVA	1	6350
BE005	687780.502	1279685.762	113.937	BARE EARTH	NVA	1	6350
BE006	631019.762	1244891.714	96.233	BARE EARTH	NVA	1	6350
BE007	650446.927	1237418.911	107.019	BARE EARTH	NVA	1	6350
BE008	628968.629	1233200.154	102.304	BARE EARTH	NVA	1	6350
BE009	646058.574	1225471.919	112.029	BARE EARTH	NVA	1	6350
BE010	634922.24	1223594.001	95.009	BARE EARTH	NVA	1	6350
BE011	669512.655	1248294.466	71.182	BARE EARTH	NVA	1	6350
BE012	673575.243	1231212.45	84.511	BARE EARTH	NVA	1	6350
BE013	690453.09	1233082.957	74.068	BARE EARTH	NVA	1	6350
BE014	677021.156	1218564.233	88.958	BARE EARTH	NVA	1	6350
BE015	697927.623	1211824.258	74.208	BARE EARTH	NVA	1	6350
BE016	646735.102	1208937.083	86.359	BARE EARTH	NVA	1	6350
BE017	656071.802	1213936.053	90.034	BARE EARTH	NVA	1	6350
BE018	650450.571	1203610.083	87.349	BARE EARTH	NVA	1	6350
BE019	637124.315	1207737.674	115.246	BARE EARTH	NVA	1	6350
BE020	697723.716	1200308.844	65.137	BARE EARTH	NVA	1	6350
BE021	707864.376	1180908.305	88.252	BARE EARTH	NVA	1	6350
BE022	680336.606	1183941.857	60.407	BARE EARTH	NVA	1	6350
BE023	706585.567	1174296.485	55.243	BARE EARTH	NVA	1	6350
BE024	643504.958	1179526.118	112.078	BARE EARTH	NVA	1	6350
BE025	655886.076	1179402.707	88.664	BARE EARTH	NVA	1	6350
BE026	638457.577	1170066.58	133.405	BARE EARTH	NVA	1	6350
BE027	652079.047	1163172.708	97.46	BARE EARTH	NVA	1	6350
BE028	666137.585	1167179.595	85.754	BARE EARTH	NVA	1	6350
BE029	658670.824	1155445.315	91.549	BARE EARTH	NVA	1	6350
BE030	659033.298	1131873.41	168.135	BARE EARTH	NVA	1	6350
BE031	701870.912	1151298.128	59.961	BARE EARTH	NVA	1	6350
BE032	678449.123	1150676.856	72.989	BARE EARTH	NVA	1	6350
BE033	698611.521	1145523.218	71.967	BARE EARTH	NVA	1	6350
BE034	698611.518	1145523.225	71.96	BARE EARTH	NVA	1	6350
BE035	704668.087	1133264.351	65.044	BARE EARTH	NVA	1	6350
BE036	671720.478	1126026.163	175.263	BARE EARTH	NVA	1	6350
BE037	694207.005	1120514.458	60.111	BARE EARTH	NVA	1	6350

BE038	703601.967	1110861.077	62.993	BARE EARTH	NVA	1	6350
BE039	669704.084	1218061.085	78.825	BARE EARTH	NVA	1	6350
BE040	545817.0717	1026863.04	115.693	BARE EARTH	NVA	3	6350
BE041	570465.344	1101659.8	86.64	BARE EARTH	NVA	2	6350
BE042	565607.13	1091365.497	80.049	BARE EARTH	NVA	2	6350
BE043	574792.026	1088650.162	94.188	BARE EARTH	NVA	2	6350
BE044	562330.277	1081203.31	89.308	BARE EARTH	NVA	2	6350
BE045	576285.807	1073279.148	92.838	BARE EARTH	NVA	2	6350
BE046	577699.188	1063847.298	107.037	BARE EARTH	NVA	2	6350
BE047	562824.472	1058630.604	96.419	BARE EARTH	NVA	2	6350
BE048	551081.746	1056929.746	91.171	BARE EARTH	NVA	2	6350
BE049	543235.505	1061355.045	120.947	BARE EARTH	NVA	2	6350
BE050	531274.598	1068202.563	71.994	BARE EARTH	NVA	2	6350
BE051	520908.18	1067935.712	54.25	BARE EARTH	NVA	2	6350
BE052	535191.212	1077122.104	58.431	BARE EARTH	NVA	2	6350
BE053	547054.699	1073635.273	75.205	BARE EARTH	NVA	2	6350
BE054	559237.091	1071889.531	76.247	BARE EARTH	NVA	2	6350
BE055	554020.156	1084890.299	79.374	BARE EARTH	NVA	2	6350
BE056	581535.4957	1048702.928	117.811	BARE EARTH	NVA	3	6350
BE057	568523.4594	1044626.06	131.817	BARE EARTH	NVA	3	6350
BE058	583543.7735	1038762.043	148.237	BARE EARTH	NVA	3	6350
BE059	575532.0882	1026211.453	116.809	BARE EARTH	NVA	3	6350
BE060	586227.5819	1020327.406	103.515	BARE EARTH	NVA	3	6350
BE061	582984.4925	1006556.636	160.704	BARE EARTH	NVA	3	6350
BE062	567630.1461	1012484.227	114.108	BARE EARTH	NVA	3	6350
BE063	585012.3021	1034144.688	135.051	BARE EARTH	NVA	3	6350
BR001	662003.297	1296630.284	136.109	BRUSH	VVA	1	6350
BR002	665468.602	1290943.93	107.312	BRUSH	VVA	1	6350
BR003	657080.555	1271910.032	108.968	BRUSH	VVA	1	6350
BR004	687023.974	1284053.25	88.043	BRUSH	VVA	1	6350
BR005	694195.794	1262455.901	77.715	BRUSH	VVA	1	6350
BR006	630126.867	1239048.382	99.494	BRUSH	VVA	1	6350
BR007	655589.094	1240535.347	107.663	BRUSH	VVA	1	6350
BR008	633100.162	1215757.249	154.465	BRUSH	VVA	1	6350
BR009	700631.899	1249203.605	113.254	BRUSH	VVA	1	6350
BR010	695458.725	1240090.703	112.355	BRUSH	VVA	1	6350
BR011	682485.788	1230486.916	82.303	BRUSH	VVA	1	6350
BR012	687326.087	1210986.593	92.619	BRUSH	VVA	1	6350
BR013	640684.635	1195456.767	106.846	BRUSH	VVA	1	6350
BR014	655443.49	1201821.898	77.154	BRUSH	VVA	1	6350
BR015	663821.415	1201068.34	83.785	BRUSH	VVA	1	6350

BR016	699739.715	1194002.469	60.35	BRUSH	VVA	1	6350
BR017	680989.295	1179770.117	77.773	BRUSH	VVA	1	6350
BR018	700858.45	1182573.391	50.637	BRUSH	VVA	1	6350
BR019	700858.447	1182573.398	50.652	BRUSH	VVA	1	6350
BR020	671747.416	1186667.667	79.43	BRUSH	VVA	1	6350
BR021	654059.663	1175786.975	92.47	BRUSH	VVA	1	6350
BR022	668394.335	1162797.502	71.823	BRUSH	VVA	1	6350
BR023	646808.605	1152733.597	111.721	BRUSH	VVA	1	6350
BR024	653480.758	1142195.922	154.732	BRUSH	VVA	1	6350
BR025	673283.34	1145284.217	73.046	BRUSH	VVA	1	6350
BR026	690847.514	1143588.547	69.603	BRUSH	VVA	1	6350
BR027	697904.088	1129586.432	48.56	BRUSH	VVA	1	6350
BR028	692248.221	1117290.395	66.42	BRUSH	VVA	1	6350
BR029	703536.909	1107344.173	57.325	BRUSH	VVA	1	6350
BR030	690168.656	1173129.212	56.472	BRUSH	VVA	1	6350
BR031	644203.34	1232002.819	112.903	BRUSH	VVA	1	6350
BR032	653709.321	1226692.732	93.302	BRUSH	VVA	1	6350
BR033	675532.362	1176896.653	69.435	BRUSH	VVA	1	6350
BR034	577669.667	1106040.569	102.893	BRUSH	VVA	2	6350
BR035	563921.397	1099506.215	97.28	BRUSH	VVA	2	6350
BR036	581747.366	1095561.741	118.227	BRUSH	VVA	2	6350
BR037	562528.064	1076962.672	82.504	BRUSH	VVA	2	6350
BR038	577162.36	1070177.807	100.198	BRUSH	VVA	2	6350
BR039	572243.046	1059806.162	112.459	BRUSH	VVA	2	6350
BR040	542410.898	1066865.074	99.429	BRUSH	VVA	2	6350
BR041	536841.63	1070494.248	83.052	BRUSH	VVA	2	6350
BR042	547113.476	1078896.943	64.575	BRUSH	VVA	2	6350
BR043	550983.744	1081593.012	69.459	BRUSH	VVA	2	6350
BR044	559246.396	1086497.443	82.969	BRUSH	VVA	2	6350
BR045	578259.8848	1055007.373	112.865	BRUSH	VVA	3	6350
BR046	584181.5457	1047598.118	121.42	BRUSH	VVA	3	6350
BR047	577194.2206	1038194.511	143.942	BRUSH	VVA	3	6350
BR048	581793.6875	1033777.614	148.873	BRUSH	VVA	3	6350
BR049	579274.3966	1017464.807	107.265	BRUSH	VVA	3	6350
BR050	555238.0412	1030403.36	133.374	BRUSH	VVA	3	6350
BR051	569706.1438	1017723.2	112.46	BRUSH	VVA	3	6350
HG001	663092.259	1293363.593	118.236	HIGH GRASS	VVA	1	6350
HG002	661486.189	1290645.119	110.084	HIGH GRASS	VVA	1	6350
HG003	669851.787	1277911.738	130.669	HIGH GRASS	VVA	1	6350
HG004	663478.817	1126124.904	156.055	HIGH GRASS	VVA	1	6350
HG005	694319.737	1278253.283	128.667	HIGH GRASS	VVA	1	6350

HG006	689466.63	1260860.315	119.349	HIGH GRASS	VVA	1	6350
HG007	634010.096	1242002.516	105.652	HIGH GRASS	VVA	1	6350
HG008	664870.149	1234814.247	90.74	HIGH GRASS	VVA	1	6350
HG009	633199.222	1211160.499	109.801	HIGH GRASS	VVA	1	6350
HG010	692453.807	1245324.479	78.225	HIGH GRASS	VVA	1	6350
HG011	686932.114	1237261.935	71.714	HIGH GRASS	VVA	1	6350
HG012	693030.118	1232588.381	79.075	HIGH GRASS	VVA	1	6350
HG013	693250.449	1213907.019	65.319	HIGH GRASS	VVA	1	6350
HG014	648293.229	1196702.499	102.098	HIGH GRASS	VVA	1	6350
HG015	667113.401	1193955.438	63.921	HIGH GRASS	VVA	1	6350
HG016	680923.586	1189540.381	59.471	HIGH GRASS	VVA	1	6350
HG017	682935.649	1190007.846	52.738	HIGH GRASS	VVA	1	6350
HG018	699478.266	1200298.583	66.285	HIGH GRASS	VVA	1	6350
HG019	699913.805	1191495.66	86.606	HIGH GRASS	VVA	1	6350
HG020	693806.7	1179354.546	62.543	HIGH GRASS	VVA	1	6350
HG021	706266.261	1165867.112	46.413	HIGH GRASS	VVA	1	6350
HG022	710205.073	1173461.207	64.4	HIGH GRASS	VVA	1	6350
HG023	654770.386	1185870.246	78.295	HIGH GRASS	VVA	1	6350
HG024	646658.103	1161366.145	95.242	HIGH GRASS	VVA	1	6350
HG025	674855.732	1169798.745	95.257	HIGH GRASS	VVA	1	6350
HG026	650158.637	1143414.202	156.038	HIGH GRASS	VVA	1	6350
HG027	690642.39	1153363.596	68.008	HIGH GRASS	VVA	1	6350
HG028	683071.505	1139604.832	67.767	HIGH GRASS	VVA	1	6350
HG029	683200.915	1124614.215	96.096	HIGH GRASS	VVA	1	6350
HG030	689401.25	1117543.462	72.678	HIGH GRASS	VVA	1	6350
HG031	700216.433	1120622.848	48.358	HIGH GRASS	VVA	1	6350
HG032	688344.972	1274217.79	88.447	HIGH GRASS	VVA	1	6350
HG033	689877.024	1117100.648	66.696	HIGH GRASS	VVA	1	6350
HG034	663902.401	1129967.824	139.322	HIGH GRASS	VVA	1	6350
HG035	637891.647	1188833.834	132.13	HIGH GRASS	VVA	1	6350
HG036	648443.326	1181420.635	93.681	HIGH GRASS	VVA	1	6350
HG037	665992.629	1196464.621	67.083	HIGH GRASS	VVA	1	6350
HG038	565534.313	1103555.486	101.685	HIGH GRASS	VVA	2	6350
HG039	576927.348	1097339.92	89.759	HIGH GRASS	VVA	2	6350
HG040	567171.997	1094363.833	93.148	HIGH GRASS	VVA	2	6350
HG041	577741.997	1083137.165	106.377	HIGH GRASS	VVA	2	6350
HG042	578627.531	1067416.292	96.866	HIGH GRASS	VVA	2	6350
HG043	567669.01	1064704.598	99.08	HIGH GRASS	VVA	2	6350
HG044	553301.037	1062799.363	101.815	HIGH GRASS	VVA	2	6350
HG045	537888.033	1067719.382	99.835	HIGH GRASS	VVA	2	6350
HG046	519732.259	1065172.457	65.034	HIGH GRASS	VVA	2	6350

HG047	536362.359	1078562.343	69.763	HIGH GRASS	VVA	2	6350
HG048	555668.568	1082501.665	66.935	HIGH GRASS	VVA	2	6350
HG049	573096.9168	1051206.672	98.773	HIGH GRASS	VVA	3	6350
HG050	575255.437	1044831.074	110.017	HIGH GRASS	VVA	3	6350
HG051	543654.1373	1024866.956	89.594	HIGH GRASS	VVA	3	6350
HG052	582246.0283	1026083.588	119.855	HIGH GRASS	VVA	3	6350
HG053	586833.1073	1011803.698	160.934	HIGH GRASS	VVA	3	6350
HG054	569179.515	1002587.652	109.133	HIGH GRASS	VVA	3	6350
HG055	560701.83	1024574.347	112.053	HIGH GRASS	VVA	3	6350
HG056	541731.698	1076195.861	76.588	HIGH GRASS	VVA	2	6350
HG057	574487.836	1062827.243	116.295	HIGH GRASS	VVA	2	6350
HG058	566371.6658	1022380.868	116.207	HIGH GRASS	VVA	3	6350
LCP001	702715.09	1256540.451	89.622	LCP	CONTROL	1	6350
LCP002	672378.121	1124174.234	169.236	LCP	CONTROL	1	6350
LCP003	665630.526	1285558.082	103.289	LCP	CONTROL	1	6350
LCP004	686705.639	1288104.58	93.446	LCP	CONTROL	1	6350
LCP005	664567.971	1265661.189	97.614	LCP	CONTROL	1	6350
LCP006	700612.251	1279840.12	143.739	LCP	CONTROL	1	6350
LCP007	695019.374	1250070.858	80.435	LCP	CONTROL	1	6350
LCP008	697289.163	1286130.19	141.939	LCP	CONTROL	1	6350
LCP009	639678.76	1216455.087	103.282	LCP	CONTROL	1	6350
LCP010	669500.524	1248282.772	71.169	LCP	CONTROL	1	6350
LCP011	657346.275	1220310.761	93.023	LCP	CONTROL	1	6350
LCP012	690467.603	1233081.825	73.888	LCP	CONTROL	1	6350
LCP013	673455.517	1218253.963	91.369	LCP	CONTROL	1	6350
LCP014	631016.717	1244884.309	96.103	LCP	CONTROL	1	6350
LCP015	647175.666	1202184.152	76.375	LCP	CONTROL	1	6350
LCP016	628968.11	1233184.079	102.28	LCP	CONTROL	1	6350
LCP017	634903.252	1223594.648	94.684	LCP	CONTROL	1	6350
LCP018	646048.135	1225466.99	111.851	LCP	CONTROL	1	6350
LCP019	650458.297	1237410.904	106.803	LCP	CONTROL	1	6350
LCP020	656084.83	1213943.328	90.252	LCP	CONTROL	1	6350
LCP021	646752.804	1208946.199	87.317	LCP	CONTROL	1	6350
LCP022	673585.993	1231221.281	84.99	LCP	CONTROL	1	6350
LCP023	677024.297	1218555.5	89.162	LCP	CONTROL	1	6350
LCP024	697939.267	1211826.071	74.617	LCP	CONTROL	1	6350
LCP025	697717.283	1200324.56	65.029	LCP	CONTROL	1	6350
LCP026	637140.326	1207745.725	114.993	LCP	CONTROL	1	6350
LCP027	650437.594	1203609.939	87.427	LCP	CONTROL	1	6350
LCP028	707920.883	1181056.601	92.29	LCP	CONTROL	1	6350
LCP029	700925.122	1117962.906	78.767	LCP	CONTROL	1	6350

LCP030	706587	1174315.922	55.024	LCP	CONTROL	1	6350
LCP031	692550.744	1124642.831	69.599	LCP	CONTROL	1	6350
LCP032	701903.503	1151397.561	60.038	LCP	CONTROL	1	6350
LCP033	704679.873	1133243.089	64.853	LCP	CONTROL	1	6350
LCP034	688232.115	1140578.104	54.039	LCP	CONTROL	1	6350
LCP035	698943.448	1145232.51	74.069	LCP	CONTROL	1	6350
LCP036	659035.479	1138884.478	174.651	LCP	CONTROL	1	6350
LCP037	703584.475	1110863.61	62.954	LCP	CONTROL	1	6350
LCP038	678929.685	1175856.868	69.426	LCP	CONTROL	1	6350
LCP039	694222.724	1120504.427	59.951	LCP	CONTROL	1	6350
LCP040	659239.765	1181483.818	85.036	LCP	CONTROL	1	6350
LCP041	687720.409	1160523.605	82.57	LCP	CONTROL	1	6350
LCP042	657878.51	1187006.792	71.179	LCP	CONTROL	1	6350
LCP043	686514.971	1211129.647	90.624	LCP	CONTROL	1	6350
LCP044	659042.61	1131877.535	168.134	LCP	CONTROL	1	6350
LCP045	657837.651	1155619.822	101.546	LCP	CONTROL	1	6350
LCP046	659239.056	1172602.166	87.321	LCP	CONTROL	1	6350
LCP047	650321.656	1163411.295	100.076	LCP	CONTROL	1	6350
LCP048	638466.353	1170095.15	135.011	LCP	CONTROL	1	6350
LCP049	643488.742	1179524.398	112.156	LCP	CONTROL	1	6350
LCP050	655881.493	1179387.124	88.639	LCP	CONTROL	1	6350
LCP051	678362.102	1183138.941	67.666	LCP	CONTROL	1	6350
LCP052	682724.076	1201029.579	77.794	LCP	CONTROL	1	6350
LCP053	708400.776	1112834.971	61.243	LCP	CONTROL	1	6350
LCP054	570457.933	1101654.045	86.906	LCP	CONTROL	2	6350
LCP055	574795.745	1088645.111	94.13	LCP	CONTROL	2	6350
LCP056	565604.917	1091372.265	80.066	LCP	CONTROL	2	6350
LCP057	547053.011	1073648.215	75.773	LCP	CONTROL	2	6350
LCP058	554013.965	1084888.366	79.558	LCP	CONTROL	2	6350
LCP059	562333.928	1081193.707	89.429	LCP	CONTROL	2	6350
LCP060	520904.44	1067931.087	54.225	LCP	CONTROL	2	6350
LCP061	535200.401	1077120.725	58.546	LCP	CONTROL	2	6350
LCP062	531266.424	1068204.786	72.213	LCP	CONTROL	2	6350
LCP063	543252.458	1061341.554	120.927	LCP	CONTROL	2	6350
LCP064	559254.16	1071889.151	76.216	LCP	CONTROL	2	6350
LCP065	551074.961	1056934.639	91.152	LCP	CONTROL	2	6350
LCP066	562837.57	1058641.379	97.143	LCP	CONTROL	2	6350
LCP067	576275.509	1073275.107	92.841	LCP	CONTROL	2	6350
LCP068	577692.964	1063846.268	107.138	LCP	CONTROL	2	6350
LCP069	581541.0822	1048700.761	118.02	LCP	CONTROL	3	6350
LCP070	568532.1839	1044626.016	132.164	LCP	CONTROL	3	6350

LCP071	583535.5542	1038759.291	148.301	LCP	CONTROL	3	6350
LCP072	586220.8836	1020327.431	103.886	LCP	CONTROL	3	6350
LCP073	575529.7302	1026204.761	117.161	LCP	CONTROL	3	6350
LCP074	567638.59	1012482.509	114.037	LCP	CONTROL	3	6350
LCP075	582997.6357	1006563.796	161.402	LCP	CONTROL	3	6350
LCP076	545821.9535	1026858.873	115.68	LCP	CONTROL	3	6350
LCP077	574472.857	1096033.805	84.626	LCP	CONTROL	2	6350
LCP078	577967.295	1094551.569	103.483	LCP	CONTROL	2	6350
LCP079	547128.99	1078885.887	65.028	LCP	CONTROL	2	6350
LCP080	532092.58	1064533.813	92.266	LCP	CONTROL	2	6350
LCP081	547749.05	1060168.095	103.903	LCP	CONTROL	2	6350
LCP082	577166.594	1070169.232	100.439	LCP	CONTROL	2	6350
LCP083	557695.2461	1021508.81	113.27	LCP	CONTROL	3	6350
OT001	676948.338	1257785.656	102.526	OPEN TERRAIN	NVA	1	6350
OT002	661485.27	1279681.131	92.914	OPEN TERRAIN	NVA	1	6350
OT003	699462.766	1290629.258	151.796	OPEN TERRAIN	NVA	1	6350
OT004	695469.946	1273439.263	123.623	OPEN TERRAIN	NVA	1	6350
OT005	638600.209	1245476.64	120.254	OPEN TERRAIN	NVA	1	6350
OT006	658085.059	1243933.793	119.469	OPEN TERRAIN	NVA	1	6350
OT007	637067.449	1229487.827	101.458	OPEN TERRAIN	NVA	1	6350
OT008	653699.406	1226725.967	94.803	OPEN TERRAIN	NVA	1	6350
OT009	643975.311	1221149.408	114.194	OPEN TERRAIN	NVA	1	6350
OT010	699221.835	1251230.574	86.126	OPEN TERRAIN	NVA	1	6350
OT011	697472.888	1235608.292	89.33	OPEN TERRAIN	NVA	1	6350
OT012	669900.059	1232940.509	92.789	OPEN TERRAIN	NVA	1	6350
OT013	669718.229	1218051.514	78.33	OPEN TERRAIN	NVA	1	6350
OT014	684629.661	1220190.132	68.86	OPEN TERRAIN	NVA	1	6350
OT015	637347.276	1195613.914	138.043	OPEN TERRAIN	NVA	1	6350
OT016	664285.061	1213399.339	70.737	OPEN TERRAIN	NVA	1	6350
OT017	658112.229	1204036.77	82.375	OPEN TERRAIN	NVA	1	6350
OT018	685785.141	1204066.845	69.509	OPEN TERRAIN	NVA	1	6350
OT019	686141.267	1194708.845	59.913	OPEN TERRAIN	NVA	1	6350
OT020	695113.345	1198808.33	61.621	OPEN TERRAIN	NVA	1	6350
OT021	704918.905	1182157.34	66.987	OPEN TERRAIN	NVA	1	6350
OT022	678373.184	1183157.224	67.4	OPEN TERRAIN	NVA	1	6350
OT023	690192.485	1169028.271	73.207	OPEN TERRAIN	NVA	1	6350
OT024	690192.478	1169028.291	73.219	OPEN TERRAIN	NVA	1	6350
OT025	690192.484	1169028.289	73.218	OPEN TERRAIN	NVA	1	6350
OT026	641664.504	1188288.284	111.046	OPEN TERRAIN	NVA	1	6350
OT027	668979.901	1184539.122	92.035	OPEN TERRAIN	NVA	1	6350
OT028	648581.509	1177286.709	98.433	OPEN TERRAIN	NVA	1	6350

OT029	665072.001	1173562.288	106.204	OPEN TERRAIN	NVA	1	6350
OT030	673260.498	1172574.766	83.268	OPEN TERRAIN	NVA	1	6350
OT031	652649.162	1149131.36	126.379	OPEN TERRAIN	NVA	1	6350
OT032	666468.245	1123602.484	159.216	OPEN TERRAIN	NVA	1	6350
OT033	709039.049	1150836.133	59.928	OPEN TERRAIN	NVA	1	6350
OT034	674870.36	1142357.972	77.445	OPEN TERRAIN	NVA	1	6350
OT035	700055.362	1133836.821	61.031	OPEN TERRAIN	NVA	1	6350
OT036	670365.588	1132808.347	88.234	OPEN TERRAIN	NVA	1	6350
OT037	706909.1	1125597.218	48.397	OPEN TERRAIN	NVA	1	6350
OT038	656153.033	1290328.176	106.034	OPEN TERRAIN	NVA	1	6350
OT039	665469.194	1290927.697	107.349	OPEN TERRAIN	NVA	1	6350
OT040	700909.842	1117970.244	78.177	OPEN TERRAIN	NVA	1	6350
OT041	695686.57	1108615.793	71.037	OPEN TERRAIN	NVA	1	6350
OT042	662017.166	1296610.522	136.653	OPEN TERRAIN	NVA	1	6350
OT043	563263.648	1105189.098	73.307	OPEN TERRAIN	NVA	2	6350
OT044	574445.969	1096015.745	81.432	OPEN TERRAIN	NVA	2	6350
OT045	570863.03	1088444.145	73.81	OPEN TERRAIN	NVA	2	6350
OT046	582959.603	1088261.278	122.967	OPEN TERRAIN	NVA	2	6350
OT047	559443.8839	1048817.351	111.361	OPEN TERRAIN	NVA	3	6350
OT048	572164.452	1066825.743	113.703	OPEN TERRAIN	NVA	2	6350
OT049	581158.087	1059958.569	108.223	OPEN TERRAIN	NVA	2	6350
OT050	567344.672	1057578.142	107.687	OPEN TERRAIN	NVA	2	6350
OT051	542283.7825	1055211.087	118.608	OPEN TERRAIN	NVA	3	6350
OT052	550735.168	1069447.364	87.774	OPEN TERRAIN	NVA	2	6350
OT053	548020.6463	1032856.736	88.938	OPEN TERRAIN	NVA	3	6350
OT054	543457.1539	1015339.38	78.534	OPEN TERRAIN	NVA	3	6350
OT055	532930.692	1074464.581	60.467	OPEN TERRAIN	NVA	2	6350
OT056	546528.363	1083243.188	61.348	OPEN TERRAIN	NVA	2	6350
OT057	558218.64	1081326.17	81.102	OPEN TERRAIN	NVA	2	6350
OT058	559351.779	1092978.335	68.404	OPEN TERRAIN	NVA	2	6350
OT059	550961.4585	1018175.344	92.225	OPEN TERRAIN	NVA	3	6350
OT060	579845.4739	1043332.208	115.473	OPEN TERRAIN	NVA	3	6350
OT061	585012.6114	1034134.764	134.903	OPEN TERRAIN	NVA	3	6350
OT062	582622.3806	1021815.748	105.697	OPEN TERRAIN	NVA	3	6350
OT063	566202.6271	1033417.684	122.677	OPEN TERRAIN	NVA	3	6350
OT064	575438.3923	1019572.157	104.123	OPEN TERRAIN	NVA	3	6350
OT065	564869.4736	1006503.116	124.738	OPEN TERRAIN	NVA	3	6350
OT066	562519.385	1076968.888	82.23	OPEN TERRAIN	NVA	2	6350
OT067	581754.368	1095571.93	118.57	OPEN TERRAIN	NVA	2	6350
OT068	536391.108	1078563.199	70.316	OPEN TERRAIN	NVA	2	6350
OT069	527409.229	1072898.938	55.577	OPEN TERRAIN	NVA	2	6350

OT070	559243.838	1071909.031	77.321	OPEN TERRAIN	NVA	2	6350
OT071	577723.923	1063847.622	107.122	OPEN TERRAIN	NVA	2	6350
OT072	570048.4208	1037157.852	132.958	OPEN TERRAIN	NVA	3	6350
OT073	569713.5917	1017743.36	112.395	OPEN TERRAIN	NVA	3	6350
TR001	671515.683	1260937.759	91.132	TREE	VVA	1	6350
TR002	659501.335	1253378.016	96.34	TREE	VVA	1	6350
TR003	688349.947	1274232.311	87.997	TREE	VVA	1	6350
TR004	692877.278	1257541.402	106.51	TREE	VVA	1	6350
TR005	658232.433	1237670.319	97.424	TREE	VVA	1	6350
TR006	644196.714	1232012.149	112.978	TREE	VVA	1	6350
TR007	649951.569	1224261.893	109.974	TREE	VVA	1	6350
TR008	675658.061	1245909.943	86.203	TREE	VVA	1	6350
TR009	702389.595	1232348.775	127.392	TREE	VVA	1	6350
TR010	676449.751	1227486.842	80.814	TREE	VVA	1	6350
TR011	641947.793	1191199.79	103.459	TREE	VVA	1	6350
TR012	641051.022	1208796.674	105.973	TREE	VVA	1	6350
TR013	667293.159	1199831.554	70.976	TREE	VVA	1	6350
TR014	698144.974	1196379.121	60.972	TREE	VVA	1	6350
TR015	694361.188	1192206.366	52.369	TREE	VVA	1	6350
TR016	698408.139	1163851.86	56.407	TREE	VVA	1	6350
TR017	639181.437	1182645.635	160.321	TREE	VVA	1	6350
TR018	670285.448	1178628.113	107.646	TREE	VVA	1	6350
TR019	669880.599	1168041.48	87.128	TREE	VVA	1	6350
TR020	663972.167	1158266.131	74.132	TREE	VVA	1	6350
TR021	663972.146	1158266.15	74.08	TREE	VVA	1	6350
TR022	638969.311	1156546.739	181.01	TREE	VVA	1	6350
TR023	673366.015	1154638.118	69.615	TREE	VVA	1	6350
TR024	706462.28	1148283.954	54.637	TREE	VVA	1	6350
TR025	704167.501	1140593.591	62.54	TREE	VVA	1	6350
TR026	692747.163	1135619.017	55.47	TREE	VVA	1	6350
TR027	702486.558	1115638.931	66.176	TREE	VVA	1	6350
TR028	702491.936	1115649.539	65.623	TREE	VVA	1	6350
TR029	701115.324	1105232.107	55.812	TREE	VVA	1	6350
TR030	661460.243	1290757.258	110.529	TREE	VVA	1	6350
TR031	687763.371	1279679.425	112.917	TREE	VVA	1	6350
TR032	708381.1	1112878.59	63.704	TREE	VVA	1	6350
TR033	673564.848	1231208.494	84.231	TREE	VVA	1	6350
TR034	663092.383	1293383.398	118.384	TREE	VVA	1	6350
TR035	696422.319	1153872.467	77.245	TREE	VVA	1	6350
TR036	686388.64	1212911.228	98.264	TREE	VVA	1	6350
TR037	574597.31	1102080.685	109.39	TREE	VVA	2	6350

TR038	577975.419	1094562.462	103.667	TREE	VVA	2	6350
TR039	575072.97	1078313.04	97.569	TREE	VVA	2	6350
TR040	574496.594	1062766.075	115.523	TREE	VVA	2	6350
TR041	568326.649	1061811.479	133.978	TREE	VVA	2	6350
TR042	562170.327	1075158.206	76.72	TREE	VVA	2	6350
TR043	556432.471	1066862.199	82.388	TREE	VVA	2	6350
TR044	539722.541	1061547.764	99.386	TREE	VVA	2	6350
TR045	526107.87	1062995.363	58.941	TREE	VVA	2	6350
TR046	541721.831	1076169.667	75.987	TREE	VVA	2	6350
TR047	545425.365	1083093.892	58.74	TREE	VVA	2	6350
TR048	582827.9038	1052837.399	136.825	TREE	VVA	3	6350
TR049	568424.8776	1048494.527	100.319	TREE	VVA	3	6350
TR050	570029.6169	1037151.873	133.007	TREE	VVA	3	6350
TR051	545755.0627	1020575.288	80.667	TREE	VVA	3	6350
TR052	581571.707	1015761.521	113.652	TREE	VVA	3	6350
TR053	577568.8108	1006900.219	118.704	TREE	VVA	3	6350
TR054	566365.0108	1022353.012	116.676	TREE	VVA	3	6350
TR055	563247.282	1105202.358	72.691	TREE	VVA	2	6350
TR056	582199.183	1102856.716	135.057	TREE	VVA	2	6350
TR057	537881.838	1067689.375	100.686	TREE	VVA	2	6350
TR058	550844.445	1066414.891	81.442	TREE	VVA	2	6350
TR059	568546.1362	1044619.322	131.884	TREE	VVA	3	6350
UR001	685851.963	1219279.842	60.1	URBAN TERRAIN	NVA	1	6350
UR002	665377.854	1260801.044	97.238	URBAN TERRAIN	NVA	1	6350
UR003	673447.819	1270822.769	94.711	URBAN TERRAIN	NVA	1	6350
UR004	685548.103	1270560.585	106.461	URBAN TERRAIN	NVA	1	6350
UR005	699949.766	1269523.083	123.198	URBAN TERRAIN	NVA	1	6350
UR006	639679.612	1216460.348	103.117	URBAN TERRAIN	NVA	1	6350
UR007	643071.6	1227064.601	104.176	URBAN TERRAIN	NVA	1	6350
UR008	642240.31	1236962.919	122.349	URBAN TERRAIN	NVA	1	6350
UR009	665642.171	1240563.001	96.443	URBAN TERRAIN	NVA	1	6350
UR010	657322.135	1220318.642	92.039	URBAN TERRAIN	NVA	1	6350
UR011	675228.703	1249512.893	75.83	URBAN TERRAIN	NVA	1	6350
UR012	673465.393	1218254.718	91.611	URBAN TERRAIN	NVA	1	6350
UR013	692443.766	1216865.708	65.106	URBAN TERRAIN	NVA	1	6350
UR014	695040.372	1250080.195	80.442	URBAN TERRAIN	NVA	1	6350
UR015	674390.026	1205654.509	82.461	URBAN TERRAIN	NVA	1	6350
UR016	637907.888	1188833.919	132.512	URBAN TERRAIN	NVA	1	6350
UR017	647190.964	1202188.468	76.327	URBAN TERRAIN	NVA	1	6350
UR018	663491.725	1215834.216	80.053	URBAN TERRAIN	NVA	1	6350
UR019	674942.321	1201221.144	79.805	URBAN TERRAIN	NVA	1	6350

UR020	705818.86	1207232.535	102.379	URBAN TERRAIN	NVA	1	6350
UR021	696239.913	1200500.192	62.801	URBAN TERRAIN	NVA	1	6350
UR022	708347.296	1182000.57	92.358	URBAN TERRAIN	NVA	1	6350
UR023	677623.071	1177861.53	66.027	URBAN TERRAIN	NVA	1	6350
UR024	694950.513	1157039.93	78.926	URBAN TERRAIN	NVA	1	6350
UR025	647894.459	1183159.375	93.074	URBAN TERRAIN	NVA	1	6350
UR026	661541.889	1177546.756	98.913	URBAN TERRAIN	NVA	1	6350
UR027	659613.099	1174240.772	90.103	URBAN TERRAIN	NVA	1	6350
UR028	642684.903	1168995.162	123.275	URBAN TERRAIN	NVA	1	6350
UR029	668883.965	1171393.224	100.196	URBAN TERRAIN	NVA	1	6350
UR030	651254.813	1155843.092	109.196	URBAN TERRAIN	NVA	1	6350
UR031	663714.798	1129101.166	143.961	URBAN TERRAIN	NVA	1	6350
UR032	697246.89	1153982.247	81.504	URBAN TERRAIN	NVA	1	6350
UR033	697242.375	1153990.781	81.03	URBAN TERRAIN	NVA	1	6350
UR034	697242.767	1153990.799	81.464	URBAN TERRAIN	NVA	1	6350
UR035	710000.267	1148447.639	53.373	URBAN TERRAIN	NVA	1	6350
UR036	690378.157	1128248.833	64.261	URBAN TERRAIN	NVA	1	6350
UR037	688218.082	1149894.588	63.627	URBAN TERRAIN	NVA	1	6350
UR038	709152.071	1159070.573	48.818	URBAN TERRAIN	NVA	1	6350
UR039	688362.693	1164240.197	81.847	URBAN TERRAIN	NVA	1	6350
UR040	698809.675	1115274.996	68.232	URBAN TERRAIN	NVA	1	6350
UR041	675219.012	1249508.126	75.736	URBAN TERRAIN	NVA	1	6350
UR042	688362.686	1164240.191	81.866	URBAN TERRAIN	NVA	1	6350
UR043	643084.493	1227065.756	104.54	URBAN TERRAIN	NVA	1	6350
UR044	707422.268	1122072.94	72.263	URBAN TERRAIN	NVA	1	6350
UR045	657356.958	1220325.528	92.887	URBAN TERRAIN	NVA	1	6350
UR046	689015.753	1147561.737	67.683	URBAN TERRAIN	NVA	1	6350
UR047	667690.863	1158953.58	69.956	URBAN TERRAIN	NVA	1	6350
UR048	667099.73	1181749.154	81.573	URBAN TERRAIN	NVA	1	6350
UR049	669130.51	1185361.216	94.316	URBAN TERRAIN	NVA	1	6350
UR050	689723.551	1127834.39	66.058	URBAN TERRAIN	NVA	1	6350
UR051	697061.015	1147404.544	78.723	URBAN TERRAIN	NVA	1	6350
UR052	532099.339	1064519.538	92.137	URBAN TERRAIN	NVA	2	6350
UR053	557695.5102	1021501.157	113.444	URBAN TERRAIN	NVA	3	6350
UR054	564337.963	1028185.013	107.663	URBAN TERRAIN	NVA	3	6350
UR055	527421.251	1072895.147	55.466	URBAN TERRAIN	NVA	2	6350
UR056	548206.0708	1053514.732	94.406	URBAN TERRAIN	NVA	3	6350
UR057	547750.887	1060152.357	103.785	URBAN TERRAIN	NVA	2	6350
UR058	550843.729	1066401.484	81.157	URBAN TERRAIN	NVA	2	6350
UR059	554349.006	1074311.806	77.148	URBAN TERRAIN	NVA	2	6350
UR060	555835.123	1077439.341	67.698	URBAN TERRAIN	NVA	2	6350

UR061	559979.51	1079161.96	83.746	URBAN TERRAIN	NVA	2	6350
UR062	551388.727	1086880.102	61.044	URBAN TERRAIN	NVA	2	6350
UR063	559596.745	1096229.545	69.6	URBAN TERRAIN	NVA	2	6350
UR064	560425.545	1105385.612	67.576	URBAN TERRAIN	NVA	2	6350
UR065	582211.52	1102838.145	135.246	URBAN TERRAIN	NVA	2	6350
UR066	573241.223	1083490.405	94.321	URBAN TERRAIN	NVA	2	6350
UR067	577849.276	1086480.919	110.19	URBAN TERRAIN	NVA	2	6350
UR068	563540.3237	1050564.261	105.392	URBAN TERRAIN	NVA	3	6350
UR069	555927.3824	1047390.109	97.327	URBAN TERRAIN	NVA	3	6350
UR070	550561.7044	1040379.228	84.246	URBAN TERRAIN	NVA	3	6350
UR071	557487.612	1041004.387	110.815	URBAN TERRAIN	NVA	3	6350
UR072	563473.4663	1040036.051	138.256	URBAN TERRAIN	NVA	3	6350
UR073	574382.4543	1041778.113	114.201	URBAN TERRAIN	NVA	3	6350
UR074	580157.4192	1043489.27	115.022	URBAN TERRAIN	NVA	3	6350

1.2 RTN-RTK Control Comparison

45V119	3707769.907	367214.473	55.11	NGS	N	E	ELV
45V119_901	3707769.908	367214.471	55.093	OPUS	0.00	0.00	0.02
45V119_902	3707769.9	367214.476	55.1	CHK	0.01	0.00	0.01
45V119_902A	3707769.91	367214.472	55.122	CHK	0.00	0.00	-0.01
45V119_903	3707769.911	367214.475	55.121	CHK	0.00	0.00	-0.01
45V119_904	3707769.909	367214.454	55.135	CHK	0.00	0.02	-0.02
45V119_905	3707769.912	367214.465	55.123	CHK	0.00	0.01	-0.01
45V119_906	3707769.904	367214.461	55.137	CHK	0.00	0.01	-0.03
45V119_907	3707769.902	367214.468	55.129	CHK	0.01	0.01	-0.02
45V119_CHK902	3707769.91	367214.475	55.096	CHK	0.00	0.00	0.01
45V119_CHK908	3707769.901	367214.479	55.124	CHK	0.01	-0.01	-0.01
45V119_CHK909	3707769.907	367214.473	55.12	CHK	0.00	0.00	-0.01
45V119_CHK910	3707769.9	367214.459	55.134	CHK	0.01	0.01	-0.02
45V119_CHK911	3707769.903	367214.468	55.106	CHK	0.00	0.01	0.00
45V119_CHK912	3707769.902	367214.461	55.112	CHK	0.01	0.01	0.00
45V119_CHK913	3707769.845	367214.486	55.016	CHK	0.06	-0.01	0.09
45V119_CHK913A	3707769.862	367214.47	55.057	CHK	0.04	0.00	0.05
45V119_CHK914	3707769.906	367214.468	55.116	CHK	0.00	0.01	-0.01
45V119_CHK915	3707769.895	367214.465	55.14	CHK	0.01	0.01	-0.03
45V119_CHK916	3707769.919	367214.465	55.138	CHK	-0.01	0.01	-0.03
45V119_CHK917	3707769.907	367214.474	55.161	CHK	0.00	0.00	-0.05
45V119_CHK918	3707769.904	367214.466	55.095	CHK	0.00	0.01	0.02
45V119_OPUS	3707769.914	367214.473	55.075	CHK	-0.01	0.00	0.03

45V119check103	3707769.878	367214.483	55.087	CHK	0.03	-0.01	0.02
45V119chk101	3707769.929	367214.476	55.144	CHK	-0.02	0.00	-0.03
45V119chk102	3707769.92	367214.473	55.141	CHK	-0.01	0.00	-0.03
45V119 Checks				Averages	0.005	0.003	-0.003

78V32	3793687.732	341955.151	91.043	NGS	N	E	ELV
78V32_Check100	3793687.737	341955.141	91.02	OPUS	-0.01	0.01	0.02
78V32_check101	3793687.745	341955.177	91.008	CHK	-0.01	-0.03	0.04
78V32_Check102	3793687.74	341955.148	91.008	CHK	-0.01	0.00	0.04
78V32_Check104	3793687.724	341955.153	91.013	CHK	0.01	0.00	0.03
78V32_check106	3793687.753	341955.172	91.015	CHK	-0.02	-0.02	0.03
78V32_check107	3793687.74	341955.141	91.036	CHK	-0.01	0.01	0.01
78V32_check108	3793687.724	341955.15	91.014	CHK	0.01	0.00	0.03
78V32_check109	3793687.741	341955.138	91.007	CHK	-0.01	0.01	0.04
78V32_Chk105	3793687.742	341955.138	91.066	CHK	-0.01	0.01	-0.02
78V32_OPUS	3793687.738	341955.133	91.097	CHK	-0.01	0.02	-0.05
78V32check110	3793687.757	341955.15	90.978	CHK	-0.03	0.00	0.07
78V32check111	3793687.754	341955.124	91.058	CHK	-0.02	0.03	-0.02
78V32check112	3793687.749	341955.153	90.988	CHK	-0.02	0.00	0.06
78V32check113	3793687.741	341955.145	91.069	CHK	-0.01	0.01	-0.03
78V32 Checks				Averages	-0.010	0.004	0.016

Z362	3577364.851	766440.679	82.266	NGS	N	E	ELV
Z362_OPUS	3577364.869	766440.69	82.23	OPUS	-0.02	-0.01	0.04
Z362check101	3577364.853	766440.717	82.252	CHK	0.00	-0.04	0.01
Z362check102	3577364.862	766440.684	82.228	CHK	-0.01	-0.01	0.04
Z362check103	3577364.874	766440.701	82.227	CHK	-0.02	-0.02	0.04
Z362check104	3577364.858	766440.704	82.232	CHK	-0.01	-0.03	0.03
Z362check105	3577364.866	766440.692	82.22	CHK	-0.02	-0.01	0.05
Z362check106	3577364.858	766440.698	82.243	CHK	-0.01	-0.02	0.02
Z362check107	3577364.865	766440.704	82.235	CHK	-0.01	-0.03	0.03
Z362check108	3577364.871	766440.663	82.233	CHK	-0.02	0.02	0.03
Z362check109	3577364.875	766440.663	82.255	CHK	-0.02	0.02	0.01
Z362check110	3577364.862	766440.691	82.242	CHK	-0.01	-0.01	0.02
Z362check111	3577364.887	766440.689	82.232	CHK	-0.04	-0.01	0.03
Z362check112	3577364.862	766440.686	82.226	CHK	-0.01	-0.01	0.04
Z362check113	3577364.873	766440.686	82.245	CHK	-0.02	-0.01	0.02
Z362check114	3577364.869	766440.671	82.231	CHK	-0.02	0.01	0.04
Z362check115	3577364.854	766440.666	82.232	CHK	0.00	0.01	0.03
z362check116	3577364.864	766440.691	82.24	CHK	-0.01	-0.01	0.03
z362check117	3577364.858	766440.68	82.248	CHK	-0.01	0.00	0.02

Z362check118	3577364.862	766440.7	82.233	CHK	-0.01	-0.02	0.03
Z362 Checks				Averages	-0.014	-0.009	0.030

1.3 RTN-RTK TRIMBLE R8/R10 GNSS QAQC REPORTS

Block 1

Vector ID	Point ID	Solution Type	PDOP	H. Precision	V. Precision	Satellites	Epochs	Antenna Height
V2	FENDER_703	Fixed	1.8	0.008	0.011	13	180	2
V3	45V119_901	Fixed	1.828	0.008	0.012	12	180	2
V4	45V119_902	Fixed	1.661	0.009	0.009	11	180	2
V5	45V119_CHK902	Fixed	1.651	0.014	0.014	11	31	2
V6	OT061	Fixed	1.524	0.015	0.015	12	30	2
V7	BE061	Fixed	1.958	0.016	0.016	12	31	2
V8	LCP901	Fixed	1.883	0.015	0.018	10	30	2
V9	UR062	Fixed	1.387	0.014	0.015	13	30	2
V10	BE067	Fixed	1.518	0.014	0.016	12	30	2
V11	LCP902	Fixed	1.771	0.013	0.016	12	30	2
V12	UR101	Fixed	1.235	0.011	0.013	16	31	2
V13	OT091	Fixed	1.37	0.013	0.015	14	31	2
V14	UR093	Fixed	1.84	0.013	0.015	13	30	2
V15	BE091	Fixed	1.488	0.013	0.016	13	30	2
V16	LCP903	Fixed	1.502	0.013	0.015	13	30	2
V17	UR091	Fixed	1.567	0.015	0.016	13	30	2
V18	XVVA	Fixed	1.676	0.015	0.019	12	31	2
V19	UR068	Float	2.092	0.093	0.144	11	133	2
V20	XNVA902	Fixed	1.713	0.014	0.017	15	31	2
V21	XNVA903	Fixed	1.585	0.012	0.016	14	31	2
V22	OT067	Fixed	1.432	0.013	0.017	15	4	2
V23	OT068	Fixed	1.429	0.012	0.015	15	31	2
V24	OT067A	Fixed	1.376	0.012	0.015	15	31	2
V25	45V119_902A	Fixed	2.289	0.01	0.011	13	180	2
V26	45V119_903	Fixed	1.622	0.009	0.01	12	180	2
V27	BR049	Fixed	1.575	0.017	0.019	12	6	2
V28	BR049A	Fixed	1.574	0.015	0.017	12	31	2
V29	HG051	Fixed	1.952	0.018	0.022	10	31	2
V30	HG051	Fixed	1.766	0.016	0.015	11	30	2
V31	TR070	Fixed	1.507	0.013	0.014	12	30	2
V32	TR074	Fixed	1.701	0.014	0.016	12	30	2
V33	BE099	Fixed	2.425	0.019	0.022	12	30	2

V34	LCP904	Fixed	1.46	0.014	0.017	14	30	2
V35	OT097	Fixed	1.527	0.013	0.017	13	30	2
V36	BE097	Fixed	1.935	0.013	0.017	15	30	2
V37	BE097A	Fixed	1.376	0.012	0.015	15	31	2
V38	LCP905	Fixed	1.582	0.011	0.013	13	30	2
V39	XNVVA902	Fixed	1.421	0.015	0.017	12	30	2
V40	TR050	Fixed	2.119	0.019	0.021	10	31	2
V41	XVVA902	Fixed	1.961	0.021	0.018	13	30	2
V42	HG049	Fixed	1.384	0.014	0.013	13	31	2
V43	HG045	Fixed	1.907	0.016	0.018	11	30	2
V44	BR043	Fixed	1.716	0.012	0.014	12	30	2
V45	TR044	Fixed	2.138	0.015	0.014	10	30	2
V46	TR046	Fixed	2.089	0.011	0.014	13	30	2
V47	45V119_904	Fixed	1.841	0.009	0.01	14	180	2
V48	45V119_905	Fixed	1.745	0.009	0.011	10	181	2
V49	HG051N	Fixed	1.692	0.017	0.015	10	31	2
V50	UR091N	Float	1.448	0.097	0.106	12	30	2
V51	UR091NEW	Fixed	1.809	0.017	0.019	12	30	2
V52	HG069	Fixed	1.784	0.013	0.017	11	31	2
V53	TR076	Fixed	2.8	0.025	0.028	12	30	2
V54	BR075	Fixed	1.627	0.015	0.017	11	30	2
V55	OT101	Fixed	2.789	0.013	0.021	9	31	2
V56	XNVA903N	Fixed	1.613	0.015	0.02	13	30	2
V57	HG083	Fixed	1.507	0.014	0.016	12	30	2
V58	OT103	Fixed	1.614	0.015	0.018	12	31	2
V59	XLCP901	Fixed	1.542	0.014	0.016	12	30	2
V60	TR080	Float	5.096	0.34	0.365	11	73	2
V61	TR080A	Fixed	2.805	0.021	0.024	11	30	2
V62	OT105	Fixed	1.845	0.019	0.02	12	30	2
V63	TR082	Fixed	1.529	0.014	0.013	13	31	2
V64	BR081	Fixed	3.356	0.034	0.035	11	31	2
V65	BE105	Fixed	1.576	0.013	0.016	13	31	2
V66	LCP906	Fixed	1.477	0.011	0.013	14	30	2
V67	LUR105	Fixed	1.613	0.011	0.014	13	30	2
V68	XVVA903	Fixed	1.684	0.012	0.015	12	31	2
V69	UR103	Fixed	1.431	0.012	0.013	14	31	2
V70	45V119_906	Fixed	1.589	0.009	0.01	14	180	2
V71	45V119_907	Fixed	1.685	0.01	0.011	11	180	2
V72	UR099	Fixed	1.812	0.017	0.018	10	30	2
V73	BR073	Fixed	1.886	0.014	0.018	10	30	2
V74	XLCP902	Fixed	1.32	0.013	0.015	14	31	2

V75	BE103	Fixed	1.619	0.013	0.016	12	30	2
V76	LCP907	Fixed	1.564	0.012	0.015	12	31	2
V77	BR079	Fixed	1.668	0.012	0.015	12	30	2
V78	HG079	Fixed	1.856	0.012	0.014	11	30	2
V79	XVVA904	Fixed	2.375	0.014	0.017	11	30	2
V80	UR097	Fixed	1.726	0.019	0.017	12	31	2
V81	HG075	Fixed	1.561	0.018	0.019	13	31	2
V82	XNVE904	Fixed	1.988	0.016	0.021	12	31	2
V83	HG073	Fixed	3.036	0.028	0.039	12	31	2
V84	OT093	Fixed	1.41	0.012	0.016	15	31	2
V85	XLCP904	Fixed	1.244	0.014	0.015	15	31	2
V86	BE093	Fixed	1.724	0.016	0.015	16	31	2
V87	BR069	Fixed	2.244	0.011	0.014	13	31	2
V88	LCP908	Fixed	1.387	0.012	0.014	14	30	2
V89	45V119_CHK908	Fixed	1.405	0.009	0.01	15	180	2
V90	45V119_CHK909	Fixed	1.752	0.01	0.011	10	180	2
V91	TR068	Fixed	2.922	0.013	0.014	12	30	2
V92	XNVA905	Fixed	1.927	0.014	0.015	13	31	2
V93	OT099	Fixed	1.439	0.012	0.013	14	31	2
V94	BE101	Fixed	1.946	0.013	0.015	11	30	2
V95	LCP0909	Fixed	2.307	0.014	0.014	12	31	2
V96	OT087	Fixed	1.349	0.013	0.014	14	30	2
V97	HG0067	Fixed	1.832	0.023	0.024	16	30	2
V98	XVVA905	Fixed	1.834	0.017	0.022	14	30	2
V99	UR087	Fixed	3.371	0.024	0.035	13	31	2
V100	BE087	Fixed	2.559	0.019	0.025	16	30	2
V101	LCP910	Fixed	2.552	0.017	0.023	16	31	2
V102	XLCP905	Fixed	1.62	0.011	0.015	15	30	2
V103	BR067	Fixed	1.439	0.012	0.016	15	30	2
V104	HG063	Fixed	1.361	0.012	0.015	16	30	2
V105	OT085	Fixed	1.654	0.015	0.016	15	31	2
V106	BR063	Fixed	2.067	0.016	0.02	11	31	2
V107	TR064	Fixed	2.062	0.018	0.019	11	30	2
V108	HG051A	Fixed	2.503	0.016	0.022	9	31	2
V109	45V119_CHK910	Fixed	1.785	0.01	0.012	12	181	2
V110	45V119_CHK911	Fixed	1.657	0.011	0.011	11	180	2
V111	XLCP906	Fixed	1.606	0.019	0.017	11	30	2
V112	BR045	Fixed	1.506	0.015	0.013	12	30	2
V113	UR064	Fixed	1.422	0.015	0.015	12	30	2
V114	XVVA906	Fixed	1.706	0.013	0.016	11	31	2
V115	OT081	Fixed	1.967	0.015	0.019	10	31	2

V116	HG061	Fixed	1.748	0.012	0.015	13	30	2
V117	TR058	Fixed	2.549	0.019	0.024	11	30	2
V118	BR061	Fixed	1.754	0.011	0.015	12	31	2
V119	XNVA906	Fixed	2.222	0.013	0.018	10	30	2
V120	TR062	Fixed	59.049	0.113	0.134	12	94	2
V121	TR062A	Fixed	1.861	0.013	0.016	11	31	2
V122	BE085	Fixed	2.216	0.022	0.027	12	30	2
V123	LCP911	Fixed	1.732	0.013	0.016	14	30	2
V124	UR085	Fixed	1.752	0.012	0.016	13	31	2
V125	LCP912	Fixed	1.389	0.012	0.016	16	31	2
V126	BE081	Fixed	1.323	0.012	0.015	16	30	2
V127	UR081	Fixed	1.366	0.014	0.016	14	30	2
V128	TR056	Fixed	2.406	0.026	0.03	11	31	2
V129	45V119_CHK912	Fixed	1.378	0.009	0.01	14	180	2
V130	45V119_CHK913	Fixed	2.039	0.013	0.014	11	180	2
V131	45V119_CHK913A	Fixed	1.995	0.013	0.015	11	180	2
V132	OT079	Fixed	1.477	0.013	0.015	13	30	2
V133	BE079	Fixed	2.571	0.018	0.023	10	31	2
V134	LCP913	Fixed	1.518	0.014	0.016	12	31	2
V135	HG057	Fixed	1.387	0.014	0.014	13	31	2
V136	UR079	Fixed	1.541	0.013	0.014	13	30	2
V137	BE075	Fixed	1.815	0.014	0.016	13	30	2
V138	LCP914	Fixed	2.194	0.015	0.018	12	31	2
V139	TR052	Fixed	2.992	0.031	0.037	11	30	2
V140	BE069	Fixed	2.332	0.014	0.018	12	31	2
V141	LCP915	Fixed	2.424	0.024	0.031	12	30	2
V142	XVVA907	Fixed	1.673	0.015	0.018	13	31	2
V143	OT075	Fixed	1.782	0.013	0.017	13	30	2
V144	BR057	Fixed	1.545	0.011	0.014	14	30	2
V145	BE073	Fixed	1.34	0.012	0.015	16	31	2
V146	LCP916	Fixed	1.39	0.012	0.014	15	30	2
V147	UR074	Fixed	1.25	0.015	0.016	14	30	2
V148	UR075	Fixed	1.615	0.014	0.016	12	31	2
V149	XLCP907	Fixed	1.418	0.014	0.016	13	31	2
V150	XNVA907	Fixed	1.818	0.014	0.016	12	31	2
V151	45V119_CHK914	Fixed	1.733	0.009	0.009	15	180	2
V152	45V119_CHK915	Fixed	1.666	0.014	0.013	12	180	2
V153	BE063	Fixed	1.528	0.014	0.015	12	30	2
V154	OT063	Fixed	2.335	0.014	0.018	10	31	2
V155	LCP917	Fixed	1.826	0.013	0.017	11	31	2
V156	UR070	Fixed	1.359	0.012	0.013	14	31	2

V157	OT069	Fixed	1.481	0.012	0.012	12	31	2
V158	HG055	Fixed	2.289	0.013	0.014	9	30	2
V159	XLCP908	Fixed	1.521	0.017	0.015	12	30	2
V160	OT073	Fixed	1.366	0.014	0.016	15	30	2
V161	XNVA908	Fixed	1.359	0.014	0.017	15	31	2
V162	BR055	Fixed	2.143	0.019	0.023	11	30	2
V163	VVA908	Fixed	1.711	0.014	0.016	12	30	2
V164	HG037	Fixed	1.432	0.012	0.015	15	31	2
V165	HG039	Fixed	1.508	0.013	0.016	14	30	2
V166	HG040	Fixed	3.867	0.017	0.029	9	31	2
V167	OT055	Fixed	1.29	0.014	0.015	15	31	2
V168	45V119_CHK916	Fixed	1.812	0.008	0.009	11	180	2
V169	45V119_CHK917	Fixed	1.681	0.01	0.01	11	180	2
V170	BE0051	Fixed	1.827	0.018	0.019	12	30	2
V171	LCP918	Fixed	2.715	0.017	0.02	10	30	2
V172	OT051	Fixed	1.962	0.012	0.015	10	30	2
V173	BR031	Fixed	2.02	0.014	0.017	12	31	2
V174	XLCP909	Fixed	1.519	0.013	0.014	13	31	2
V175	XVVA909	Fixed	1.777	0.015	0.017	12	30	2
V176	NVA909	Fixed	1.874	0.013	0.016	11	31	2
V177	45V119_CHK918	Fixed	1.593	0.01	0.013	13	180	2
V178	78V32_Check100	RTK	1.556	0.026	0.033	12	180	2
V179	BR001	RTK	1.513	0.07	0.075	12	31	2
V180	XOT101_VVA	RTK	1.583	0.024	0.031	13	31	2
V181	HG001	RTK	1.798	0.021	0.025	11	31	2
V182	XTR101_VVA	RTK	3.27	0.041	0.021	10	30	2
V183	BE001	RTK	1.516	0.014	0.016	12	31	2
V184	XNVA101	RTK	1.457	0.014	0.015	13	31	2
V185	HG001 redo	RTK	1.249	0.013	0.015	15	31	2
V186	XVVA101	RTK	1.463	0.015	0.019	15	31	2
V187	BR001 redo	RTK	1.462	0.018	0.026	13	31	2
V188	XNVA102	RTK	1.428	0.014	0.016	14	31	2
V189	LCP101	RTK	1.754	0.014	0.017	12	31	2
V190	OT003	RTK	1.483	0.013	0.017	13	31	2
V191	BE003	RTK	1.346	0.014	0.019	14	31	2
V192	HG003	RTK	1.846	0.015	0.02	13	31	2
V193	BR003	RTK	1.94	0.016	0.021	11	31	2
V194	UR004	RTK	1.496	0.015	0.021	13	31	2
V195	LCP102	RTK	1.441	0.012	0.017	13	31	2
V196	78V32_check101	RTK	1.823	0.012	0.018	12	180	2
V197	78V32_Check102	RTK	1.78	0.011	0.013	12	180	2

V198	BE007	RTK	1.729	0.018	0.024	11	31	2
V199	XLCP101	RTK	2.188	0.024	0.029	11	31	2
V200	BR007	RTK	1.915	0.021	0.029	10	31	2
V201	BE009	RTK	1.76	0.019	0.029	11	30	2
V202	XVVA102	RTK	2.059	0.024	0.031	10	31	2
V203	TR008	RTK	1.53	0.025	0.033	12	30	2
V204	XVVA103	RTK	1.855	0.021	0.028	11	31	2
V205	UR008	RTK	2.302	0.026	0.036	10	31	2
V206	OT009	RTK	1.329	0.019	0.019	13	31	2
V207	HG007	RTK	1.473	0.022	0.021	12	31	2
V208	OT007	RTK	1.528	0.017	0.019	12	31	2
V209	LCP104	RTK	1.669	0.017	0.022	12	31	2
V210	XLCP102	RTK	1.751	0.017	0.024	12	31	2
V211	UR010	RTK	1.745	0.017	0.026	12	31	2
V212	LCP05	RTK	1.562	0.018	0.025	14	31	2
V213	UR002	RTK	1.932	0.012	0.018	14	31	2
V214	78V32_Check104	RTK	1.646	0.012	0.024	14	180	2
V215	78V32_Chk105	RTK	1.367	0.01	0.012	14	180	2
V216	TR002	RTK	2.284	0.033	0.036	10	30	2
V217	OT001	RTK	1.819	0.018	0.029	12	31	2
V218	HG009	RTK	1.933	0.019	0.028	13	31	2
V219	BR009	RTK	1.869	0.022	0.029	12	31	2
V220	TR010	RTK	1.44	0.036	0.025	14	30	2
V221	TR004	RTK	1.656	0.018	0.022	13	31	2
V222	78V32_check106	RTK	1.571	0.019	0.023	13	180	2
V223	78V32_check107	RTK	1.626	0.014	0.017	11	180	2
V224	HG021	RTK	1.7	0.014	0.018	11	31	2
V225	UR038	RTK	1.535	0.048	0.031	11	31	2
V226	XLCP103	RTK	1.54	0.022	0.027	11	31	2
V227	OT027	RTK	1.982	0.016	0.021	10	31	2
V228	BR021_2	RTK	1.668	0.015	0.019	11	31	2
V229	BR025	RTK	1.287	0.017	0.019	14	31	2
V230	TR026	RTK	2.017	0.026	0.03	12	31	2
V231	OT031	RTK	1.586	0.03	0.034	13	31	2
V232	UR028	RTK	1.758	0.014	0.02	12	31	2
V233	XNVA103	RTK	1.76	0.014	0.02	12	31	2
V234	TR022	RTK	1.66	0.041	0.049	12	30	2
V235	UR022	RTK	1.925	0.018	0.029	13	30	2
V236	OT015	RTK	2.306	0.016	0.025	12	31	2
V237	BE027	RTK	1.595	0.019	0.029	16	31	2
V238	LCP105	RTK	1.653	0.089	0.052	15	30	2

V239	BE033	RTK	1.332	0.02	0.026	14	31	2
V240	LCP106	RTK	1.468	0.026	0.034	15	31	2
V241	HG027	RTK	1.323	0.019	0.023	14	31	2
V242	HG025	RTK	1.432	0.024	0.026	14	31	2
V243	BR027	RTK	1.663	0.029	0.03	13	31	2
V244	78V32_check108	RTK	1.583	0.012	0.017	15	180	2
V245	78V32_check109	RTK	2.015	0.018	0.025	10	180	2
V246	OT013	RTK	2.359	0.022	0.028	11	31	2
V247	BE013	RTK	1.245	0.016	0.016	15	31	2
V248	LCP107	RTK	1.248	0.015	0.015	15	31	2
V249	HG013	RTK	1.259	0.015	0.015	15	31	2
V250	BR013	RTK	1.504	0.016	0.016	13	31	2
V251	BE019	RTK	1.357	0.013	0.018	14	31	2
V252	LCP108	RTK	1.251	0.013	0.018	15	31	2
V253	OT019	RTK	1.312	0.012	0.019	16	31	2
V254	BE025	RTK	2.059	0.013	0.023	13	31	2
V255	LCP109	RTK	3.009	0.022	0.031	10	31	2
V256	UR016	RTK	1.431	0.02	0.026	16	31	2
V257	XNVA104	RTK	1.43	0.026	0.035	16	31	2
V258	UR014	RTK	1.918	0.02	0.029	12	31	2
V259	XLCP104	RTK	1.398	0.013	0.017	16	31	2
V260	BR019	RTK	1.794	0.015	0.023	13	31	2
V261	HG019	RTK	1.221	0.012	0.016	17	31	2
V262	OT025	RTK	1.189	0.019	0.024	17	31	2
V263	BE021	RTK	1.414	0.019	0.022	14	31	2
V264	LCP110	RTK	1.292	0.02	0.023	15	31	2
V265	TR016	RTK	1.846	0.024	0.032	14	30	2
V266	XVVA104	RTK	1.791	0.018	0.025	15	31	2
V267	UR020	RTK	1.585	0.016	0.02	15	31	2
V268	78V32check110	RTK	1.61	0.017	0.029	13	180	2
V269	78V32check111	RTK	2.326	0.013	0.017	10	180	2
V270	BE015	RTK	1.726	0.019	0.027	11	31	2
V271	LCP111	RTK	1.925	0.024	0.031	10	30	2
V272	TR014	RTK	1.461	0.021	0.024	13	31	2
V273	BR015	RTK	1.643	0.027	0.031	14	30	2
V274	OT021	RTK	1.586	0.024	0.029	13	31	2
V275	XVVA105	RTK	1.589	0.023	0.028	13	31	2
V276	TR020	RTK	1.72	0.023	0.029	13	31	2
V277	UR026	RTK	1.383	0.024	0.033	15	31	2
V278	XLCP105	RTK	1.467	0.021	0.031	14	31	2
V279	XNVA105	RTK	1.439	0.024	0.033	14	31	2

V280	BE045	RTK	1.729	0.021	0.032	14	31	2
V281	LCP112	RTK	1.732	0.022	0.033	14	31	2
V282	BE043	RTK	1.663	0.012	0.018	15	30	2
V283	LCP113	RTK	1.489	0.013	0.017	17	31	2
V284	TR034	RTK	1.657	0.014	0.02	14	31	2
V285	UR050	RTK	1.453	0.029	0.03	13	31	2
V286	OT045	RTK	1.482	0.029	0.031	13	31	2
V287	HG015	RTK	1.585	0.023	0.029	13	31	2
V288	78V32check112	RTK	1.699	0.009	0.015	13	180	2
V289	78V32check113	RTK	2.301	0.014	0.022	11	180	2
V290	OT033	RTK	1.548	0.024	0.023	12	31	2
V291	BE031	RTK	1.524	0.033	0.023	13	30	2
V292	LCP115	RTK	1.539	0.026	0.023	12	31	2
V293	XVVA106	RTK	1.384	0.024	0.018	14	31	2
V294	TR028	RTK	1.459	0.035	0.03	15	30	2
V295	OT037	RTK	1.576	0.023	0.025	13	30	2
V296	XNVA106	RTK	1.615	0.024	0.027	13	30	2
V297	UR032	RTK	2.055	0.023	0.031	12	30	2
V298	XLCP106	RTK	1.892	0.022	0.03	12	30	2
V299	BE037	RTK	1.314	0.02	0.026	15	30	2
V300	LCP116	RTK	1.319	0.018	0.024	15	30	2
V301	OT039	RTK	1.793	0.021	0.031	14	31	2
V302	UR034	RTK	1.508	0.022	0.034	14	31	2
V303	BE039	RTK	1.801	0.018	0.028	14	31	2
V304	LCP117	RTK	1.849	0.016	0.026	14	31	2
V305	HG031	RTK	1.55	0.022	0.031	16	30	2
V306	UR056	RTK	1.253	0.018	0.025	15	31	2
V307	HG043	RTK	1.528	0.026	0.029	13	30	2
V308	BE057	RTK	1.607	0.019	0.03	12	31	2
V309	LCP118	RTK	1.483	0.022	0.03	13	30	2
V310	UR058	RTK	1.415	0.026	0.035	14	31	2
V311	OT057	RTK	1.331	0.024	0.034	16	31	2
V312	45V119chk101	RTK	1.489	0.009	0.013	13	180	2
V313	45V119chk102	RTK	1.914	0.01	0.015	12	180	2
V314	TR032	RTK	1.845	0.034	0.034	12	31	2
V315	UR044	RTK	1.296	0.019	0.019	14	31	2
V316	XVVA107	RTK	1.3	0.022	0.022	14	31	2
V317	OT043	RTK	1.305	0.017	0.017	15	31	2
V318	BR033	RTK	1.861	0.021	0.024	10	31	2
V319	BE055	RTK	1.347	0.015	0.019	14	31	2
V320	LCP119	RTK	1.475	0.014	0.018	13	31	2

V321	BE049	RTK	1.812	0.014	0.021	14	31	2
V322	LCP120	RTK	1.822	0.014	0.021	14	31	2
V323	UR046	RTK	2.205	0.014	0.023	13	31	2
V324	XLCP107	RTK	2.749	0.014	0.022	13	31	2
V325	HG033	RTK	1.804	0.017	0.024	13	30	2
V326	BR037	RTK	2.441	0.018	0.023	11	31	2
V327	OT049	RTK	1.573	0.017	0.026	13	31	2
V328	BR039	RTK	1.579	0.018	0.025	12	31	2
V329	TR038	RTK	1.384	0.028	0.035	13	31	2
V330	UR040	RTK	1.548	0.024	0.029	12	30	2
V331	UR052	RTK	1.528	0.016	0.018	13	31	2
V332	45V119check103	RTK	1.678	0.011	0.017	14	180	2

Block 2

Vector ID	Point ID	Solution Type	PDOP	H. Precision	V. Precision	Satellites	Epochs	Antenna Height
V1	Z362 check101	RTK	1.765	0.015	0.039	14	180	2
V2	UR13	RTK	1.215	0.02	0.034	16	31	2
V3	OT01	RTK	1.657	0.019	0.037	15	31	2
V4	TR101	RTK	3.561	0.065	0.089	13	15	2
V5	HG01	RTK	1.421	0.02	0.034	15	31	2
V6	BE02	RTK	1.903	0.021	0.037	13	31	2
V7	LCP01	RTK	1.695	0.019	0.036	13	31	2
V8	OT2	RTK	1.374	0.015	0.029	16	31	2
V9	LCP101	RTK	1.371	0.016	0.031	16	31	2
V10	UR16	RTK	1.795	0.028	0.051	14	31	2
V11	OT04	RTK	1.514	0.018	0.04	14	31	2
V12	UR15	RTK	1.51	0.018	0.037	12	31	2
V13	HG04	RTK	1.411	0.02	0.036	12	31	2
V14	TR03	RTK	2.212	0.019	0.038	11	30	2
V15	BR04	RTK	1.391	0.024	0.053	16	31	2
V16	OT101	RTK	1.41	0.014	0.032	16	31	2
V17	TR06	RTK	1.764	0.02	0.047	16	31	2
V18	Z362check102	RTK	1.719	0.023	0.051	13	172	2
V19	Z362check103	RTK	1.488	0.022	0.05	17	180	2
V20	OT03	RTK	1.853	0.016	0.037	14	31	2
V21	BE04	RTK	1.262	0.015	0.034	16	31	2
V22	LCP02	RTK	1.634	0.025	0.055	14	31	2
V23	TR02	RTK	1.411	0.025	0.054	15	30	2
V24	LCP102	RTK	1.263	0.016	0.033	16	31	2
V25	BR03	RTK	1.178	0.018	0.033	17	31	2

V26	OT102	RTK	1.222	0.018	0.032	17	31	2
V27	HG02	RTK	2.121	0.019	0.035	13	31	2
V28	UR14	RTK	1.555	0.018	0.033	13	31	2
V29	TR102	RTK	1.995	0.033	0.059	12	31	2
V30	BR01	RTK	1.603	0.037	0.067	13	31	2
V31	TR01	RTK	2.801	0.025	0.062	10	30	2
V32	BR02	RTK	2.129	0.035	0.066	12	30	2
V33	HG03	RTK	1.493	0.017	0.03	13	31	2
V34	BE03	RTK	1.609	0.017	0.03	12	31	2
V35	LCP03	RTK	2.031	0.017	0.03	11	31	2
V36	UR12	RTK	2.084	0.034	0.051	12	31	2
V37	OT16	RTK	1.702	0.017	0.032	14	31	2
V38	BR11	RTK	1.325	0.015	0.032	15	31	2
V39	OT15	RTK	1.293	0.018	0.035	14	31	2
V40	Z362check104	RTK	1.738	0.022	0.055	12	180	2
V41	Z362check105	RTK	1.494	0.015	0.035	15	180	2
V42	BE14	RTK	1.257	0.017	0.038	16	31	2
V43	LCP04	RTK	1.245	0.016	0.037	16	31	2
V44	TR10	RTK	2.138	0.019	0.054	13	30	2
V45	HG103	RTK	1.559	0.024	0.057	13	31	2
V46	HG10	RTK	1.579	0.015	0.034	14	31	2
V47	OT103	RTK	1.61	0.016	0.035	15	31	2
V48	BR09	RTK	1.37	0.019	0.047	16	31	2
V49	LCP103	RTK	1.366	0.016	0.034	16	31	2
V50	TR11	RTK	1.895	0.037	0.058	14	30	2
V51	OT14	RTK	1.303	0.02	0.038	16	31	2
V52	BR10	RTK	1.499	0.015	0.03	13	31	2
V53	UR11	RTK	1.511	0.015	0.029	13	31	2
V54	BE16	RTK	1.756	0.016	0.031	13	31	2
V55	LCP05	RTK	1.547	0.026	0.048	13	31	2
V56	HG11	RTK	1.558	0.016	0.031	13	31	2
V57	UR09	RTK	1.428	0.014	0.035	13	31	2
V58	UR10	RTK	1.498	0.015	0.037	13	31	2
V59	BE05	RTK	1.876	0.015	0.045	11	30	2
V60	LCP06	RTK	1.554	0.014	0.038	12	31	2
V61	UR08	RTK	1.815	0.048	0.065	12	31	2
V62	Z362check106	RTK	1.538	0.016	0.034	15	180	2
V63	Z362check107	RTK	1.478	0.017	0.035	16	180	2
V64	UR01	RTK	3.084	0.018	0.034	16	31	2
V65	LCP104	RTK	1.24	0.017	0.033	16	31	2
V66	TR09	RTK	2.618	0.112	0.153	9	31	2

V67	HG09	RTK	1.829	0.034	0.059	12	30	2
V68	BE12	RTK	1.433	0.019	0.034	13	31	2
V69	LCP07	RTK	1.431	0.016	0.028	13	31	2
V70	UR04	RTK	1.605	0.016	0.03	14	31	2
V71	OT104	RTK	1.611	0.016	0.029	14	31	2
V72	OT13	RTK	2.068	0.017	0.036	11	31	2
V73	BE13	RTK	1.343	0.019	0.044	15	31	2
V74	LCP08	RTK	1.339	0.018	0.043	15	31	2
V75	BR08	RTK	2.193	0.015	0.042	13	31	2
V76	BE11	RTK	1.601	0.014	0.04	14	31	2
V77	LCP09	RTK	1.853	0.014	0.038	14	31	2
V78	HG08	RTK	2.136	0.025	0.069	13	31	2
V79	TR104	RTK	1.866	0.022	0.06	12	30	2
V80	BR07	RTK	1.703	0.018	0.034	14	31	2
V81	TR08	RTK	2.969	0.033	0.061	9	31	2
V82	BE10	RTK	1.455	0.021	0.036	14	31	2
V83	LCP10	RTK	1.639	0.025	0.043	12	31	2
V84	OT09	RTK	1.588	0.021	0.04	15	31	2
V85	Z362check108	RTK	1.534	0.015	0.033	14	180	2
V86	Z362check109	RTK	1.976	0.007	0.017	13	180	2
V87	UR06	RTK	1.933	0.022	0.055	13	31	2
V88	LCP105	RTK	1.924	0.021	0.053	13	31	2
V89	UR07	RTK	2.05	0.019	0.043	14	31	2
V90	TR105	RTK	1.875	0.023	0.053	14	31	2
V91	OT10	RTK	1.795	0.02	0.045	14	31	2
V92	BE15	RTK	1.313	0.018	0.04	14	31	2
V93	LCP11	RTK	1.445	0.017	0.039	15	31	2
V94	OT105	RTK	1.247	0.017	0.037	15	31	2
V95	TR07	RTK	1.671	0.019	0.051	13	31	2
V96	HG07	RTK	1.327	0.019	0.038	14	31	2
V97	BE09	RTK	2.069	0.037	0.082	9	31	2
V98	LCP12	RTK	1.794	0.02	0.043	11	31	2
V99	UR05	RTK	1.416	0.014	0.025	15	31	2
V100	UR18	RTK	1.603	0.02	0.049	14	31	2
V101	OT05	RTK	1.622	0.02	0.05	13	30	2
V102	UR17	RTK	1.628	0.016	0.037	13	31	2
V103	OT08	RTK	1.605	0.017	0.039	13	31	2
V104	BE08	RTK	1.327	0.023	0.045	14	30	2
V105	LCP13	RTK	1.333	0.024	0.048	14	31	2
V106	TR05	RTK	1.639	0.019	0.047	13	31	2
V107	HG06	RTK	1.467	0.016	0.031	15	31	2

V108	Z362check110	RTK	1.452	0.023	0.045	16	180	2
V109	Z362check111	RTK	1.392	0.021	0.043	15	180	2
V110	OT06	RTK	1.312	0.015	0.032	15	31	2
V111	UR20	RTK	1.442	0.021	0.047	14	31	2
V112	UR21	RTK	1.696	0.017	0.038	14	31	2
V113	UR22	RTK	2.136	0.017	0.042	13	31	2
V114	UR23	RTK	1.95	0.017	0.039	12	31	2
V115	OT18	RTK	1.585	0.017	0.036	13	31	2
V116	UR19	RTK	1.31	0.019	0.035	15	31	2
V117	Z362check112	RTK	1.418	0.018	0.032	15	180	2
V118	Z362check113	RTK	1.772	0.016	0.038	13	180	2
V119	BE06	RTK	1.538	0.027	0.069	13	31	2
V120	LCP14	RTK	1.694	0.03	0.067	14	30	2
V121	BR05	RTK	3.188	0.019	0.05	12	35	2
V122	LCP106	RTK	2.448	0.015	0.045	10	30	2
V123	HG05	RTK	1.955	0.02	0.047	12	31	2
V124	BE07	RTK	1.264	0.017	0.031	15	31	2
V125	LCP15	RTK	1.327	0.016	0.029	16	31	2
V126	OT106	RTK	1.427	0.016	0.03	14	31	2
V127	TR04	RTK	1.49	0.047	0.155	14	30	2
V128	HG106	RTK	1.666	0.018	0.032	13	31	2
V129	OT07	RTK	1.379	0.017	0.03	16	31	2
V130	BR06	RTK	1.464	0.014	0.031	15	31	2
V131	TR13	RTK	1.886	0.02	0.042	15	31	2
V132	HG12	RTK	2.041	0.019	0.039	14	31	2
V133	BR12	RTK	1.675	0.023	0.042	14	31	2
V134	TR12	RTK	3.303	0.035	0.066	11	30	2
V135	BE17	RTK	1.623	0.019	0.035	14	31	2
V136	LCP16	RTK	1.622	0.018	0.034	14	31	2
V137	BR13	RTK	3.852	0.033	0.06	13	31	2
V138	HG13	RTK	1.885	0.033	0.063	13	30	2
V139	Z362check114	RTK	1.827	0.016	0.037	13	180	2
V140	Z362check115	RTK	1.42	0.017	0.031	17	180	2
V141	BE18	RTK	1.833	0.016	0.051	12	30	2
V142	LCP17	RTK	2.375	0.021	0.059	11	31	2
V143	TR107	RTK	1.852	0.026	0.063	12	31	2
V144	TR14	RTK	1.773	0.023	0.05	14	30	2
V145	OT107	RTK	1.448	0.021	0.047	14	31	2
V146	BR14	RTK	1.979	0.017	0.04	13	31	2
V147	BR15	RTK	1.537	0.023	0.057	14	31	2
V148	OT19	RTK	4.463	0.016	0.03	13	30	2

V149	BE107	RTK	1.759	0.025	0.049	12	31	2
V150	BE19	RTK	1.703	0.016	0.03	15	31	2
V151	LCP18	RTK	1.704	0.016	0.029	13	31	2
V152	HG15	RTK	1.365	0.016	0.03	16	31	2
V153	OT20	RTK	1.664	0.017	0.034	15	31	2
V154	BE21	RTK	1.592	0.02	0.044	13	31	2
V155	LCP19	RTK	1.932	0.023	0.052	13	31	2
V156	TR16	RTK	1.746	0.021	0.045	13	31	2
V157	BR16	RTK	1.538	0.02	0.04	14	31	2
V158	OT22	RTK	3.306	0.02	0.041	12	30	2
V159	BE20	RTK	1.659	0.017	0.036	13	31	2
V160	LCP20	RTK	1.655	0.016	0.035	13	31	2
V161	OT21	RTK	1.347	0.015	0.033	14	31	2
V162	UR03	RTK	1.646	0.017	0.036	13	31	2
V163	HG18	RTK	1.514	0.015	0.03	15	31	2
V164	BR17	RTK	1.56	0.028	0.056	17	31	2
V165	OT11	RTK	1.386	0.021	0.04	16	31	2
V166	z362check116	RTK	1.527	0.018	0.033	15	180	2
V167	z362check117	RTK	1.83	0.018	0.04	16	180	2
V168	UR02	RTK	1.465	0.019	0.04	15	31	2
V169	LCP108	RTK	1.435	0.02	0.049	16	31	2
V170	BE23	RTK	1.12	0.019	0.04	18	31	2
V171	LCP21	RTK	1.429	0.018	0.04	17	31	2
V172	BR18	RTK	2.32	0.023	0.072	11	30	2
V173	OT108	RTK	1.886	0.017	0.049	11	30	2
V174	TR18	RTK	1.961	0.022	0.044	15	30	2
V175	HG108	RTK	1.316	0.016	0.033	16	30	2
V176	OT23	RTK	1.51	0.021	0.038	13	31	2
V177	HG17	RTK	1.856	0.016	0.028	13	30	2
V178	TR17	RTK	2.025	0.028	0.057	12	21	2
V179	HG16	RTK	1.45	0.019	0.042	13	31	2
V180	BE22	RTK	1.575	0.02	0.04	13	31	2
V181	LCP22	RTK	1.376	0.019	0.038	14	31	2
V182	OT17	RTK	1.766	0.029	0.05	11	31	2
V183	OT12	RTK	1.473	0.016	0.03	16	31	2
V184	TR15	RTK	2.767	0.018	0.034	10	30	2
V185	HG14	RTK	1.319	0.019	0.033	16	31	2
V186	BE01	RTK	1.254	0.019	0.032	15	31	2
V187	LCP23	RTK	1.409	0.019	0.032	13	31	2
V188	Z362check118	RTK	1.708	0.018	0.034	14	180	2

1.4 Online Positioning User Service (OPUS) REPORT

NGS POINT: 45V119

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy

USER: ray.huey@atlantic.tech DATE: January 23, 2020
RINEX FILE: 45v1318v.19o TIME: 07:45:48 UTC

SOFTWARE: rsgps 1.38 RS95.prl 1.99.3 START: 2019/11/14 21:12:17
EPHEMERIS: igs20794.eph [precise] STOP: 2019/11/14 22:56:16
NAV FILE: brdc3180.19n OBS USED: 8134 / 9310 : 87%
ANT NAME: TRMR8_GNSS NONE QUALITY IND. 36.33/ 96.33
ARP HEIGHT: 2.00 NORMALIZED RMS: 0.318

	REF FRAME: NAD_83(2011)(EPOCH:2010.0000)		ITRF2014 (EPOCH:2019.87101)	
X:	145912.797(m)	0.004(m)	145911.933(m)	0.004(m)
Y:	-5322016.822(m)	0.014(m)	-5322015.358(m)	0.014(m)
Z:	3500462.757(m)	0.006(m)	3500462.609(m)	0.006(m)
LAT:	33 30 4.42476	0.006(m)	33 30 4.44740	0.006(m)
E LON:	271 34 13.70953	0.004(m)	271 34 13.67760	0.004(m)
W LON:	88 25 46.29047	0.004(m)	88 25 46.32240	0.004(m)
EL HGT:	26.798(m)	0.014(m)	25.476(m)	0.014(m)
ORTHO HGT:	55.071(m)	0.022(m) [NAVD88 (Computed using GEOID18)]		

UTM COORDINATES	STATE PLANE COORDINATES
UTM (Zone 16)	SPC (2301 MS E)
Northing (Y) [meters]	3707769.914	443700.346
Easting (X) [meters]	367214.473	337520.601
Convergence [degrees]	-0.78915000	0.22288611
Point Scale	0.99981738	0.99996735
Combined Factor	0.99981317	0.99996314

US NATIONAL GRID DESIGNATOR: 16SCC6721407769(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DM3493	ALFA FAYETTE FIRE STA CORS ARP	N334106.745	W0874945.509	59333.5
DL7333	MSME MERIDIAN 2010 CORS ARP	N322203.022	W0884356.779	128884.5
DP1253	MSBV BOONEVILLE CORS ARP	N343956.461	W0883351.484	129762.8
DM3971	ALJA CRTHOUSE ANNEX 2 CORS ARP	N334954.796	W0871639.265	112955.3
DN9085	AL81 ALDOT 8 DIV DIS 1 CORS ARP	N323432.544	W0881054.297	105221.4
DO9482	MSGN GREENVILLE CORS ARP	N332019.304	W0910227.437	243531.4
DK6714	MSOX OXFORD CORS ARP	N342150.930	W0893156.516	139849.1

NEAREST NGS PUBLISHED CONTROL POINT

DJ0216 45 V 119 N333004.424 W0882546.290 0.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

alfa	201229.452	-5308965.404	3517495.865
msme	119286.987	-5391117.980	3394977.329
msbv	131581.180	-5250067.757	3607497.857
alja	251912.851	-5297746.645	3531019.647
al81	170701.096	-5377264.759	3414412.916
msgn	-96902.995	-5333055.994	3485411.217
msox	43016.697	-5270505.616	3579942.783
45v1	145911.933	-5322015.358	3500462.609

Covariance matrix of the stations:

1 6.0450E-08 -9.7410E-08 7.0240E-08 1.5390E-08 1.9690E-08 -2.6390E-08 1.5980E-08 1.5660E-08 9.6240E-10 2.4820E-08 3.1150E-08 -1.9270E-08 1.9120E-08 2.4990E-08 -2.7810E-08 -2.0190E-09 4.1650E-10 -2.7850E-09 9.0860E-09 5.8640E-09 4.6530E-09 2.2080E-08 2.7630E-08 -1.9080E-08

2 -9.7410E-08 2.3800E-06 -1.5310E-06 1.7710E-08 -3.7350E-07 2.4540E-07 1.7650E-08 -3.6980E-07 2.6300E-07 2.5680E-08 -3.6280E-07 2.5000E-07 2.0960E-08 -3.6970E-07 2.4440E-07 2.5760E-09 -3.8410E-07 2.6170E-07 1.1840E-08 -3.7770E-07 2.6610E-07 5.3380E-09 7.0730E-08 -3.1350E-08

3 7.0240E-08 -1.5310E-06 1.0660E-06 -1.2120E-08 2.4320E-07 -1.4090E-07 -1.2820E-08 2.6510E-07 -1.6570E-07 -1.6540E-08 2.5090E-07 -1.5160E-07 -1.3670E-08 2.4280E-07 -1.4120E-07 -4.9080E-09 2.6160E-07 -1.5760E-07 -9.6650E-09 2.6730E-07 -1.6600E-07 -3.2960E-09 -2.8690E-08 3.8980E-08

4 1.5390E-08 1.7710E-08 -1.2120E-08 5.2080E-08 -6.5510E-08 4.5480E-08 1.5480E-08 1.1790E-08 -7.7930E-09 1.5260E-08 2.1840E-08 -1.4810E-08 1.5330E-08 1.5780E-08 -1.1190E-08 1.4290E-08 -6.1800E-09 3.3520E-09 1.5240E-08 4.5350E-09 -2.9850E-09 2.0550E-08 2.4290E-09 -1.3040E-09

5 1.9690E-08 -3.7350E-07 2.4320E-07 -6.5510E-08 2.3980E-06 -1.4790E-06 1.2290E-08 -3.8100E-07 2.6290E-07 2.4540E-08 -3.6770E-07 2.4100E-07 1.6680E-08 -3.6550E-07 2.2360E-07 -1.0810E-08 -3.8130E-07 2.4590E-07 3.1730E-09 -3.8650E-07 2.6300E-07 1.3340E-09 1.7120E-08 -1.0860E-08

6 -2.6390E-08 2.4540E-07 -1.4090E-07 4.5480E-08 -1.4790E-06 1.0150E-06 -1.0720E-08 2.6330E-07 -1.8530E-07 -3.6880E-08 2.3370E-07 -1.3680E-07 -1.9450E-08 2.2050E-07 -9.2840E-08 3.8940E-08 2.4560E-07 -1.3500E-07 9.0290E-09 2.6970E-07 -1.8120E-07 -3.4250E-09 -5.2940E-08 6.5470E-08

7 1.5980E-08 1.7650E-08 -1.2820E-08 1.5480E-08 1.2290E-08 -1.0720E-08 5.0970E-08 -6.5850E-08 5.2400E-08 1.6090E-08 2.2070E-08 -1.5610E-08 1.5750E-08 1.6430E-08 -1.3100E-08 1.3360E-08 -6.2710E-09 2.5040E-09 1.5000E-08 3.7910E-09 -2.6750E-09 2.0770E-08 4.2450E-09 -3.3520E-09

8 1.5660E-08 -3.6980E-07 2.6510E-07 1.1790E-08 -3.8100E-07 2.6330E-07 -6.5850E-08 2.3820E-06 -1.5930E-06 1.8250E-08 -3.6560E-07 2.6310E-07 1.4590E-08 -3.7790E-07 2.6260E-07 -1.0060E-09 -3.7670E-07 2.6860E-07 6.4950E-09 -3.6770E-07 2.6960E-07 4.2550E-10 5.9410E-09 2.1920E-08

9 9.6240E-10 2.6300E-07 -1.6570E-07 -7.7930E-09 2.6290E-07 -1.8530E-07 5.2400E-08 -1.5930E-06 1.1740E-06 6.2540E-09 2.7020E-07 -1.6850E-07 -2.2190E-09 2.6520E-07 -1.8390E-07 -3.2390E-08 2.6880E-07 -1.7340E-07 -1.7230E-08 2.6330E-07 -1.5420E-07 2.1210E-09 6.2980E-08 -3.1490E-08

10 2.4820E-08 2.5680E-08 -1.6540E-08 1.5260E-08 2.4540E-08 -3.6880E-08 1.6090E-08 1.8250E-08 6.2540E-09 7.2270E-08 -1.1010E-07 8.1450E-08 2.1220E-08 3.0550E-08 -3.7670E-08 -1.2040E-08 4.6780E-09 -6.4850E-09 5.1900E-09 6.9530E-09 9.2520E-09 2.2060E-08 4.6130E-08 -3.1910E-08

11 3.1150E-08 -3.6280E-07 2.5090E-07 2.1840E-08 -3.6770E-07 2.3370E-07 2.2070E-08 -3.6560E-07 2.7020E-07 -1.1010E-07 2.3610E-06 -1.5220E-06 2.7870E-08 -3.6200E-07 2.3290E-07 -5.7720E-09 -3.8240E-07 2.6080E-07 1.1260E-08 -3.7720E-07 2.7370E-07 1.1540E-08 3.0450E-08 -5.3340E-09

12 -1.9270E-08 2.5000E-07 -1.5160E-07 -1.4810E-08 2.4100E-07 -1.3680E-07 -1.5610E-08 2.6310E-07 -1.6850E-07 8.1450E-08 -1.5220E-06 1.0640E-06 -1.7400E-08 2.3950E-07 -1.3710E-07 -2.9170E-09 2.6180E-07 -1.5820E-07 -1.0600E-08 2.6710E-07 -1.6920E-07 -7.2250E-09 2.8450E-09 1.7440E-08

13 1.9120E-08 2.0960E-08 -1.3670E-08 1.5330E-08 1.6680E-08 -1.9450E-08 1.5750E-08 1.4590E-08 -2.2190E-09 2.1220E-08 2.7870E-08 -1.7400E-08 5.6260E-08 -8.3790E-08 5.0820E-08 4.0180E-09 -1.8410E-09 -2.8950E-10 1.1340E-08 5.7130E-09 1.9140E-09 2.1180E-08 1.9590E-08 -1.3050E-08

14 2.4990E-08 -3.6970E-07 2.4280E-07 1.5780E-08 -3.6550E-07 2.2050E-07 1.6430E-08 -3.7790E-07 2.6520E-07 3.0550E-08 -3.6200E-07 2.3950E-07 -8.3790E-08 2.3860E-06 -1.4820E-06 -1.0390E-08 -3.8250E-07 2.4820E-07 5.8960E-09 -3.8570E-07 2.6630E-07 5.6110E-09 2.4460E-08 -1.4020E-08
15 -2.7810E-08 2.4440E-07 -1.4120E-07 -1.1190E-08 2.2360E-07 -9.2840E-08 -1.3100E-08 2.6260E-07 -1.8390E-07 -3.7670E-08 2.3290E-07 -1.3710E-07 5.0820E-08 -1.4820E-06 1.0170E-06 3.3750E-08 2.4820E-07 -1.3810E-07 5.5030E-09 2.6960E-07 -1.8080E-07 -5.7230E-09 -4.9270E-08 6.1780E-08
16 -2.0190E-09 2.5760E-09 -4.9080E-09 1.4290E-08 -1.0810E-08 3.8940E-08 1.3360E-08 -1.0060E-09 -3.2390E-08 -1.2040E-08 -5.7720E-09 -2.9170E-09 4.0180E-09 -1.0390E-08 3.3750E-08 9.3720E-08 2.5160E-08 -6.5990E-09 3.1580E-08 -6.5910E-10 -2.4860E-08 1.6790E-08 -7.3770E-08 5.0720E-08
17 4.1650E-10 -3.8410E-07 2.6160E-07 -6.1800E-09 -3.8130E-07 2.4560E-07 -6.2710E-09 -3.7670E-07 2.6880E-07 4.6780E-09 -3.8240E-07 2.6180E-07 -1.8410E-09 -3.8250E-07 2.4820E-07 2.5160E-08 2.4250E-06 -1.5510E-06 -1.3720E-08 -3.7560E-07 2.6510E-07 -1.6910E-08 4.3070E-09 9.3780E-09
18 -2.7850E-09 2.6170E-07 -1.5760E-07 3.3520E-09 2.4590E-07 -1.3500E-07 2.5040E-09 2.6860E-07 -1.7340E-07 -6.4850E-09 2.6080E-07 -1.5820E-07 -2.8950E-10 2.4820E-07 -1.3810E-07 -6.5990E-09 -1.5510E-06 1.0740E-06 9.2040E-09 2.6590E-07 -1.6880E-07 1.0680E-08 4.2060E-09 1.8660E-08
19 9.0860E-09 1.1840E-08 -9.6650E-09 1.5240E-08 3.1730E-09 9.0290E-09 1.5000E-08 6.4950E-09 -1.7230E-08 5.1900E-09 1.1260E-08 -1.0600E-08 1.1340E-08 5.8960E-09 5.5030E-09 3.1580E-08 -1.3720E-08 9.2040E-09 5.5240E-08 -2.5220E-08 1.4140E-08 1.9420E-08 -2.6460E-08 1.8060E-08
20 5.8640E-09 -3.7770E-07 2.6730E-07 4.5350E-09 -3.8650E-07 2.6970E-07 3.7910E-09 -3.6770E-07 2.6330E-07 6.9530E-09 -3.7720E-07 2.6710E-07 5.7130E-09 -3.8570E-07 2.6960E-07 -6.5910E-10 -3.7560E-07 2.6590E-07 -2.5220E-08 2.4130E-06 -1.6030E-06 -7.2340E-09 -9.7130E-09 2.9930E-08
21 4.6530E-09 2.6610E-07 -1.6600E-07 -2.9850E-09 2.6300E-07 -1.8120E-07 -2.6750E-09 2.6960E-07 -1.5420E-07 9.2520E-09 2.7370E-07 -1.6920E-07 1.9140E-09 2.6630E-07 -1.8080E-07 -2.4860E-08 2.6510E-07 -1.6880E-07 1.4140E-08 -1.6030E-06 1.1630E-06 6.7380E-09 6.0640E-08 -2.7840E-08
22 2.2080E-08 5.3380E-09 -3.2960E-09 2.0550E-08 1.3340E-09 -3.4250E-09 2.0770E-08 4.2550E-10 2.1210E-09 2.2060E-08 1.1540E-08 -7.2250E-09 2.1180E-08 5.6110E-09 -5.7230E-09 1.6790E-08 -1.6910E-08 1.0680E-08 1.9420E-08 -7.2340E-09 6.7380E-09 3.7530E-07 -9.0510E-07 6.5210E-07
23 2.7630E-08 7.0730E-08 -2.8690E-08 2.4290E-09 1.7120E-08 -5.2940E-08 4.2450E-09 5.9410E-09 6.2980E-08 4.6130E-08 3.0450E-08 2.8450E-09 1.9590E-08 2.4460E-08 -4.9270E-08 -7.3770E-08 4.3070E-09 4.2060E-09 -2.6460E-08 -9.7130E-09 6.0640E-08 -9.0510E-07 2.7880E-05 -1.7970E-05
24 -1.9080E-08 -3.1350E-08 3.8980E-08 -1.3040E-09 -1.0860E-08 6.5470E-08 -3.3520E-09 2.1920E-08 -3.1490E-08 -3.1910E-08 -5.3340E-09 1.7440E-08 -1.3050E-08 -1.4020E-08 6.1780E-08 5.0720E-08 9.3780E-09 1.8660E-08 1.8060E-08 2.9930E-08 -2.7840E-08 6.5210E-07 -1.7970E-05 1.2190E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000003753	-0.0000009051	0.0000006521
-0.0000009051	0.0000278800	-0.0000179700
0.0000006521	-0.0000179700	0.0000121900

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000003464	0.0000000506	0.0000002131
0.0000000506	0.0000004259	-0.0000000886
0.0000002131	-0.0000000886	0.0000396730

Horizontal network accuracy = 0.00152 meters.
Vertical network accuracy = 0.01235 meters.

Vectors

To	From	X	Y	Z
alfa	45v1	55317.519	13049.954	17033.255
msme	45v1	-26624.946	-69102.622	-105485.281
msbv	45v1	-14330.753	71947.601	107035.248
alja	45v1	106000.918	24268.713	30557.038
al81	45v1	24789.163	-55249.401	-86049.693
msgn	45v1	-242814.928	-11040.636	-15051.392
msox	45v1	-102895.235	51509.743	79480.174

Covariance matrix of the 7 vectors

1 3.9159E-07 -1.0355E-06 7.4472E-07 3.4806E-07 -9.1437E-07 6.4821E-07 3.4843E-07 -9.1750E-07 6.7002E-07 3.5598E-07 -9.1312E-07 6.5913E-07 3.5116E-07 -9.1335E-07 6.4909E-07 3.3441E-07 -9.1540E-07 6.5771E-07 3.4289E-07 -9.1963E-07 6.6909E-07

2 -1.0355E-06 3.0119E-05 -1.9441E-05 -8.9516E-07 2.7419E-05 -1.7640E-05 -8.9703E-07 2.7434E-05 -1.7739E-05 -9.3089E-07 2.7416E-05 -1.7691E-05 -9.0907E-07 2.7415E-05 -1.7645E-05 -8.3409E-07 2.7421E-05 -1.7681E-05 -8.7214E-07 2.7441E-05 -1.7733E-05

3 7.4472E-07 -1.9441E-05 1.3178E-05 6.4458E-07 -1.7687E-05 1.1945E-05 6.4593E-07 -1.7698E-05 1.2017E-05 6.7077E-07 -1.7685E-05 1.1982E-05 6.5478E-07 -1.7684E-05 1.1948E-05 5.9977E-07 -1.7689E-05 1.1975E-05 6.2767E-07 -1.7704E-05 1.2013E-05

4 3.4806E-07 -8.9516E-07 6.4458E-07 3.8628E-07 -9.7437E-07 7.0231E-07 3.4946E-07 -8.9616E-07 6.4349E-07 3.4795E-07 -8.9723E-07 6.4582E-07 3.4890E-07 -8.9736E-07 6.4794E-07 3.5225E-07 -8.9680E-07 6.4608E-07 3.5057E-07 -8.9576E-07 6.4368E-07

5 -9.1437E-07 2.7419E-05 -1.7687E-05 -9.7437E-07 3.0244E-05 -1.9385E-05 -8.9839E-07 2.7476E-05 -1.7759E-05 -9.2802E-07 2.7465E-05 -1.7721E-05 -9.0934E-07 2.7473E-05 -1.7686E-05 -8.4347E-07 2.7477E-05 -1.7717E-05 -8.7680E-07 2.7486E-05 -1.7757E-05

6 6.4821E-07 -1.7640E-05 1.1945E-05 7.0231E-07 -1.9385E-05 1.3074E-05 6.4816E-07 -1.7676E-05 1.1971E-05 6.5055E-07 -1.7678E-05 1.1970E-05 6.4913E-07 -1.7683E-05 1.1970E-05 6.4374E-07 -1.7681E-05 1.1971E-05 6.4649E-07 -1.7677E-05 1.1971E-05

7 3.4843E-07 -8.9703E-07 6.4593E-07 3.4946E-07 -8.9839E-07 6.4816E-07 3.8473E-07 -9.7562E-07 7.0573E-07 3.4856E-07 -8.9882E-07 6.4707E-07 3.4910E-07 -8.9853E-07 6.4807E-07 3.5110E-07 -8.9871E-07 6.4728E-07 3.5011E-07 -8.9832E-07 6.4604E-07

8 -9.1750E-07 2.7434E-05 -1.7698E-05 -8.9616E-07 2.7476E-05 -1.7676E-05 -9.7562E-07 3.0250E-05 -1.9648E-05 -9.3341E-07 2.7478E-05 -1.7732E-05 -9.1053E-07 2.7472E-05 -1.7680E-05 -8.3276E-07 2.7493E-05 -1.7728E-05 -8.7257E-07 2.7516E-05 -1.7783E-05

9 6.7002E-07 -1.7739E-05 1.2017E-05 6.4349E-07 -1.7759E-05 1.1971E-05 7.0573E-07 -1.9648E-05 1.3427E-05 6.8814E-07 -1.7757E-05 1.2036E-05 6.6081E-07 -1.7754E-05 1.1976E-05 5.6687E-07 -1.7774E-05 1.2029E-05 6.1469E-07 -1.7800E-05 1.2095E-05

10 3.5598E-07 -9.3089E-07 6.7077E-07 3.4795E-07 -9.2802E-07 6.5055E-07 3.4856E-07 -9.3341E-07 6.8814E-07 4.0345E-07 -1.0729E-06 7.7269E-07 3.5328E-07 -9.2629E-07 6.5206E-07 3.2441E-07 -9.2964E-07 6.6684E-07 3.3901E-07 -9.3704E-07 6.8652E-07

11 -9.1312E-07 2.7416E-05 -1.7685E-05 -8.9723E-07 2.7465E-05 -1.7678E-05 -8.9882E-07 2.7478E-05 -1.7757E-05 -1.0729E-06 3.0180E-05 -1.9490E-05 -9.0836E-07 2.7463E-05 -1.7682E-05 -8.4864E-07 2.7463E-05 -1.7708E-05 -8.7892E-07 2.7482E-05 -1.7752E-05

12 6.5913E-07 -1.7691E-05 1.1982E-05 6.4582E-07 -1.7721E-05 1.1970E-05 6.4707E-07 -1.7732E-05 1.2036E-05 7.7269E-07 -1.9490E-05 1.3219E-05 6.5497E-07 -1.7719E-05 1.1974E-05 6.0569E-07 -1.7720E-05 1.1996E-05 6.3066E-07 -1.7736E-05 1.2031E-05

13 3.5116E-07 -9.0907E-07 6.5478E-07 3.4890E-07 -9.0934E-07 6.4913E-07 3.4910E-07 -9.1053E-07 6.6081E-07 3.5328E-07 -9.0836E-07 6.5497E-07 3.8920E-07 -1.0141E-06 7.2169E-07 3.4135E-07 -9.0962E-07 6.5418E-07 3.4604E-07 -9.1174E-07 6.6033E-07

14 -9.1335E-07 2.7415E-05 -1.7684E-05 -8.9736E-07 2.7473E-05 -1.7683E-05 -8.9853E-07 2.7472E-05 -1.7754E-05 -9.2629E-07 2.7463E-05 -1.7719E-05 -1.0141E-06 3.0217E-05 -1.9389E-05 -8.4733E-07 2.7469E-05 -1.7712E-05 -8.7836E-07 2.7480E-05 -1.7750E-05

15 6.4909E-07 -1.7645E-05 1.1948E-05 6.4794E-07 -1.7686E-05 1.1970E-05 6.4807E-07 -1.7680E-05 1.1976E-05 6.5206E-07 -1.7682E-05 1.1974E-05 7.2169E-07 -1.9389E-05 1.3083E-05 6.4085E-07 -1.7682E-05 1.1971E-05 6.4527E-07 -1.7681E-05 1.1975E-05

16 3.3441E-07 -8.3409E-07 5.9977E-07 3.5225E-07 -8.4347E-07 6.4374E-07 3.5110E-07 -8.3276E-07 5.6687E-07 3.2441E-07 -8.4864E-07 6.0569E-07 3.4135E-07 -8.4733E-07 6.4085E-07 4.3544E-07 -7.8926E-07 5.8410E-07 3.7067E-07 -8.2476E-07 5.6978E-07

17 -9.1540E-07 2.7421E-05 -1.7689E-05 -8.9680E-07 2.7477E-05 -1.7681E-05 -8.9871E-07 2.7493E-05 -1.7774E-05 -9.2964E-07 2.7463E-05 -1.7720E-05 -9.0962E-07 2.7469E-05 -1.7682E-05 -7.8926E-07 3.0296E-05 -1.9535E-05 -8.7545E-07 2.7510E-05 -1.7775E-05

18 6.5771E-07 -1.7681E-05 1.1975E-05 6.4608E-07 -1.7717E-05 1.1971E-05 6.4728E-07 -1.7728E-05 1.2029E-05 6.6684E-07 -1.7708E-05 1.1996E-05 6.5418E-07 -1.7712E-05 1.1971E-05 5.8410E-07 -1.9535E-05 1.3227E-05 6.3256E-07 -1.7738E-05 1.2030E-05

19 3.4289E-07 -8.7214E-07 6.2767E-07 3.5057E-07 -8.7680E-07 6.4649E-07 3.5011E-07 -8.7257E-07 6.1469E-07 3.3901E-07 -8.7892E-07 6.3066E-07 3.4604E-07 -8.7836E-07 6.4527E-07 3.7067E-07 -8.7545E-07 6.3256E-07 3.9170E-07 -8.9663E-07 6.4144E-07

20 -9.1963E-07 2.7441E-05 -1.7704E-05 -8.9576E-07 2.7486E-05 -1.7677E-05 -8.9832E-07 2.7516E-05 -1.7800E-05 -9.3704E-07 2.7482E-05 -1.7736E-05 -9.1174E-07 2.7480E-05 -1.7681E-05 -8.2476E-07 2.7510E-05 -1.7738E-05 -8.9663E-07 3.0312E-05 -1.9664E-05
21 6.6909E-07 -1.7733E-05 1.2013E-05 6.4368E-07 -1.7757E-05 1.1971E-05 6.4604E-07 -1.7783E-05 1.2095E-05 6.8652E-07 -1.7752E-05 1.2031E-05 6.6033E-07 -1.7750E-05 1.1975E-05 5.6978E-07 -1.7775E-05 1.2030E-05 6.4144E-07 -1.9664E-05 1.3409E-05

Correlation matrix of the 7 vectors

1 1.0000E+00 -3.0151E-01 3.2783E-01 8.9493E-01 -2.6570E-01 2.8648E-01 8.9768E-01 -2.6658E-01 2.9220E-01 8.9560E-01 -2.6561E-01 2.8971E-01 8.9950E-01 -2.6552E-01 2.8677E-01 8.0984E-01 -2.6577E-01 2.8900E-01 8.7550E-01 -2.6692E-01 2.9200E-01
2 -3.0151E-01 1.0000E+00 -9.7583E-01 -2.6244E-01 9.0847E-01 -8.8896E-01 -2.6352E-01 9.0887E-01 -8.8209E-01 -2.6705E-01 9.0934E-01 -8.8664E-01 -2.6552E-01 9.0875E-01 -8.8888E-01 -2.3032E-01 9.0776E-01 -8.8587E-01 -2.5392E-01 9.0819E-01 -8.8242E-01
3 3.2783E-01 -9.7583E-01 1.0000E+00 2.8569E-01 -8.8597E-01 9.1000E-01 2.8687E-01 -8.8642E-01 9.0339E-01 2.9090E-01 -8.8679E-01 9.0782E-01 2.8912E-01 -8.8622E-01 9.0993E-01 2.5038E-01 -8.8529E-01 9.0702E-01 2.7627E-01 -8.8580E-01 9.0371E-01
4 8.9493E-01 -2.6244E-01 2.8569E-01 1.0000E+00 -2.8507E-01 3.1252E-01 9.0650E-01 -2.6216E-01 2.8255E-01 8.8140E-01 -2.6278E-01 2.8580E-01 8.9984E-01 -2.6266E-01 2.8822E-01 8.5889E-01 -2.6215E-01 2.8583E-01 9.0125E-01 -2.6178E-01 2.8283E-01
5 -2.6570E-01 9.0847E-01 -8.8597E-01 -2.8507E-01 1.0000E+00 -9.7487E-01 -2.6337E-01 9.0839E-01 -8.8129E-01 -2.6567E-01 9.0907E-01 -8.8628E-01 -2.6505E-01 9.0878E-01 -8.8911E-01 -2.3243E-01 9.0774E-01 -8.8585E-01 -2.5475E-01 9.0779E-01 -8.8177E-01
6 2.8648E-01 -8.8896E-01 9.1000E-01 3.1252E-01 -9.7487E-01 1.0000E+00 2.8900E-01 -8.8881E-01 9.0350E-01 2.8326E-01 -8.8996E-01 9.1054E-01 2.8776E-01 -8.8964E-01 9.1522E-01 2.6980E-01 -8.8839E-01 9.1032E-01 2.8568E-01 -8.8797E-01 9.0415E-01
7 8.9768E-01 -2.6352E-01 2.8687E-01 9.0650E-01 -2.6337E-01 2.8900E-01 1.0000E+00 -2.8598E-01 3.1051E-01 8.8472E-01 -2.6377E-01 2.8693E-01 9.0216E-01 -2.6353E-01 2.8886E-01 8.5781E-01 -2.6324E-01 2.8694E-01 9.0188E-01 -2.6305E-01 2.8444E-01
8 -2.6658E-01 9.0887E-01 -8.8642E-01 -2.6216E-01 9.0839E-01 -8.8881E-01 -2.8598E-01 1.0000E+00 -9.7491E-01 -2.6718E-01 9.0941E-01 -8.8672E-01 -2.6536E-01 9.0865E-01 -8.8871E-01 -2.2945E-01 9.0816E-01 -8.8626E-01 -2.5349E-01 9.0868E-01 -8.8297E-01
9 2.9220E-01 -8.8209E-01 9.0339E-01 2.8255E-01 -8.8129E-01 9.0350E-01 3.1051E-01 -9.7491E-01 1.0000E+00 2.9566E-01 -8.8213E-01 9.0339E-01 2.8907E-01 -8.8140E-01 9.0356E-01 2.3444E-01 -8.8123E-01 9.0267E-01 2.6803E-01 -8.8229E-01 9.0142E-01
10 8.9560E-01 -2.6705E-01 2.9090E-01 8.8140E-01 -2.6567E-01 2.8326E-01 8.8472E-01 -2.6718E-01 2.9566E-01 1.0000E+00 -3.0746E-01 3.3458E-01 8.9153E-01 -2.6529E-01 2.8381E-01 7.7399E-01 -2.6590E-01 2.8867E-01 8.5279E-01 -2.6795E-01 2.9517E-01
11 -2.6561E-01 9.0934E-01 -8.8679E-01 -2.6278E-01 9.0907E-01 -8.8996E-01 -2.6377E-01 9.0941E-01 -8.8213E-01 -3.0746E-01 1.0000E+00 -9.7575E-01 -2.6504E-01 9.0942E-01 -8.8986E-01 -2.3410E-01 9.0822E-01 -8.8631E-01 -2.5563E-01 9.0861E-01 -8.8244E-01
12 2.8971E-01 -8.8664E-01 9.0782E-01 2.8580E-01 -8.8628E-01 9.1054E-01 2.8693E-01 -8.8672E-01 9.0339E-01 3.3458E-01 -9.7575E-01 1.0000E+00 2.8876E-01 -8.8658E-01 9.1047E-01 2.5245E-01 -8.8548E-01 9.0719E-01 2.7715E-01 -8.8600E-01 9.0368E-01
13 8.9950E-01 -2.6552E-01 2.8912E-01 8.9984E-01 -2.6505E-01 2.8776E-01 9.0216E-01 -2.6536E-01 2.8907E-01 8.9153E-01 -2.6504E-01 2.8876E-01 1.0000E+00 -2.9571E-01 3.1982E-01 8.2918E-01 -2.6490E-01 2.8833E-01 8.8626E-01 -2.6545E-01 2.8905E-01
14 -2.6552E-01 9.0875E-01 -8.8622E-01 -2.6266E-01 9.0878E-01 -8.8964E-01 -2.6353E-01 9.0865E-01 -8.8140E-01 -2.6529E-01 9.0942E-01 -8.8658E-01 -2.9571E-01 1.0000E+00 -9.7513E-01 -2.3359E-01 9.0786E-01 -8.8596E-01 -2.5531E-01 9.0797E-01 -8.8183E-01
15 2.8677E-01 -8.8888E-01 9.0993E-01 2.8822E-01 -8.8911E-01 9.1522E-01 2.8886E-01 -8.8871E-01 9.0356E-01 2.8381E-01 -8.8986E-01 9.1047E-01 3.1982E-01 -9.7513E-01 1.0000E+00 2.6849E-01 -8.8812E-01 9.1004E-01 2.8504E-01 -8.8784E-01 9.0413E-01
16 8.0984E-01 -2.3032E-01 2.5038E-01 8.5889E-01 -2.3243E-01 2.6980E-01 8.5781E-01 -2.2945E-01 2.3444E-01 7.7399E-01 -2.3410E-01 2.5245E-01 8.2918E-01 -2.3359E-01 2.6849E-01 1.0000E+00 -2.1730E-01 2.4339E-01 8.9752E-01 -2.2701E-01 2.3580E-01

17 -2.6577E-01 9.0776E-01 -8.8529E-01 -2.6215E-01 9.0774E-01 -8.8839E-01 -2.6324E-01 9.0816E-01 -8.8123E-01 -2.6590E-01 9.0822E-01 -8.8548E-01 -2.6490E-01 9.0786E-01 -8.8812E-01 -2.1730E-01 1.0000E+00 -9.7585E-01 -2.5413E-01 9.0778E-01 -8.8190E-01
18 2.8900E-01 -8.8587E-01 9.0702E-01 2.8583E-01 -8.8585E-01 9.1032E-01 2.8694E-01 -8.8626E-01 9.0267E-01 2.8867E-01 -8.8631E-01 9.0719E-01 2.8833E-01 -8.8596E-01 9.1004E-01 2.4339E-01 -9.7585E-01 1.0000E+00 2.7791E-01 -8.8588E-01 9.0336E-01
19 8.7550E-01 -2.5392E-01 2.7627E-01 9.0125E-01 -2.5475E-01 2.8568E-01 9.0188E-01 -2.5349E-01 2.6803E-01 8.5279E-01 -2.5563E-01 2.7715E-01 8.8626E-01 -2.5531E-01 2.8504E-01 8.9752E-01 -2.5413E-01 2.7791E-01 1.0000E+00 -2.6021E-01 2.7989E-01
20 -2.6692E-01 9.0819E-01 -8.8580E-01 -2.6178E-01 9.0779E-01 -8.8797E-01 -2.6305E-01 9.0868E-01 -8.8229E-01 -2.6795E-01 9.0861E-01 -8.8600E-01 -2.6545E-01 9.0797E-01 -8.8784E-01 -2.2701E-01 9.0778E-01 -8.8588E-01 -2.6021E-01 1.0000E+00 -9.7535E-01
21 2.9200E-01 -8.8242E-01 9.0371E-01 2.8283E-01 -8.8177E-01 9.0415E-01 2.8444E-01 -8.8297E-01 9.0142E-01 2.9517E-01 -8.8244E-01 9.0368E-01 2.8905E-01 -8.8183E-01 9.0413E-01 2.3580E-01 -8.8190E-01 9.0336E-01 2.7989E-01 -9.7535E-01 1.0000E+00

G-FILE for the vectors

Axx2019111420191114
B201911142100201911142200 7 rsgps 1.38IGS
Ings14.003 NGS
C00080001 553175186 6 130499540 54 170332552 36
C00080002 -266249457 6 -691026219 54-1054852808 36
C00080003 -143307525 6 719476014 55 1070352480 36
C00080004 1060009182 6 242687134 54 305570379 36
C00080005 247891630 6 -552494012 54 -860496934 36
C00080006-2428149282 6 -110406355 55 -150513923 36
C00080007-1028952354 6 515097426 55 794801737 36
D 1 2 -3015144 1 3 3278305 1 4 8949261 1 5 -2656991 1 6 2864824 D 1 7 8976803 1 8 -2665781 1 9 2922023 1 10 8956017 1 11 -2656144 D 1 12 2897058 1 13 8995034 1 14 -2655190 1 15 2867676 1 16 8098425 D 1 17 -2657671 1 18 2889991 1 19 8755020 1 20 -2669241 1 21 2919973 D 2 3 -9758326 2 4 -2624406 2 5 9084713 2 6 -8889636 2 7 -2635199 D 2 8 9088687 2 9 -8820921 2 10 -2670457 2 11 9093417 2 12 -8866379 D 2 13 -2655174 2 14 9087549 2 15 -8888802 2 16 -2303206 2 17 9077552 D 2 18 -8858664 2 19 -2539168 2 20 9081908 2 21 -8824231 3 4 2856934 D 3 5 -8859659 3 6 9100029 3 7 2868670 3 8 -8864177 3 9 9033886 D 3 10 2909047 3 11 -8867908 3 12 9078245 3 13 2891218 3 14 -8862186 D 3 15 9099348 3 16 2503765 3 17 -8852880 3 18 9070181 3 19 2762675 D 3 20 -8857969 3 21 9037077 4 5 -2850730 4 6 3125157 4 7 9065010 D 4 8 -2621640 4 9 2825540 4 10 8813955 4 11 -2627797 4 12 2857975 D 4 13 8998361 4 14 -2626572 4 15 2882177 4 16 8588864 4 17 -2621492 D 4 18 2858295 4 19 9012532 4 20 -2617762 4 21 2828307 5 6 -9748710 D 5 7 -2633713 5 8 9083874 5 9 -8812859 5 10 -2656724 5 11 9090695 D 5 12 -8862753 5 13 -2650476 5 14 9087840 5 15 -8891138 5 16 -2324286 D 5 17 9077375 5 18 -8858451 5 19 -2547454 5 20 9077886 5 21 -8817659 D 6 7 2889994 6 8 -8888067 6 9 9034952 6 10 2832591 6 11 -8899553 D 6 12 9105381 6 13 2877641 6 14 -8896376 6 15 9152182 6 16 2698015 D 6 17 -8883870 6 18 9103220 6 19 2856817 6 20 -8879736 6 21 9041455 D 7 8 -2859824 7 9 3105074 7 10 8847175 7 11 -2637739 7 12 2869260 D 7 13 9021638 7 14 -2635277 7 15 2888592 7 16 8578051 7 17 -2632353 D 7 18 2869366 7 19 9018819 7 20 -2630526 7 21 2844380 8 9 -9749075 D 8 10 -2671849 8 11 9094134 8 12 -8867163 8 13 -2653640 8 14 9086481 D 8 15 -8887077 8 16 -2294525 8 17 9081634 8 18 -8862559 8 19 -2534896 D 8 20 9086833 8 21 -8829731 9 10 2956614 9 11 -8821267 9 12 9033904 D 9 13 2890686 9 14 -8814038 9 15 9035553 9 16 2344387 9 17 -8812310 D 9 18 9026730 9 19 2680337 9 20 -8822892 9 21 9014224 10 11 -3074623 D 10 12 3345849 10 13 8915337 10 14 -2652933 10 15 2838139 10 16 7739897 D 10 17 -2659043 10 18 2886719 10 19 8527875 10 20 -2679503 10 21 2951670 D 11 12 -9757517 11 13 -2650398 11 14 9094164 11 15 -8898611 11 16 -2340992 D 11 17 9082172 11 18 -8863097 11 19 -2556302 11 20 9086123 11 21 -8824381 D 12 13 2887600 12 14 -8865835 12 15 9104694 12 16 2524547 12 17 -8854772 D 12 18 9071913 12 19 2771536 12 20 -8860048 12 21 9036799 13 14 -2957088 D 13 15 3198196 13 16 8291761 13 17 -2648979 13 18 2883272 13 19 8862639 D 13 20 -2654456 13 21 2890539 14 15 -9751281 14 16 -2335945 14 17 9078559 D 14 18 -8859630 14 19 -2553095 14 20 9079732 14 21 -8818341 15 16 2684931 D 15 17 -8881222 15 18 9100405 15 19 2850368 15 20 -8878446 15 21 9041301 D 16 17 -2173003 16 18 2433875 16 19 8975248 16 20 -2270128 16 21 2358042 D 17 18 -9758505 17 19 -2541318 17 20 9077824 17 21 -8818996 18 19 2779087 D 18 20 -8858795 18 21 9033601 19 20 -2602101 19 21 2798901 20 21 -9753466

ITRF position of 45v1 as determined by individual baselines

	X	Y	Z
alfa	145911.929	-5322015.350	3500462.604
msme	145911.933	-5322015.369	3500462.620
msbv	145911.931	-5322015.364	3500462.617
alja	145911.941	-5322015.376	3500462.610
al81	145911.937	-5322015.382	3500462.616
msgn	145911.931	-5322015.349	3500462.612
msox	145911.929	-5322015.355	3500462.611

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
alfa	-0.004	0.008	-0.005	-0.003	0.000	-0.010
msme	-0.000	-0.011	0.011	-0.000	0.003	0.015
msbv	-0.002	-0.006	0.007	-0.002	0.003	0.009
alja	0.008	-0.018	0.001	0.007	-0.009	0.016
al81	0.004	-0.024	0.007	0.003	-0.007	0.024
msgn	-0.002	0.009	0.002	-0.002	0.007	-0.007
msox	-0.004	0.004	0.002	-0.004	0.003	-0.002

STATE PLANE COORDINATES - U.S. Survey Foot

SPC (2301 MS E)

Northing (Y) [feet]	1455706.885
Easting (X) [feet]	1107348.838
Convergence [degrees]	0.22288611
Point Scale	0.99996735
Combined Factor	0.99996314

********** New Reference Frame Preview **********

We are replacing the nation's NAD 83 and NAVD 88 datums, to improve access and accuracy of the National Spatial Reference System. More at https://geodesy.noaa.gov/datums/newdatums/

Below are approximate coordinates for this solution in the new frames:

APPROX ORTHO HGT: 54.726 (m) [PROTOTYPE (Computed using xGeoid19B,GRS80,ITRF2014)]

dop from interpolation is	0.338
scatter (mean square distance from rover) is	18096.379
average edop for rover is	0.780
average ndop for rover is	0.760
average hdop for rover is	1.089
average vdop for rover is	2.080
average gdop for rover is	2.760

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

NGS POINT: 78V32

NGS OPUS-RS SOLUTION REPORT

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All computed coordinate accuracies are listed as 1-sigma RMS values.

For additional information: https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy

USER: ray.huey@atlantic.tech DATE: January 23, 2020
RINEX FILE: 78v3318r.19o TIME: 07:44:06 UTC

SOFTWARE: rsgps 1.38 RS73.prl 1.99.3 START: 2019/11/14 17:37:00
EPHEMERIS: igs20794.eph [precise] STOP: 2019/11/14 18:38:00
NAV FILE: brdc3180.19n OBS USED: 3766 / 4907 : 77%
ANT NAME: TRMR10 NONE QUALITY IND. 11.43/ 31.78
ARP HEIGHT: 2.050 NORMALIZED RMS: 0.383

REF FRAME:	NAD_83(2011)(EPOCH:2010.0000)		ITRF2014 (EPOCH:2019.87056)	
X:	118158.626(m)	0.004(m)	118157.755(m)	0.004(m)
Y:	-5275034.873(m)	0.023(m)	-5275033.420(m)	0.023(m)
Z:	3571487.516(m)	0.015(m)	3571487.373(m)	0.015(m)
LAT:	34 16 20.45460	0.004(m)	34 16 20.47768	0.004(m)
E LON:	271 16 59.47489	0.004(m)	271 16 59.44213	0.004(m)
W LON:	88 43 0.52511	0.004(m)	88 43 0.55787	0.004(m)
EL HGT:	63.561(m)	0.027(m)	62.264(m)	0.027(m)
ORTHO HGT:	91.101(m)	0.031(m) [NAVD88 (Computed using GEOID18)]		

	UTM COORDINATES (UTM (Zone 16))	STATE PLANE COORDINATES (SPC (2301 MS E))
Northing (Y) [meters]	3793687.738	529162.067
Easting (X) [meters]	341955.133	310729.739
Convergence [degrees]	-0.96698333	0.06561667
Point Scale	0.99990790	0.99995142
Combined Factor	0.99989792	0.99994144

US NATIONAL GRID DESIGNATOR: 16SCC4195593687(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DO8516	MSPE PRAIRIE CORS ARP	N334752.330	W0883930.108	52907.1
DL7333	MSME MERIDIAN 2010 CORS ARP	N322203.022	W0884356.779	211264.5
DK6714	MSOX OXFORD CORS ARP	N342150.930	W0893156.516	75750.7
DL7339	TN40 TDOT DISTRICT 40 CORS ARP	N353850.617	W0882404.311	155245.1
DM3493	ALFA FAYETTE FIRE STA CORS ARP	N334106.745	W0874945.509	104725.2
DO9482	MSGN GREENVILLE CORS ARP	N332019.304	W0910227.437	238803.0
DM2662	ALNC R A HUBBARD SCH CORS ARP	N344052.583	W0871833.994	137013.8

NEAREST NGS PUBLISHED CONTROL POINT

EG0584	78 V 32	N341620.454	W0884300.524	0.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

mspe	124228.883	-5304370.511	3527879.590
msme	119286.985	-5391117.961	3394977.321
msox	43016.695	-5270505.597	3579942.782

tn40	144776.090	-5186978.987	3696543.067
alfa	201229.453	-5308965.399	3517495.858
msgn	-96903.001	-5333055.977	3485411.214
alnc	246479.251	-5244967.395	3608936.230
78v3	118157.755	-5275033.420	3571487.373

Covariance matrix of the stations:

1 8.1840E-08 -1.0130E-07 5.6910E-08 1.0760E-08 1.3300E-08 -1.5100E-08 8.4970E-09 1.7240E-09 2.8490E-09 1.2650E-08 4.1370E-08 -1.7740E-08 1.3880E-08 4.2500E-08 -2.7540E-08 5.4870E-11 -5.6550E-08 3.4860E-08 1.5190E-08 5.9060E-08 -3.4270E-08 2.0190E-08 5.6000E-08 -3.6140E-08

2 -1.0130E-07 4.6260E-06 -2.9850E-06 2.0030E-08 -7.8700E-07 4.9320E-07 9.7940E-09 -8.0460E-07 5.4460E-07 2.6470E-08 -6.2190E-07 4.4460E-07 3.2710E-08 -6.4320E-07 4.2530E-07 -2.5380E-08 -1.0660E-06 6.9160E-07 3.7570E-08 -5.6020E-07 3.8630E-07 1.8470E-09 1.3760E-07 -7.7550E-08

3 5.6910E-08 -2.9850E-06 2.0590E-06 -1.0930E-08 5.0650E-07 -2.9740E-07 -2.8020E-09 5.5060E-07 -3.6190E-07 -1.8690E-08 4.2280E-07 -2.9810E-07 -2.3090E-08 4.1580E-07 -2.6130E-07 2.7200E-08 7.2790E-07 -4.5640E-07 -2.8500E-08 3.6160E-07 -2.4070E-07 -4.3580E-10 -1.1970E-07 1.0040E-07

4 1.0760E-08 2.0030E-08 -1.0930E-08 8.0850E-08 -9.5440E-08 4.8340E-08 1.0590E-08 8.4690E-09 -2.7240E-09 1.0800E-08 2.6590E-08 -1.4360E-08 1.0650E-08 3.0000E-08 -1.7630E-08 8.8380E-09 -2.5770E-08 1.8690E-08 1.0510E-08 3.6160E-08 -2.1450E-08 2.0310E-08 1.4780E-08 -8.7410E-09

5 1.3300E-08 -7.8700E-07 5.0650E-07 -9.5440E-08 4.9560E-06 -3.0420E-06 2.6890E-08 -7.8450E-07 4.9330E-07 7.7990E-09 -8.1390E-07 4.8530E-07 6.6840E-10 -8.0180E-07 5.1800E-07 5.3830E-08 -8.0310E-07 5.2890E-07 -7.3240E-09 -8.2270E-07 5.1110E-07 8.0940E-09 -3.8310E-07 2.4040E-07

6 -1.5100E-08 4.9320E-07 -2.9740E-07 4.8340E-08 -3.0420E-06 2.0660E-06 7.3800E-09 6.0210E-07 -3.8940E-07 -2.4600E-08 3.9200E-07 -2.9260E-07 -3.4380E-08 3.8860E-07 -2.2570E-07 6.4330E-08 8.6960E-07 -5.2210E-07 -4.5780E-08 2.9550E-07 -1.9540E-07 2.9560E-09 -2.2770E-07 1.8220E-07

7 8.4970E-09 9.7940E-09 -2.8020E-09 1.0590E-08 2.6890E-08 7.3800E-09 8.4630E-08 -2.8160E-08 3.8070E-09 4.7240E-09 -2.8950E-08 -3.6020E-09 -4.1220E-10 -1.6390E-08 1.5590E-08 4.0410E-08 8.4490E-08 -4.2720E-08 -5.6050E-09 -4.7970E-08 2.2630E-08 2.3230E-08 -1.4430E-07 9.3600E-08

8 1.7240E-09 -8.0460E-07 5.5060E-07 8.4690E-09 -7.8450E-07 6.0210E-07 -2.8160E-08 5.0890E-06 -3.3560E-06 -1.0200E-08 -8.8740E-07 5.2330E-07 -2.4580E-08 -8.7390E-07 5.9990E-07 9.4370E-08 -6.4960E-07 4.7550E-07 -4.0810E-08 -9.4580E-07 6.0470E-07 3.7410E-09 -6.0090E-07 4.0970E-07

9 2.8490E-09 5.4460E-07 -3.6190E-07 -2.7240E-09 4.9330E-07 -3.8940E-07 3.8070E-09 -3.3560E-06 2.3540E-06 1.2790E-08 6.5930E-07 -3.6300E-07 2.7530E-08 6.1940E-07 -4.1470E-07 -8.6390E-08 3.3080E-07 -2.4700E-07 4.1660E-08 7.0930E-07 -4.3490E-07 -4.3440E-09 5.4280E-07 -3.3620E-07

10 1.2650E-08 2.6470E-08 -1.8690E-08 1.0800E-08 7.7990E-09 -2.4600E-08 4.7240E-09 -1.0200E-08 1.2790E-08 8.7390E-08 -7.6330E-08 6.8000E-08 1.9330E-08 6.4040E-08 -4.4530E-08 -1.5330E-08 -1.1030E-07 6.3240E-08 2.3140E-08 9.8640E-08 -5.6290E-08 1.8300E-08 1.3180E-07 -8.6310E-08

11 4.1370E-08 -6.2190E-07 4.2280E-07 2.6590E-08 -8.1390E-07 3.9200E-07 -2.8950E-08 -8.8740E-07 6.5930E-07 -7.6330E-08 4.4930E-06 -2.8570E-06 1.0200E-07 -3.3350E-07 2.2400E-07 -2.0040E-07 -1.6650E-06 1.0400E-06 1.3550E-07 -2.8580E-08 1.1880E-07 -7.9030E-09 1.0400E-06 -6.4020E-07

12 -1.7740E-08 4.4460E-07 -2.9810E-07 -1.4360E-08 4.8530E-07 -2.9260E-07 -3.6020E-09 5.2330E-07 -3.6300E-07 6.8000E-08 -2.8570E-06 2.0380E-06 -2.9630E-08 3.6870E-07 -2.4620E-07 3.3740E-08 7.3840E-07 -4.7650E-07 -3.6300E-08 2.9840E-07 -2.1920E-07 -3.2710E-09 -1.7060E-07 1.1580E-07

13 1.3880E-08 3.2710E-08 -2.3090E-08 1.0650E-08 6.6840E-10 -3.4380E-08 -4.1220E-10 -2.4580E-08 2.7530E-08 1.9330E-08 1.0200E-07 -2.9630E-08 1.0180E-07 -8.1640E-08 3.9700E-08 -3.5510E-08 -1.8060E-07 1.0310E-07 3.3130E-08 1.5180E-07 -8.3570E-08 1.6230E-08 2.3310E-07 -1.5090E-07

14 4.2500E-08 -6.4320E-07 4.1580E-07 3.0000E-08 -8.0180E-07 3.8860E-07 -1.6390E-08 -8.7390E-07 6.1940E-07 6.4040E-08 -3.3350E-07 3.6870E-07 -8.1640E-08 4.4740E-06 -2.8960E-06 -1.6070E-07 -1.5380E-06 9.4650E-07 1.2130E-07 -1.4040E-07 1.5730E-07 -3.7040E-10 8.3220E-07 -5.2840E-07

15 -2.7540E-08 4.2530E-07 -2.6130E-07 -1.7630E-08 5.1800E-07 -2.2570E-07 1.5590E-08 5.9990E-07 -4.1470E-07 -4.4530E-08 2.2400E-07 -2.4620E-07 3.9700E-08 -2.8960E-06 2.0070E-06 1.2130E-07 1.0570E-06 -6.3410E-07 -8.6340E-08 7.1600E-08 -8.2630E-08 1.4250E-09 -6.0330E-07 4.1320E-07

16 5.4870E-11 -2.5380E-08 2.7200E-08 8.8380E-09 5.3830E-08 6.4330E-08 4.0410E-08 9.4370E-08 -8.6390E-08 -1.5330E-08 -2.0040E-07 3.3740E-08 -3.5510E-08 -1.6070E-07 1.2130E-07 2.0050E-07 5.4350E-07 -3.2040E-07 -5.6060E-08 -3.0610E-07 1.6090E-07 3.0340E-08 -6.2400E-07 4.0460E-07

17 -5.6550E-08 -1.0660E-06 7.2790E-07 -2.5770E-08 -8.0310E-07 8.6960E-07 8.4490E-08 -6.4960E-07 3.3080E-07 -1.1030E-07 -1.6650E-06 7.3840E-07 -1.8060E-07 -1.5380E-06 1.0570E-06 5.4350E-07 7.9020E-06 -4.9110E-06 -2.5260E-07 -2.0370E-06 1.1870E-06 3.3380E-09 -2.5060E-06 1.6270E-06

18 3.4860E-08 6.9160E-07 -4.5640E-07 1.8690E-08 5.2890E-07 -5.2210E-07 -4.2720E-08 4.7550E-07 -2.4700E-07 6.3240E-08 1.0400E-06 -4.7650E-07 1.0310E-07 9.4650E-07 -6.3410E-07 -3.2040E-07 -4.9110E-06 3.1910E-06 1.4190E-07 1.2280E-06 -7.1130E-07 1.7540E-09 1.4240E-06 -8.9520E-07
19 1.5190E-08 3.7570E-08 -2.8500E-08 1.0510E-08 -7.3240E-09 -4.5780E-08 -5.6050E-09 -4.0810E-08 4.1660E-08 2.3140E-08 1.3550E-07 -3.6300E-08 3.3130E-08 1.2130E-07 -8.6340E-08 -5.6060E-08 -2.5260E-07 1.4190E-07 1.2250E-07 6.9620E-09 1.2840E-08 1.4240E-08 3.3240E-07 -2.1590E-07
20 5.9060E-08 -5.6020E-07 3.6160E-07 3.6160E-08 -8.2270E-07 2.9550E-07 -4.7970E-08 -9.4580E-07 7.0930E-07 9.8640E-08 -2.8580E-08 2.9840E-07 1.5180E-07 -1.4040E-07 7.1600E-08 -3.0610E-07 -2.0370E-06 1.2280E-06 6.9620E-09 4.6770E-06 -2.9640E-06 -8.7390E-09 1.6240E-06 -1.0310E-06
21 -3.4270E-08 3.8630E-07 -2.4070E-07 -2.1450E-08 5.1110E-07 -1.9540E-07 2.2630E-08 6.0470E-07 -4.3490E-07 -5.6290E-08 1.1880E-07 -2.1920E-07 -8.3570E-08 1.5730E-07 -8.2630E-08 1.6090E-07 1.1870E-06 -7.1130E-07 1.2840E-08 -2.9640E-06 2.0270E-06 1.9210E-09 -8.4600E-07 5.6290E-07
22 2.0190E-08 1.8470E-09 -4.3580E-10 2.0310E-08 8.0940E-09 2.9560E-09 2.3230E-08 3.7410E-09 -4.3440E-09 1.8300E-08 -7.9030E-09 -3.2710E-09 1.6230E-08 -3.7040E-10 1.4250E-09 3.0340E-08 3.3380E-09 1.7540E-09 1.4240E-08 -8.7390E-09 1.9210E-09 7.1320E-07 -1.6770E-06 1.0280E-06
23 5.6000E-08 1.3760E-07 -1.1970E-07 1.4780E-08 -3.8310E-07 -2.2770E-07 -1.4430E-07 -6.0090E-07 5.4280E-07 1.3180E-07 1.0400E-06 -1.7060E-07 2.3310E-07 8.3220E-07 -6.0330E-07 -6.2400E-07 -2.5060E-06 1.4240E-06 3.3240E-07 1.6240E-06 -8.4600E-07 -1.6770E-06 6.7640E-05 -4.4720E-05
24 -3.6140E-08 -7.7550E-08 1.0040E-07 -8.7410E-09 2.4040E-07 1.8220E-07 9.3600E-08 4.0970E-07 -3.3620E-07 -8.6310E-08 -6.4020E-07 1.1580E-07 -1.5090E-07 -5.2840E-07 4.1320E-07 4.0460E-07 1.6270E-06 -8.9520E-07 -2.1590E-07 -1.0310E-06 5.6290E-07 1.0280E-06 -4.4720E-05 3.0770E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000007132	-0.0000016770	0.0000010280
-0.0000016770	0.0000676400	-0.0000447200
0.0000010280	-0.0000447200	0.0000307700

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000006717	-0.0000000774	0.0000001613
-0.0000000774	0.0000008389	-0.0000005130
0.0000001613	-0.0000005130	0.0000976126

Horizontal network accuracy = 0.00213 meters.
Vertical network accuracy = 0.01937 meters.

Vectors

To	From	X	Y	Z
mspe	78v3	6071.128	-29337.092	-43607.783
msme	78v3	1129.230	-116084.542	-176510.051
msox	78v3	-75141.060	4527.822	8455.409
tn40	78v3	26618.335	88054.433	125055.695
alfa	78v3	83071.698	-33931.979	-53991.515
msgn	78v3	-215060.756	-58022.558	-86076.159
alnc	78v3	128321.496	30066.024	37448.858

Covariance matrix of the 7 vectors
1 7.5466E-07 -1.8361E-06 1.1215E-06 6.8346E-07 -1.7278E-06 1.0461E-06 6.7828E-07 -1.7350E-06 1.0713E-06 6.8736E-07 -1.6837E-06 1.0497E-06 6.9066E-07 -1.6901E-06 1.0352E-06 6.6272E-07 -1.7929E-06 1.0972E-06 6.9396E-07 -1.6652E-06 1.0279E-06
2 -1.8361E-06 7.1991E-05 -4.7508E-05 -1.6736E-06 6.7098E-05 -4.3922E-05 -1.5248E-06 6.7299E-05 -4.4641E-05 -1.7842E-06 6.5841E-05 -4.4027E-05 -1.8792E-06 6.6027E-05 -4.3614E-05 -1.0802E-06 6.8942E-05 -4.5375E-05 -1.9737E-06 6.5318E-05 -4.3410E-05
3 1.1215E-06 -4.7508E-05 3.2628E-05 1.0262E-06 -4.4334E-05 3.0190E-05 9.3203E-07 -4.4459E-05 3.0644E-05 1.0961E-06 -4.3537E-05 3.0256E-05 1.1562E-06 -4.3656E-05 2.9995E-05 6.5104E-07 -4.5499E-05 3.1108E-05 1.2158E-06 -4.3208E-05 2.9866E-05

4 6.8346E-07 -1.6736E-06 1.0262E-06 7.5343E-07 -1.7953E-06 1.0821E-06 6.8025E-07 -1.6871E-06 1.0384E-06 6.8539E-07 -1.6573E-06 1.0257E-06 6.8731E-07 -1.6614E-06 1.0177E-06 6.7139E-07 -1.7209E-06 1.0537E-06 6.8916E-07 -1.6469E-06 1.0134E-06

5 -1.7278E-06 6.7098E-05 -4.4334E-05 -1.7953E-06 7.3362E-05 -4.7775E-05 -1.5139E-06 6.7839E-05 -4.5010E-05 -1.8091E-06 6.6169E-05 -4.4304E-05 -1.9175E-06 6.6389E-05 -4.3839E-05 -1.0073E-06 6.9726E-05 -4.5856E-05 -2.0248E-06 6.5576E-05 -4.3603E-05

6 1.0461E-06 -4.3922E-05 3.0190E-05 1.0821E-06 -4.7775E-05 3.2472E-05 9.3882E-07 -4.4300E-05 3.0535E-05 1.0868E-06 -4.3460E-05 3.0179E-05 1.1416E-06 -4.3575E-05 2.9949E-05 6.8477E-07 -4.5250E-05 3.0961E-05 1.1952E-06 -4.3166E-05 2.9829E-05

7 6.7828E-07 -1.5248E-06 9.3203E-07 6.8025E-07 -1.5139E-06 9.3882E-07 7.5137E-07 -1.5646E-06 9.4255E-07 6.7639E-07 -1.5537E-06 9.3407E-07 6.7333E-07 -1.5487E-06 9.4856E-07 7.0004E-07 -1.4515E-06 8.8993E-07 6.7013E-07 -1.5719E-06 9.5511E-07

8 -1.7350E-06 6.7299E-05 -4.4459E-05 -1.6871E-06 6.7839E-05 -4.4300E-05 -1.5646E-06 7.3931E-05 -4.9028E-05 -1.8227E-06 6.6313E-05 -4.4436E-05 -1.9384E-06 6.6535E-05 -4.3927E-05 -9.6237E-07 7.0097E-05 -4.6078E-05 -2.0540E-06 6.5671E-05 -4.3679E-05

9 1.0713E-06 -4.4641E-05 3.0644E-05 1.0384E-06 -4.5010E-05 3.0535E-05 9.4255E-07 -4.9028E-05 3.3796E-05 1.1314E-06 -4.3963E-05 3.0627E-05 1.2108E-06 -4.4115E-05 3.0278E-05 5.4135E-07 -4.6559E-05 3.1754E-05 1.2899E-06 -4.3523E-05 3.0108E-05

10 6.8736E-07 -1.7842E-06 1.0961E-06 6.8539E-07 -1.8091E-06 1.0868E-06 6.7639E-07 -1.8227E-06 1.1314E-06 7.6399E-07 -1.8772E-06 1.1856E-06 6.9800E-07 -1.7444E-06 1.0684E-06 6.4923E-07 -1.9224E-06 1.1758E-06 7.0380E-07 -1.7014E-06 1.0561E-06

11 -1.6837E-06 6.5841E-05 -4.3537E-05 -1.6573E-06 6.6169E-05 -4.3460E-05 -1.5537E-06 6.6313E-05 -4.3963E-05 -1.8772E-06 7.0053E-05 -4.6766E-05 -1.8002E-06 6.5434E-05 -4.3252E-05 -1.2455E-06 6.7441E-05 -4.4464E-05 -1.8660E-06 6.4947E-05 -4.3115E-05

12 1.0497E-06 -4.4027E-05 3.0256E-05 1.0257E-06 -4.4304E-05 3.0179E-05 9.3407E-07 -4.4436E-05 3.0627E-05 1.1856E-06 -4.6766E-05 3.2576E-05 1.1525E-06 -4.3652E-05 2.9995E-05 6.6041E-07 -4.5438E-05 3.1073E-05 1.2109E-06 -4.3220E-05 2.9872E-05

13 6.9066E-07 -1.8792E-06 1.1562E-06 6.8731E-07 -1.9175E-06 1.1416E-06 6.7333E-07 -1.9384E-06 1.2108E-06 6.9800E-07 -1.8002E-06 1.1525E-06 7.8254E-07 -1.9914E-06 1.2172E-06 6.3112E-07 -2.0940E-06 1.2802E-06 7.1586E-07 -1.7496E-06 1.0934E-06

14 -1.6901E-06 6.6027E-05 -4.3656E-05 -1.6614E-06 6.6389E-05 -4.3575E-05 -1.5487E-06 6.6535E-05 -4.4115E-05 -1.7444E-06 6.5434E-05 -4.3652E-05 -1.9914E-06 7.0450E-05 -4.6484E-05 -1.2133E-06 6.7776E-05 -4.4669E-05 -1.8877E-06 6.5043E-05 -4.3188E-05

15 1.0352E-06 -4.3614E-05 2.9995E-05 1.0177E-06 -4.3839E-05 2.9949E-05 9.4856E-07 -4.3927E-05 3.0278E-05 1.0684E-06 -4.3252E-05 2.9995E-05 1.2172E-06 -4.6484E-05 3.1951E-05 7.4327E-07 -4.4687E-05 3.0618E-05 1.1561E-06 -4.3014E-05 2.9711E-05

16 6.6272E-07 -1.0802E-06 6.5104E-07 6.7139E-07 -1.0073E-06 6.8477E-07 7.0004E-07 -9.6237E-07 5.4135E-07 6.4923E-07 -1.2455E-06 6.6041E-07 6.3112E-07 -1.2133E-06 7.4327E-07 8.5302E-07 -5.1284E-07 3.0125E-07 6.1256E-07 -1.3504E-06 7.8238E-07

17 -1.7929E-06 6.8942E-05 -4.5499E-05 -1.7209E-06 6.9726E-05 -4.5250E-05 -1.4515E-06 7.0097E-05 -4.6559E-05 -1.9224E-06 6.7441E-05 -4.5438E-05 -2.0940E-06 6.7776E-05 -4.4687E-05 -5.1284E-07 8.0554E-05 -5.2682E-05 -2.2653E-06 6.6485E-05 -4.4314E-05

18 1.0972E-06 -4.5375E-05 3.1108E-05 1.0537E-06 -4.5856E-05 3.0961E-05 8.8993E-07 -4.6078E-05 3.1754E-05 1.1758E-06 -4.4464E-05 3.1073E-05 1.2802E-06 -4.4669E-05 3.0618E-05 3.0125E-07 -5.2682E-05 3.5751E-05 1.3840E-06 -4.3885E-05 3.0391E-05

19 6.9396E-07 -1.9737E-06 1.2158E-06 6.8916E-07 -2.0248E-06 1.1952E-06 6.7013E-07 -2.0540E-06 1.2899E-06 7.0380E-07 -1.8660E-06 1.2109E-06 7.1586E-07 -1.8877E-06 1.1561E-06 6.1256E-07 -2.2653E-06 1.3840E-06 8.0722E-07 -1.9937E-06 1.2548E-06

20 -1.6652E-06 6.5318E-05 -4.3208E-05 -1.6469E-06 6.5576E-05 -4.3166E-05 -1.5719E-06 6.5671E-05 -4.3523E-05 -1.7014E-06 6.4947E-05 -4.3220E-05 -1.7496E-06 6.5043E-05 -4.3014E-05 -1.3504E-06 6.6485E-05 -4.3885E-05 -1.9937E-06 6.9069E-05 -4.5807E-05

21 1.0279E-06 -4.3410E-05 2.9866E-05 1.0134E-06 -4.3603E-05 2.9829E-05 9.5511E-07 -4.3679E-05 3.0108E-05 1.0561E-06 -4.3115E-05 2.9872E-05 1.0934E-06 -4.3188E-05 2.9711E-05 7.8238E-07 -4.4314E-05 3.0391E-05 1.2548E-06 -4.5807E-05 3.1671E-05

Correlation matrix of the 7 vectors

1 1.0000E+00 -2.4911E-01 2.2601E-01 9.0639E-01 -2.3221E-01 2.1132E-01 9.0075E-01 -2.3228E-01 2.1214E-01 9.0524E-01 -2.3157E-01 2.1170E-01 8.9874E-01 -2.3180E-01 2.1081E-01 8.2600E-01 -2.2995E-01 2.1124E-01 8.8912E-01 -2.3065E-01 2.1026E-01

2 -2.4911E-01 1.0000E+00 -9.8023E-01 -2.2724E-01 9.2329E-01 -9.0842E-01 -2.0732E-01 9.2248E-01 -9.0502E-01 -2.4058E-01 9.2713E-01 -9.0914E-01 -2.5037E-01 9.2714E-01 -9.0938E-01 -1.3785E-01 9.0532E-01 -8.9440E-01 -2.5891E-01 9.2631E-01 -9.0912E-01

3 2.2601E-01 -9.8023E-01 1.0000E+00 2.0698E-01 -9.0616E-01 9.2750E-01 1.8824E-01 -9.0522E-01 9.2281E-01 2.1953E-01 -9.1065E-01 9.2802E-01 2.2882E-01 -9.1056E-01 9.2900E-01 1.2340E-01 -8.8749E-01 9.1082E-01 2.3691E-01 -9.1017E-01 9.2907E-01

4 9.0639E-01 -2.2724E-01 2.0698E-01 1.0000E+00 -2.4148E-01 2.1878E-01 9.0411E-01 -2.2604E-01 2.0577E-01 9.0338E-01 -2.2812E-01 2.0703E-01 8.9511E-01 -2.2804E-01 2.0742E-01 8.3748E-01 -2.2090E-01 2.0302E-01 8.8370E-01 -2.2830E-01 2.0745E-01

5 -2.3221E-01 9.2329E-01 -9.0616E-01 -2.4148E-01 1.0000E+00 -9.7884E-01 -2.0391E-01 9.2116E-01 -9.0393E-01 -2.4165E-01 9.2301E-01 -9.0628E-01 -2.5308E-01 9.2347E-01 -9.0549E-01 -1.2733E-01 9.0702E-01 -8.9538E-01 -2.6312E-01 9.2123E-01 -9.0459E-01

6 2.1132E-01 -9.0842E-01 9.2750E-01 2.1878E-01 -9.7884E-01 1.0000E+00 1.9007E-01 -9.0415E-01 9.2173E-01 2.1819E-01 -9.1122E-01 9.2791E-01 2.2646E-01 -9.1106E-01 9.2980E-01 1.3011E-01 -8.8475E-01 9.0869E-01 2.3344E-01 -9.1148E-01 9.3017E-01

7 9.0075E-01 -2.0732E-01 1.8824E-01 9.0411E-01 -2.0391E-01 1.9007E-01 1.0000E+00 -2.0992E-01 1.8704E-01 8.9275E-01 -2.1416E-01 1.8880E-01 8.7810E-01 -2.1287E-01 1.9360E-01 8.7441E-01 -1.8658E-01 1.7170E-01 8.6046E-01 -2.1821E-01 1.9579E-01

8 -2.3228E-01 9.2248E-01 -9.0522E-01 -2.2604E-01 9.2116E-01 -9.0415E-01 -2.0992E-01 1.0000E+00 -9.8085E-01 -2.4253E-01 9.2146E-01 -9.0546E-01 -2.5485E-01 9.2193E-01 -9.0380E-01 -1.2119E-01 9.0833E-01 -8.9626E-01 -2.6588E-01 9.1901E-01 -9.0267E-01

9 2.1214E-01 -9.0502E-01 9.2281E-01 2.0577E-01 -9.0393E-01 9.2173E-01 1.8704E-01 -9.8085E-01 1.0000E+00 2.2267E-01 -9.0353E-01 9.2305E-01 2.3544E-01 -9.0409E-01 9.2142E-01 1.0082E-01 -8.9233E-01 9.1353E-01 2.4696E-01 -9.0082E-01 9.2028E-01

10 9.0524E-01 -2.4058E-01 2.1953E-01 9.0338E-01 -2.4165E-01 2.1819E-01 8.9275E-01 -2.4253E-01 2.2267E-01 1.0000E+00 -2.5660E-01 2.3765E-01 9.0273E-01 -2.3777E-01 2.1624E-01 8.0422E-01 -2.4506E-01 2.2498E-01 8.9621E-01 -2.3422E-01 2.1470E-01

11 -2.3157E-01 9.2713E-01 -9.1065E-01 -2.2812E-01 9.2301E-01 -9.1122E-01 -2.1416E-01 9.2146E-01 -9.0353E-01 -2.5660E-01 1.0000E+00 -9.7897E-01 -2.4314E-01 9.3144E-01 -9.1424E-01 -1.6112E-01 8.9777E-01 -8.8848E-01 -2.4814E-01 9.3370E-01 -9.1534E-01

12 2.1170E-01 -9.0914E-01 9.2802E-01 2.0703E-01 -9.0628E-01 9.2791E-01 1.8880E-01 -9.0546E-01 9.2305E-01 2.3765E-01 -9.7897E-01 1.0000E+00 2.2827E-01 -9.1121E-01 9.2973E-01 1.2528E-01 -8.8700E-01 9.1051E-01 2.3613E-01 -9.1115E-01 9.3000E-01

13 8.9874E-01 -2.5037E-01 2.2882E-01 8.9511E-01 -2.5308E-01 2.2646E-01 8.7810E-01 -2.5485E-01 2.3544E-01 9.0273E-01 -2.4314E-01 2.2827E-01 1.0000E+00 -2.6820E-01 2.4342E-01 7.7247E-01 -2.6375E-01 2.4204E-01 9.0070E-01 -2.3798E-01 2.1963E-01

14 -2.3180E-01 9.2714E-01 -9.1056E-01 -2.2804E-01 9.2347E-01 -9.1106E-01 -2.1287E-01 9.2193E-01 -9.0409E-01 -2.3777E-01 9.3144E-01 -9.1121E-01 -2.6820E-01 1.0000E+00 -9.7978E-01 -1.5652E-01 8.9969E-01 -8.9006E-01 -2.5033E-01 9.3244E-01 -9.1431E-01

15 2.1081E-01 -9.0938E-01 9.2900E-01 2.0742E-01 -9.0549E-01 9.2980E-01 1.9360E-01 -9.0380E-01 9.2142E-01 2.1624E-01 -9.1424E-01 9.2973E-01 2.4342E-01 -9.7978E-01 1.0000E+00 1.4237E-01 -8.8084E-01 9.0592E-01 2.2765E-01 -9.1565E-01 9.3401E-01

16 8.2600E-01 -1.3785E-01 1.2340E-01 8.3748E-01 -1.2733E-01 1.3011E-01 8.7441E-01 -1.2119E-01 1.0082E-01 8.0422E-01 -1.6112E-01 1.2528E-01 7.7247E-01 -1.5652E-01 1.4237E-01 1.0000E+00 -6.1867E-02 5.4550E-02 7.3820E-01 -1.7593E-01 1.5052E-01

17 -2.2995E-01 9.0532E-01 -8.8749E-01 -2.2090E-01 9.0702E-01 -8.8475E-01 -1.8658E-01 9.0833E-01 -8.9233E-01 -2.4506E-01 8.9777E-01 -8.8700E-01 -2.6375E-01 8.9969E-01 -8.8084E-01 -6.1867E-02 1.0000E+00 -9.8169E-01 -2.8093E-01 8.9133E-01 -8.7733E-01

18 2.1124E-01 -8.9440E-01 9.1082E-01 2.0302E-01 -8.9538E-01 9.0869E-01 1.7170E-01 -8.9626E-01 9.1353E-01 2.2498E-01 -8.8848E-01 9.1051E-01 2.4204E-01 -8.9006E-01 9.0592E-01 5.4550E-02 -9.8169E-01 1.0000E+00 2.5764E-01 -8.8314E-01 9.0316E-01

19 8.8912E-01 -2.5891E-01 2.3691E-01 8.8370E-01 -2.6312E-01 2.3344E-01 8.6046E-01 -2.6588E-01 2.4696E-01 8.9621E-01 -2.4814E-01 2.3613E-01 9.0070E-01 -2.5033E-01 2.2765E-01 7.3820E-01 -2.8093E-01 2.5764E-01 1.0000E+00 -2.6701E-01 2.4817E-01

20 -2.3065E-01 9.2631E-01 -9.1017E-01 -2.2830E-01 9.2123E-01 -9.1148E-01 -2.1821E-01 9.1901E-01 -9.0082E-01 -2.3422E-01 9.3370E-01 -9.1115E-01 -2.3798E-01 9.3244E-01 -9.1565E-01 -1.7593E-01 8.9133E-01 -8.8314E-01 -2.6701E-01 1.0000E+00 -9.7940E-01
21 2.1026E-01 -9.0912E-01 9.2907E-01 2.0745E-01 -9.0459E-01 9.3017E-01 1.9579E-01 -9.0267E-01 9.2028E-01 2.1470E-01 -9.1534E-01 9.3000E-01 2.1963E-01 -9.1431E-01 9.3401E-01 1.5052E-01 -8.7733E-01 9.0316E-01 2.4817E-01 -9.7940E-01 1.0000E+00

G-FILE for the vectors

Axx2019111420191114
B20191114170020191114180 0 7 rsgps 1.38IGS
Ings14.003 NGS
C00080001 60711278 8 -293370916 84 -436077828 57
C00080002 11292297 8-1160845415 85-1765100513 56
C00080003 -751410603 8 45278223 85 84554090 58
C00080004 266183349 8 880544325 83 1250556945 57
C00080005 830716976 8 -339319792 83 -539915148 56
C00080006-2150607556 9 -580225576 89 -860761589 59
C00080007 1283214958 8 300660243 83 374488578 56
D 1 2 -2491112 1 3 2260068 1 4 9063918 1 5 -2322095 1 6 2113192 D 1 7 9007504 1 8 -2322818 1 9 2121356 1 10 9052421 1 11 -2315701 D 1 12 2117025 1 13 8987426 1 14 -2317955 1 15 2108135 1 16 8259960 D 1 17 -2299502 1 18 2112427 1 19 8891249 1 20 -2306478 1 21 2102633 D 2 3 -9802331 2 4 -2272432 2 5 9232900 2 6 -9084213 2 7 -2073165 D 2 8 9224768 2 9 -9050171 2 10 -2405778 2 11 9271313 2 12 -9091415 D 2 13 -2503743 2 14 9271367 2 15 -9093821 2 16 -1378468 2 17 9053246 D 2 18 -8943966 2 19 -2589057 2 20 9263052 2 21 -9091185 3 4 2069825 D 3 5 -9061626 3 6 9275016 3 7 1882383 3 8 -9052204 3 9 9228099 D 3 10 2195291 3 11 -9106501 3 12 9280237 3 13 2288233 3 14 -9105611 D 3 15 9289968 3 16 1234038 3 17 -8874942 3 18 9108242 3 19 2369094 D 3 20 -9101710 3 21 9290695 4 5 -2414809 4 6 2187782 4 7 9041077 D 4 8 -2260446 4 9 2057745 4 10 9033841 4 11 -2281197 4 12 2070270 D 4 13 8951131 4 14 -2280426 4 15 2074210 4 16 8374762 4 17 -2208958 D 4 18 2030203 4 19 8836955 4 20 -2282964 4 21 2074504 5 6 -9788360 D 5 7 -2039084 5 8 9211572 5 9 -9039338 5 10 -2416469 5 11 9230098 D 5 12 -9062752 5 13 -2530764 5 14 9234669 5 15 -9054947 5 16 -1273290 D 5 17 9070161 5 18 -8953827 5 19 -2631200 5 20 9212336 5 21 -9045882 D 6 7 1900664 6 8 -9041452 6 9 9217330 6 10 2181903 6 11 -9112247 D 6 12 9279129 6 13 2264619 6 14 -9110648 6 15 9297999 6 16 1301115 D 6 17 -8847494 6 18 9086888 6 19 2334423 6 20 -9114783 6 21 9301690 D 7 8 -2099249 7 9 1870435 7 10 8927482 7 11 -2141608 7 12 1887993 D 7 13 8781047 7 14 -2128661 7 15 1935979 7 16 8744124 7 17 -1865782 D 7 18 1717040 7 19 8604644 7 20 -2182051 7 21 1957914 8 9 -9808456 D 8 10 -2425316 8 11 9214587 8 12 -9054589 8 13 -2548485 8 14 9219277 D 8 15 -9038042 8 16 -1211853 8 17 9083328 8 18 -8962646 8 19 -2658773 D 8 20 9190095 8 21 -9026673 9 10 2226660 9 11 -9035281 9 12 9230460 D 9 13 2354369 9 14 -9040902 9 15 9214181 9 16 1008246 9 17 -8923287 D 9 18 9135286 9 19 2469597 9 20 -9008179 9 21 9202804 10 11 -2566017 D 10 12 2376489 10 13 9027309 10 14 -2377718 10 15 2162381 10 16 8042204 D 10 17 -2450557 10 18 2249788 10 19 8962093 10 20 -2342212 10 21 2146982 D 11 12 -9789650 11 13 -2431383 11 14 9314355 11 15 -9142360 11 16 -1611200 D 11 17 8977741 11 18 -8884780 11 19 -2481427 11 20 9336991 11 21 -9153406 D 12 13 2282714 12 14 -9112054 12 15 9297258 12 16 1252804 12 17 -8870009 D 12 18 9105078 12 19 2361295 12 20 -9111536 12 21 9299978 13 14 -2682003 D 13 15 2434222 13 16 7724654 13 17 -2637471 13 18 2420436 13 19 9006973 D 13 20 -2379765 13 21 2196327 14 15 -9797776 14 16 -1565164 14 17 8996878 D 14 18 -8900643 14 19 -2503251 14 20 9324431 14 21 -9143123 15 16 1423739 D 15 17 -8808363 15 18 9059189 15 19 2276528 15 20 -9156505 15 21 9340055
D 16 17 -618667 16 18 545500 16 19 7381983 16 20 -1759254 16 21 1505238
D 17 18 -9816850 17 19 -2809270 17 20 8913300 17 21 -8773343 18 19 2576368 D 18 20 -8831368 18 21 9031631 19 20 -2670066 19 21 2481720 20 21 -9793952

ITRF position of 78v3 as determined by individual baselines

	X	Y	Z
mspe	118157.750	-5275033.410	3571487.362
msme	118157.756	-5275033.447	3571487.388
msox	118157.753	-5275033.414	3571487.363
tn40	118157.755	-5275033.384	3571487.354
alfa	118157.751	-5275033.400	3571487.365
msgn	118157.757	-5275033.419	3571487.374

alnc 118157.760 -5275033.394 3571487.353

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
mspe	-0.005	0.010	-0.010	-0.005	-0.003	-0.014
msme	0.001	-0.027	0.016	0.001	-0.002	0.031
msox	-0.002	0.005	-0.010	-0.002	-0.005	-0.010
tn40	0.000	0.036	-0.019	0.001	0.005	-0.040
alfa	-0.004	0.019	-0.008	-0.004	0.005	-0.020
msgn	0.002	0.001	0.002	0.002	0.002	0.000
alnc	0.005	0.026	-0.020	0.005	-0.002	-0.033

STATE PLANE COORDINATES - U.S. Survey Foot
SPC (2301 MS E)
Northing (Y) [feet] 1736092.548
Easting (X) [feet] 1019452.485
Convergence [degrees] 0.06561667
Point Scale 0.99995142
Combined Factor 0.99994144

********** New Reference Frame Preview **********

We are replacing the nation's NAD 83 and NAVD 88 datums, to improve access and accuracy of the National Spatial Reference System. More at https://geodesy.noaa.gov/datums/newdatums/

Below are approximate coordinates for this solution in the new frames:

APPROX ORTHO HGT: 90.772 (m) [PROTOTYPE (Computed using xGeoid19B,GRS80,ITRF2014)]

dop from interpolation is 0.335
scatter (mean square distance from rover) is 21230.705
average edop for rover is 0.830
average ndop for rover is 1.130
average hdop for rover is 1.402
average vdop for rover is 2.250
average gdop for rover is 3.150

This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

NGS POINT: Z362

NGS OPUS-RS SOLUTION REPORT
==========

All computed coordinate accuracies are listed as 1-sigma RMS values.
For additional information: https://www.ngs.noaa.gov/OPUS/about.jsp#accuracy

USER: ray.huey@atlantic.tech DATE: January 23, 2020
RINEX FILE: z362013u.20o TIME: 07:48:18 UTC

SOFTWARE: rsgps 1.38 RS74.prl 1.99.3 START: 2020/01/13 20:52:15
EPHEMERIS: igr20881.eph [rapid] STOP: 2020/01/13 21:55:45
NAV FILE: brdc0130.20n OBS USED: 5136 / 6432 : 80%
ANT NAME: TRMR10 NONE QUALITY IND. 10.24/ 30.45

ARP HEIGHT: 2.05 NORMALIZED RMS: 0.491

REF FRAME: NAD_83(2011)(EPOCH:2010.0000) ITRF2014 (EPOCH:2020.03522)

X:	-16047.727(m)	0.004(m)	-16048.584(m)	0.004(m)
Y:	-5396294.548(m)	0.023(m)	-5396293.080(m)	0.023(m)
Z:	3388760.607(m)	0.017(m)	3388760.439(m)	0.017(m)

LAT:	32 18 5.13569	0.006(m)	32 18 5.15650	0.006(m)
E LON:	269 49 46.60288	0.004(m)	269 49 46.56997	0.004(m)
W LON:	90 10 13.39712	0.004(m)	90 10 13.43003	0.004(m)
EL HGT:	55.886(m)	0.028(m)	54.558(m)	0.028(m)
ORTHO HGT:	82.203(m)	0.032(m)	[NAVD88 (Computed using GEOID18)]	

	UTM COORDINATES (Zone 15)	STATE PLANE COORDINATES SPC (2302 MS W)
Northing (Y) [meters]	3577364.868	310584.318
Easting (X) [meters]	766440.690	715345.864
Convergence [degrees]	1.51296111	0.08707500
Point Scale	1.00047554	0.99995290
Combined Factor	1.00046676	0.99994413

US NATIONAL GRID DESIGNATOR: 15SYR6644077364(NAD 83)

BASE STATIONS USED

PID	DESIGNATION	LATITUDE	LONGITUDE	DISTANCE(m)
DL7333	MSME MERIDIAN 2010 CORS ARP	N322203.022	W0884356.779	135577.1
DF7054	SIHS SICILY ISLAND CORS ARP	N315036.158	W0913919.560	149127.8
DO9482	MSGN GREENVILLE CORS ARP	N332019.304	W0910227.437	140988.4
DK6714	MSOX OXFORD CORS ARP	N342150.930	W0893156.516	236351.2
DN8737	MSIN INFINITY CENTER CORS ARP	N301842.205	W0893615.507	227081.7
AJ7833	HAMM HAMMOND CORS ARP	N303047.051	W0902803.428	200283.6
DF7069	1ULM U OF LA AT MONROE CORS ARP	N323144.501	W0920433.234	181002.2
DO8516	MSPE PRAIRIE CORS ARP	N334752.330	W0883930.108	217902.9

NEAREST NGS PUBLISHED CONTROL POINT

CP3431	Z 362	N321805.135	W0901013.397	0.0

OPUS-RS Extended Output, Level 2

FINAL COORDINATES (ITRF at epoch of observations)

msme	119286.985	-5391117.956	3394977.320
sihs	-156671.674	-5420982.303	3345694.211
msgn	-96903.004	-5333055.959	3485411.197
msox	43016.697	-5270505.635	3579942.809
msin	38057.750	-5510749.362	3200244.185
hamm	-44885.312	-5499419.415	3219506.400
1ulm	-194982.235	-5379221.894	3410046.791
mspe	124228.878	-5304370.559	3527879.622
z362	-16048.584	-5396293.080	3388760.439

Covariance matrix of the stations:

1 1.2650E-07 -3.8560E-07 2.6890E-07 -1.3080E-08 1.5200E-08 -2.1580E-08 -4.1480E-09 5.4930E-08 -1.8790E-08 1.0220E-08 1.1040E-07 -4.0640E-08 6.4370E-09 4.5390E-08 -6.9670E-08 -1.9030E-09 2.3920E-08 -5.3280E-08 -1.7120E-08 2.5990E-08 -1.4520E-08 1.7900E-08 1.1030E-07 -5.1020E-08 1.0880E-08 7.9300E-08 -5.4190E-08

2 -3.8560E-07 4.5820E-06 -2.9860E-06 3.9180E-08 -6.9000E-07 4.5110E-07 4.9190E-08 -6.2170E-07 4.4370E-07 6.5380E-08 -5.3880E-07 4.0610E-07 6.6760E-08 -6.8760E-07 4.0860E-07 5.5200E-08 -7.0650E-07 4.2520E-07 3.3470E-08 -6.6500E-07 4.5370E-07 7.5560E-08 -5.4690E-07 3.9790E-07 1.4210E-08 1.0230E-07 -5.6020E-08

3 2.6890E-07 -2.9860E-06 2.0560E-06 -2.7300E-08 4.5320E-07 -2.8500E-07 -3.5360E-08 4.3900E-07 -3.0210E-07 -4.8030E-08 3.9840E-07 -2.8870E-07 -4.3090E-08 4.1650E-07 -2.3530E-07 -3.6240E-08 4.3290E-07 -2.4860E-07 -2.3940E-08 4.5230E-07 -2.9750E-07 -5.4340E-08 3.9280E-07 -2.7430E-07 -9.2740E-09 -5.5910E-08 5.4080E-08

4 -1.3080E-08 3.9180E-08 -2.7300E-08 9.9480E-08 -1.6430E-07 1.2940E-07 1.4370E-08 1.3510E-08 -3.0660E-08 -3.1090E-09 -1.2760E-08 -3.1120E-08 9.5920E-10 5.1570E-08 6.0520E-09 1.1300E-08 5.2480E-08 1.7980E-09 2.8620E-08 1.5700E-08 -1.6050E-08 -1.3290E-08 4.1710E-09 -3.1540E-08 2.0430E-08 -7.7650E-08 5.3690E-08

5 1.5200E-08 -6.9000E-07 4.5320E-07 -1.6430E-07 4.9190E-06 -3.1410E-06 2.8290E-08 -6.6740E-07 4.2800E-07 1.7350E-08 -6.8170E-07 4.2640E-07 2.5050E-08 -7.1060E-07 4.8660E-07 2.9430E-08 -6.9410E-07 4.7520E-07 3.6840E-08 -6.6410E-07 4.3530E-07 1.2620E-08 -6.8670E-07 4.3590E-07 -1.0960E-08 -1.3240E-07 9.1720E-08

6 -2.1580E-08 4.5110E-07 -2.8500E-07 1.2940E-07 -3.1410E-06 2.1210E-06 -1.6980E-08 4.5870E-07 -2.9640E-07 -2.0940E-08 4.5860E-07 -3.0060E-07 -1.7690E-08 4.3360E-07 -2.6540E-07 -1.6020E-08 4.3350E-07 -2.6640E-07 -1.3710E-08 4.5030E-07 -2.8710E-07 -2.2500E-08 4.5540E-07 -2.9470E-07 9.5990E-09 5.2110E-08 -1.2580E-08

7 -4.1480E-09 4.9190E-08 -3.5360E-08 1.4370E-08 2.8290E-08 -1.6980E-08 9.0410E-08 -2.4080E-07 1.7050E-07 1.1750E-09 1.9350E-08 -3.3680E-08 2.7880E-09 5.0120E-08 -1.6320E-08 8.0100E-09 4.4560E-08 -1.4710E-08 1.6470E-08 1.6950E-08 -1.5920E-08 -4.1250E-09 3.2090E-08 -3.7220E-08 1.8050E-08 -3.4700E-08 2.2810E-08

8 5.4930E-08 -6.2170E-07 4.3900E-07 1.3510E-08 -6.6740E-07 4.5870E-07 -2.4080E-07 4.5310E-06 -3.0800E-06 3.9800E-08 -5.2190E-07 4.1620E-07 4.3900E-08 -7.0730E-07 4.4240E-07 3.1000E-08 -7.1240E-07 4.5080E-07 7.5380E-09 -6.3160E-07 4.5350E-07 5.1330E-08 -5.4440E-07 4.1850E-07 -7.8060E-09 3.7400E-08 7.5730E-09

9 -1.8790E-08 4.4370E-07 -3.0210E-07 -3.0660E-08 4.2800E-07 -2.9640E-07 1.7050E-07 -3.0800E-06 2.2370E-06 -2.1790E-08 4.6260E-07 -3.0420E-07 -2.3230E-08 4.2970E-07 -3.0610E-07 -2.6430E-08 4.2290E-07 -3.0120E-07 -3.2130E-08 4.3710E-07 -2.9830E-07 -1.8550E-08 4.5740E-07 -3.0320E-07 7.3830E-10 8.1960E-08 -5.5540E-08

10 1.0220E-08 6.5380E-08 -4.8030E-08 -3.1090E-09 1.7350E-08 -2.0940E-08 1.1750E-09 3.9800E-08 -2.1790E-08 1.0370E-07 -2.9780E-07 2.4670E-07 5.2040E-09 4.6670E-08 -5.3050E-08 1.7210E-09 3.0440E-08 -4.1670E-08 -4.9250E-09 1.9510E-08 -1.5450E-08 1.0570E-08 7.8890E-08 -4.6050E-08 1.3150E-08 3.9020E-08 -2.9610E-08

11 1.1040E-07 -5.3880E-07 3.9840E-07 -1.2760E-08 -6.8170E-07 4.5860E-07 1.9350E-08 -5.2190E-07 4.6260E-07 -2.9780E-07 4.2810E-06 -2.9080E-06 6.9970E-08 -6.9650E-07 3.5220E-07 3.4430E-08 -7.3500E-07 3.8970E-07 -2.9220E-08 -6.0890E-07 4.6430E-07 1.0660E-07 -3.7260E-07 3.8130E-07 -1.1700E-09 2.5240E-07 -1.2440E-07

12 -4.0640E-08 4.0610E-07 -2.8870E-07 -3.1120E-08 4.2640E-07 -3.0060E-07 -3.3680E-08 4.1620E-07 -3.0420E-07 2.4670E-07 -2.9080E-06 2.1850E-06 -3.7940E-08 4.1980E-07 -2.8460E-07 -3.5070E-08 4.2390E-07 -2.8880E-07 -2.9670E-08 4.2470E-07 -3.0500E-07 -3.9920E-08 3.9230E-07 -2.8800E-07 -8.5740E-09 1.5510E-08 -2.2150E-08

13 6.4370E-09 6.6760E-08 -4.3090E-08 9.5920E-10 2.5050E-08 -1.7690E-08 2.7880E-09 4.3900E-08 -2.3230E-08 5.2040E-09 6.9970E-08 -3.7940E-08 1.0020E-07 -3.4210E-07 2.1090E-07 3.3690E-09 3.5470E-08 -3.0690E-08 -1.0990E-11 2.5580E-08 -1.4410E-08 6.3150E-09 7.5650E-08 -4.4180E-08 1.4030E-08 2.7760E-08 -1.5730E-08

14 4.5390E-08 -6.8760E-07 4.1650E-07 5.1570E-08 -7.1060E-07 4.3360E-07 5.0120E-08 -7.0730E-07 4.2970E-07 4.6670E-08 -6.9650E-07 4.1980E-07 -3.4210E-07 5.0340E-06 -2.9780E-06 5.0020E-08 -7.0330E-07 4.2990E-07 5.1930E-08 -7.1450E-07 4.3590E-07 4.4740E-08 -6.8900E-07 4.1480E-07 1.1500E-08 -1.1940E-07 4.6960E-08

15 -6.9670E-08 4.0860E-07 -2.3530E-07 6.0520E-09 4.8660E-07 -2.6540E-07 -1.6320E-08 4.4240E-07 -3.0610E-07 -5.3050E-08 3.5220E-07 -2.8460E-07 2.1090E-07 -2.9780E-06 1.9520E-06 -1.9410E-08 4.6100E-07 -1.8760E-07 1.5250E-08 4.6990E-07 -2.8800E-07 -7.2130E-08 3.5560E-07 -2.6030E-07 2.5500E-09 -1.0260E-07 1.1510E-07

16 -1.9030E-09 5.5200E-08 -3.6240E-08 1.1300E-08 2.9430E-08 -1.6020E-08 8.0100E-09 3.1000E-08 -2.6430E-08 1.7210E-09 3.4430E-08 -3.5070E-08 3.3690E-09 5.0020E-08 -1.9410E-08 9.2200E-08 -2.6660E-07 1.8700E-07 1.2660E-08 2.1440E-08 -1.4940E-08 -2.0920E-09 4.5020E-08 -3.8780E-08 1.7000E-08 -1.7760E-08 1.4520E-08

17 2.3920E-08 -7.0650E-07 4.3290E-07 5.2480E-08 -6.9410E-07 4.3350E-07 4.4560E-08 -7.1240E-07 4.2290E-07 3.0440E-08 -7.3500E-07 4.2390E-07 3.5470E-08 -7.0330E-07 4.6100E-07 -2.6660E-07 5.1080E-06 -3.0290E-06 5.5740E-08 -7.0490E-07 4.3020E-07 2.2820E-08 -7.2690E-07 4.2620E-07 3.3210E-09 -1.7130E-07 8.6470E-08

18 -5.3280E-08 4.2520E-07 -2.4860E-07 1.7980E-09 4.7520E-07 -2.6640E-07 -1.4710E-08 4.5080E-07 -3.0120E-07 -4.1670E-08 3.8970E-07 -2.8880E-07 -3.0690E-08 4.2990E-07 -1.8760E-07 1.8700E-07 -3.0290E-06 1.9720E-06 8.3470E-09 4.6590E-07 -2.8470E-07 -5.5440E-08 3.9100E-07 -2.7000E-07 6.6140E-09 -5.3460E-08 7.9160E-08

19 -1.7120E-08 3.3470E-08 -2.3940E-08 2.8620E-08 3.6840E-08 -1.3710E-08 1.6470E-08 7.5380E-09 -3.2130E-08 -4.9250E-09 -2.9220E-08 -2.9670E-08 -1.0990E-11 5.1930E-08 1.5250E-08 1.2660E-08 5.5740E-08 8.3470E-09 1.0690E-07 -1.4680E-07 1.0550E-07 -1.7350E-08 -1.0140E-08 -2.8870E-08 2.1500E-08 -9.8660E-08 6.7570E-08

20 2.5990E-08 -6.6500E-07 4.5230E-07 1.5700E-08 -6.6410E-07 4.5030E-07 1.6950E-08 -6.3160E-07 4.3710E-07 1.9510E-08 -6.0890E-07 4.2470E-07 2.5580E-08 -7.1450E-07 4.6990E-07 2.1440E-08 -7.0490E-07 4.6590E-07 -1.4680E-07 4.7380E-06 -3.1340E-06 2.2870E-08 -6.2540E-07 4.3300E-07 -1.8090E-08 -5.4870E-08 5.4750E-08

21 -1.4520E-08 4.5370E-07 -2.9750E-07 -1.6050E-08 4.3530E-07 -2.8710E-07 -1.5920E-08 4.5350E-07 -2.9830E-07 -1.5450E-08 4.6430E-07 -3.0500E-07 -1.4410E-08 4.3590E-07 -2.8800E-07 -1.4940E-08 4.3020E-07 -2.8470E-07 1.0550E-07 -3.1340E-06 2.1890E-06 -1.4890E-08 4.6230E-07 -3.0300E-07 1.1320E-08 6.9870E-08 -3.5680E-08
22 1.7900E-08 7.5560E-08 -5.4340E-08 -1.3290E-08 1.2620E-08 -2.2500E-08 -4.1250E-09 5.1330E-08 -1.8550E-08 1.0570E-08 1.0660E-07 -3.9920E-08 6.3150E-09 4.4740E-08 -7.2130E-08 -2.0920E-09 2.2820E-08 -5.5440E-08 -1.7350E-08 2.2870E-08 -1.4890E-08 1.2670E-07 -3.3600E-07 2.7710E-07 1.0000E-08 8.1890E-08 -5.8450E-08
23 1.1030E-07 -5.4690E-07 3.9280E-07 4.1710E-09 -6.8670E-07 4.5540E-07 3.2090E-08 -5.4440E-07 4.5740E-07 7.8890E-08 -3.7260E-07 3.9230E-07 7.5650E-08 -6.8900E-07 3.5560E-07 4.5020E-08 -7.2690E-07 3.9100E-07 -1.0140E-08 -6.2540E-07 4.6230E-07 -3.3600E-07 4.3170E-06 -2.9070E-06 9.0030E-09 2.1130E-07 -1.0740E-07
24 -5.1020E-08 3.9790E-07 -2.7430E-07 -3.1540E-08 4.3590E-07 -2.9470E-07 -3.7220E-08 4.1850E-07 -3.0320E-07 -4.6050E-08 3.8130E-07 -2.8800E-07 -4.4180E-08 4.1480E-07 -2.6030E-07 -3.8780E-08 4.2620E-07 -2.7000E-07 -2.8870E-08 4.3300E-07 -3.0300E-07 2.7710E-07 -2.9070E-06 2.1180E-06 -1.2930E-08 -8.0840E-09 3.0630E-09
25 1.0880E-08 1.4210E-08 -9.2740E-09 2.0430E-08 -1.0960E-08 9.5990E-09 1.8050E-08 -7.8060E-09 7.3830E-10 1.3150E-08 -1.1700E-09 -8.5740E-09 1.4030E-08 1.1500E-08 2.5500E-09 1.7000E-08 3.3210E-09 6.6140E-09 2.1500E-08 -1.8090E-08 1.1320E-08 1.0000E-08 9.0030E-09 -1.2930E-08 8.6180E-07 -3.2670E-06 2.3070E-06
26 7.9300E-08 1.0230E-07 -5.5910E-08 -7.7650E-08 -1.3240E-07 5.2110E-08 -3.4700E-08 3.7400E-08 8.1960E-08 3.9020E-08 2.5240E-07 1.5510E-08 2.7760E-08 -1.1940E-07 -1.0260E-07 -1.7760E-08 -1.7130E-07 -5.3460E-08 -9.8660E-08 -5.4870E-08 6.9870E-08 8.1890E-08 2.1130E-07 -8.0840E-09 -3.2670E-06 5.0080E-05 -3.2780E-05
27 -5.4190E-08 -5.6020E-08 5.4080E-08 5.3690E-08 9.1720E-08 -1.2580E-08 2.2810E-08 7.5730E-09 -5.5540E-08 -2.9610E-08 -1.2440E-07 -2.2150E-08 -1.5730E-08 4.6960E-08 1.1510E-07 1.4520E-08 8.6470E-08 7.9160E-08 6.7570E-08 5.4750E-08 -3.5680E-08 -5.8450E-08 -1.0740E-07 3.0630E-09 2.3070E-06 -3.2780E-05 2.2420E-05

Covariance Matrix for the xyz OPUS Rover Position (meters^2).

0.0000008618	-0.0000032670	0.0000023070
-0.0000032670	0.0000500800	-0.0000327800
0.0000023070	-0.0000327800	0.0000224200

Covariance Matrix for the enu OPUS Position (meters^2).

0.0000008817	0.0000002210	0.0000041693
0.0000002210	0.0000007172	0.0000017868
0.0000041693	0.0000017868	0.0000717629

Horizontal network accuracy = 0.00221 meters.
Vertical network accuracy = 0.01661 meters.

Vectors

To	From	X	Y	Z
msme	z362	135335.569	5175.124	6216.881
sihs	z362	-140623.089	-24689.224	-43066.229
msgn	z362	-80854.419	63237.121	96650.758
msox	z362	59065.281	125787.444	191182.370
msin	z362	54106.334	-114456.282	-188516.255
hamm	z362	-28836.728	-103126.335	-169254.039
1ulm	z362	-178933.650	17071.186	21286.352
mspe	z362	140277.463	91922.520	139119.183

Covariance matrix of the 8 vectors

1 9.6654E-07 -3.7461E-06 2.6394E-06 8.1741E-07 -3.3201E-06 2.3300E-06 8.2872E-07 -3.2836E-06 2.3417E-06 8.4799E-07 -3.2347E-06 2.3291E-06 8.4333E-07 -3.3124E-06 2.2890E-06 8.3202E-07 -3.3257E-06 2.3013E-06 8.1230E-07 -3.3022E-06 2.3354E-06 8.5882E-07 -3.2450E-06 2.3231E-06
2 -3.7461E-06 5.4457E-05 -3.5654E-05 -3.1644E-06 4.9420E-05 -3.2325E-05 -3.1973E-06 4.9319E-05 -3.2362E-05 -3.2548E-06 4.9187E-05 -3.2333E-05 -3.2422E-06 4.9410E-05 -3.2213E-05 -3.2082E-06 4.9442E-05 -3.2245E-05 -3.1491E-06 4.9368E-05 -3.2340E-05 -3.2875E-06 4.9219E-05 -3.2318E-05
3 2.6394E-06 -3.5654E-05 2.4368E-05 2.2353E-06 -3.2363E-05 2.2093E-05 2.2581E-06 -3.2293E-05 2.2119E-05 2.2979E-06 -3.2201E-05 2.2099E-05 2.2889E-06 -3.2355E-05 2.2016E-05 2.2655E-06 -3.2378E-05 2.2038E-05 2.2248E-06 -3.2327E-05 2.2104E-05 2.3204E-06 -3.2224E-05 2.2089E-05

4 8.1741E-07 -3.1644E-06 2.2353E-06 9.2042E-07 -3.3427E-06 2.3731E-06 8.3769E-07 -3.1680E-06 2.2219E-06 8.2511E-07 -3.2009E-06 2.2308E-06 8.2830E-07 -3.1493E-06 2.2568E-06 8.3567E-07 -3.1402E-06 2.2485E-06 8.4849E-07 -3.1556E-06 2.2259E-06 8.1808E-07 -3.1942E-06 2.2347E-06

5 -3.3201E-06 4.9420E-05 -3.2363E-05 -3.3427E-06 5.5264E-05 -3.6065E-05 -3.1930E-06 4.9508E-05 -3.2526E-05 -3.2777E-06 4.9278E-05 -3.2461E-05 -3.2587E-06 4.9621E-05 -3.2283E-05 -3.2088E-06 4.9690E-05 -3.2343E-05 -3.1205E-06 4.9603E-05 -3.2506E-05 -3.3253E-06 4.9314E-05 -3.2428E-05

6 2.3300E-06 -3.2325E-05 2.2093E-05 2.3731E-06 -3.6065E-05 2.4566E-05 2.2576E-06 -3.2381E-05 2.2192E-05 2.3061E-06 -3.2249E-05 2.2154E-05 2.2954E-06 -3.2445E-05 2.2052E-05 2.2669E-06 -3.2485E-05 2.2087E-05 2.2161E-06 -3.2437E-05 2.2181E-05 2.3334E-06 -3.2269E-05 2.2135E-05

7 8.2872E-07 -3.1973E-06 2.2581E-06 8.3769E-07 -3.1930E-06 2.2576E-06 9.1611E-07 -3.4653E-06 2.4540E-06 8.3177E-07 -3.2118E-06 2.2591E-06 8.3251E-07 -3.1937E-06 2.2653E-06 8.3476E-07 -3.1911E-06 2.2629E-06 8.3872E-07 -3.1973E-06 2.2570E-06 8.2962E-07 -3.2092E-06 2.2599E-06

8 -3.2836E-06 4.9319E-05 -3.2293E-05 -3.1680E-06 4.9508E-05 -3.2381E-05 -3.4653E-06 5.4536E-05 -3.5950E-05 -3.2584E-06 4.9268E-05 -3.2387E-05 -3.2431E-06 4.9455E-05 -3.2243E-05 -3.2104E-06 4.9502E-05 -3.2283E-05 -3.1530E-06 4.9466E-05 -3.2404E-05 -3.2898E-06 4.9287E-05 -3.2361E-05

9 2.3417E-06 -3.2362E-05 2.2119E-05 2.2219E-06 -3.2526E-05 2.2192E-05 2.4540E-06 -3.5950E-05 2.4768E-05 2.3141E-06 -3.2275E-05 2.2193E-05 2.2988E-06 -3.2479E-05 2.2054E-05 2.2653E-06 -3.2526E-05 2.2095E-05 2.2066E-06 -3.2480E-05 2.2213E-05 2.3462E-06 -3.2297E-05 2.2169E-05

10 8.4799E-07 -3.2548E-06 2.2979E-06 8.2511E-07 -3.2777E-06 2.3061E-06 8.3177E-07 -3.2584E-06 2.3141E-06 9.3920E-07 -3.6026E-06 2.5919E-06 8.3982E-07 -3.2708E-06 2.2810E-06 8.3337E-07 -3.2789E-06 2.2883E-06 8.2222E-07 -3.2684E-06 2.3098E-06 8.4922E-07 -3.2361E-06 2.3035E-06

11 -3.2347E-06 4.9187E-05 -3.2201E-05 -3.2009E-06 4.9278E-05 -3.2249E-05 -3.2118E-06 4.9268E-05 -3.2275E-05 -3.6026E-06 5.3856E-05 -3.5579E-05 -3.2236E-06 4.9250E-05 -3.2201E-05 -3.2136E-06 4.9264E-05 -3.2212E-05 -3.1964E-06 4.9274E-05 -3.2261E-05 -3.2411E-06 4.9244E-05 -3.2266E-05

12 2.3291E-06 -3.2333E-05 2.2099E-05 2.2308E-06 -3.2461E-05 2.2154E-05 2.2591E-06 -3.2387E-05 2.2193E-05 2.5919E-06 -3.5579E-05 2.4649E-05 2.2934E-06 -3.2423E-05 2.2042E-05 2.2660E-06 -3.2458E-05 2.2074E-05 2.2183E-06 -3.2426E-05 2.2173E-05 2.3341E-06 -3.2296E-05 2.2151E-05

13 8.4333E-07 -3.2422E-06 2.2889E-06 8.2830E-07 -3.2587E-06 2.2954E-06 8.3251E-07 -3.2431E-06 2.2988E-06 8.3982E-07 -3.2236E-06 2.2934E-06 9.3394E-07 -3.6484E-06 2.5311E-06 8.3414E-07 -3.2626E-06 2.2854E-06 8.2626E-07 -3.2511E-06 2.2970E-06 8.4408E-07 -3.2281E-06 2.2915E-06

14 -3.3124E-06 4.9410E-05 -3.2355E-05 -3.1493E-06 4.9621E-05 -3.2445E-05 -3.1937E-06 4.9455E-05 -3.2479E-05 -3.2708E-06 4.9250E-05 -3.2423E-05 -3.6484E-06 5.5353E-05 -3.5702E-05 -3.2107E-06 4.9667E-05 -3.2344E-05 -3.1279E-06 4.9540E-05 -3.2461E-05 -3.3156E-06 4.9299E-05 -3.2404E-05

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Correlation matrix of the 8 vectors

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5 -4.5428E-01 9.0085E-01 -8.8189E-01 -4.6869E-01 1.0000E+00 -9.7880E-01 -4.4876E-01 9.0180E-01 -8.7914E-01 -4.5496E-01 9.0327E-01 -8.7950E-01 -4.5360E-01 8.9717E-01 -8.8382E-01 -4.5002E-01 8.9697E-01 -8.8379E-01 -4.3629E-01 9.0031E-01 -8.8018E-01 -4.5453E-01 9.0294E-01 -8.8071E-01
6 4.7817E-01 -8.8377E-01 9.0300E-01 4.9906E-01 -9.7880E-01 1.0000E+00 4.7589E-01 -8.8467E-01 8.9966E-01 4.8009E-01 -8.8661E-01 9.0029E-01 4.7922E-01 -8.7986E-01 9.0552E-01 4.7683E-01 -8.7953E-01 9.0523E-01 4.6472E-01 -8.8302E-01 9.0082E-01 4.7837E-01 -8.8619E-01 9.0166E-01
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8832419 8 22 -4526590 8 23 9084377 D 8 24 -8847365 9 10 4797925 9 11 -8836935 9 12 8982084 9 13 4779564 D 9 14 -8771818 9 15 9019097 9 16 4745564 9 17 -8770251 9 18 9018653 D 9 19 4608236 9 20 -8805799 9 21 8984289 9 22 4790291 9 23 -8833325 D 9 24 8993733 10 11 -5065533 10 12 5386841 10 13 8967053 10 14 -4536404 D 10 15 4790306 10 16 8965312 10 17 -4540284 10 18 4796552 10 19 8818130 D 10 20 -4550540 10 21 4797633 10 22 8904127 10 23 -4545204 10 24 4798902 D 11 12 -9765060 11 13 -4545341 11 14 9020341 11 15 -8930257 11 16 -4565469 D 11 17 9008339 11 18 -8916534 11 19 -4526961 11 20 9059418 11 21 -8848843 D 11 22 -4487737 11 23 9133535 11 24 -8876971 12 13 4779816 12 14 -8777618 D 12 15 9035927 12 16 4758396 12 17 -8773125 12 18 9031768 12 19 4643971 D 12 20 -8812301 12 21 8989656 12 22 4777141 12 23 -8854213 12 24 9007979 D 13 14 -5074209 13 15 5330421 13 16 8998808 13 17 -4530432 13 18 4803944 D 13 19 8886312 13 20 -4539140 13 21 4784381 13 22 8875174 13 23 -4546689 D 13 24 4787306 14 15 -9766575 14 16 -4499235 14 17 8958503 14 18 -8830979 D 14 19 -4369676 14 20 8984384 14 21 -8782444 14 22 -4528444 14 23 9019350 D 14 24 -8793554 15 16 4817775 15 17 -8822468 15 18 9111301 15 19 4764019 D 15 20 -8859596 15 21 9034390 15 22 4737474 15 23 -8924241 15 24 9057152 D 16 17 -4923557 16 18 5237173 16 19 9058503 16 20 -4515189 16 21 4755896 D 16 22 8821633 16 23 -4559876 16 24 4771131 17 18 -9770493 17 19 -4345953 D 17 20 8981125 17 21 -8780585 17 22 -4539926 17 23 9007457 17 24 -8787081 D 18 19 4731824 18 20 -8857350 18 21 9033292 18 22 4754546 18 23 -8911106 D 18 24 9050728 19 20 -4623752 19 21 4882220 19 22 8585762 19 23 -4509400 D 19 24 4665892 20 21 -9788058 20 22 -4535348 20 23 9054011 20 24 -8824678 D 21 22 4784639 21 23 -8844354 21 24 9001711 22 23 -5109055 22 24 5447884 D 23 24 -9775592

ITRF position of z362 as determined by individual baselines

	X	Y	Z
msme	-16048.587	-5396293.110	3388760.457
sihs	-16048.584	-5396293.092	3388760.449
msgn	-16048.580	-5396293.090	3388760.457
msox	-16048.589	-5396293.097	3388760.439
msin	-16048.584	-5396293.099	3388760.457
hamm	-16048.582	-5396293.083	3388760.445
1ulm	-16048.578	-5396293.122	3388760.468
mspe	-16048.586	-5396293.067	3388760.428

Residuals of position determined by individual baselines from the final position

	X	Y	Z	East	North	Up
msme	-0.002	-0.030	0.018	-0.002	-0.001	0.035
sihs	0.000	-0.012	0.010	0.000	0.002	0.016
msgn	0.005	-0.010	0.017	0.005	0.009	0.018
msox	-0.004	-0.017	-0.000	-0.004	-0.009	0.014
msin	0.000	-0.019	0.018	0.000	0.005	0.026
hamm	0.002	-0.004	0.006	0.002	0.003	0.006
1ulm	0.007	-0.042	0.029	0.007	0.002	0.051
mspe	-0.001	0.012	-0.011	-0.001	-0.003	-0.016

STATE PLANE COORDINATES - U.S. Survey Foot

SPC (2302 MS W)

Northing (Y) [feet]	1018975.383
Easting (X) [feet]	2346930.555
Convergence [degrees]	0.08707500
Point Scale	0.99995290
Combined Factor	0.99994413

********** New Reference Frame Preview **********

We are replacing the nation's NAD 83 and NAVD 88 datums, to improve access and accuracy of the National Spatial Reference System. More at https://geodesy.noaa.gov/datums/newdatums/

Below are approximate coordinates for this solution in the new frames:

APPROX ORTHO HGT: 81.841 (m) [PROTOTYPE (Computed using xGeoid19B,GRS80,ITRF2014)]

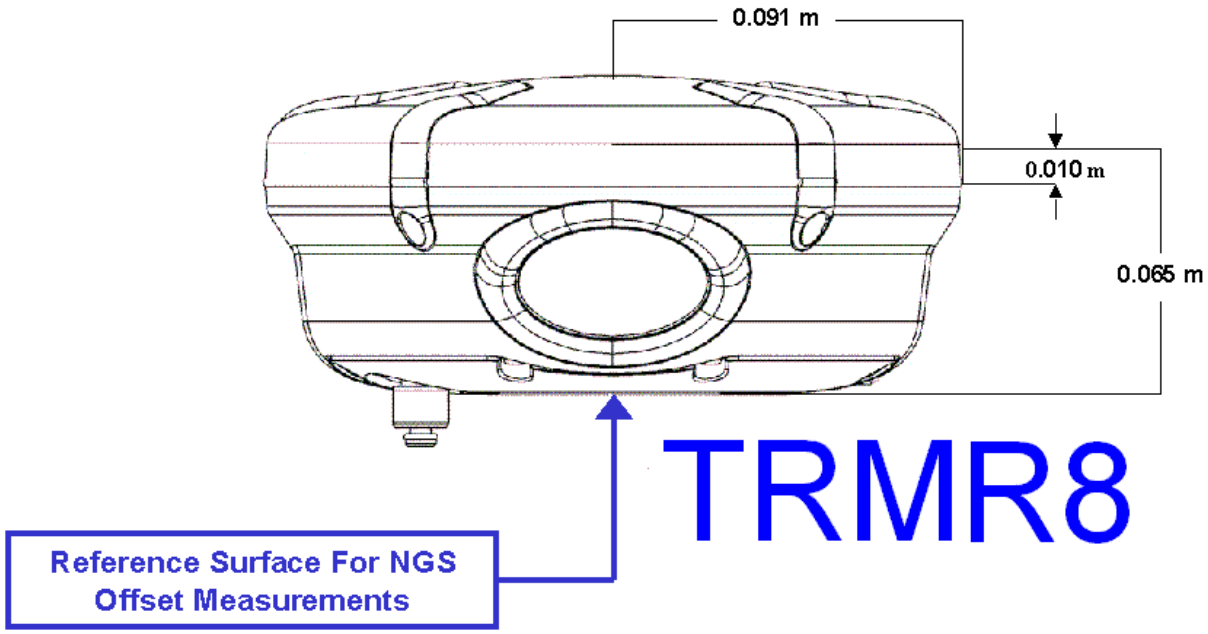
dop from interpolation is 0.334
scatter (mean square distance from rover) is 33632.629
average edop for rover is 0.750
average ndop for rover is 0.820
average hdop for rover is 1.111
average vdop for rover is 2.010
average gdop for rover is 2.690

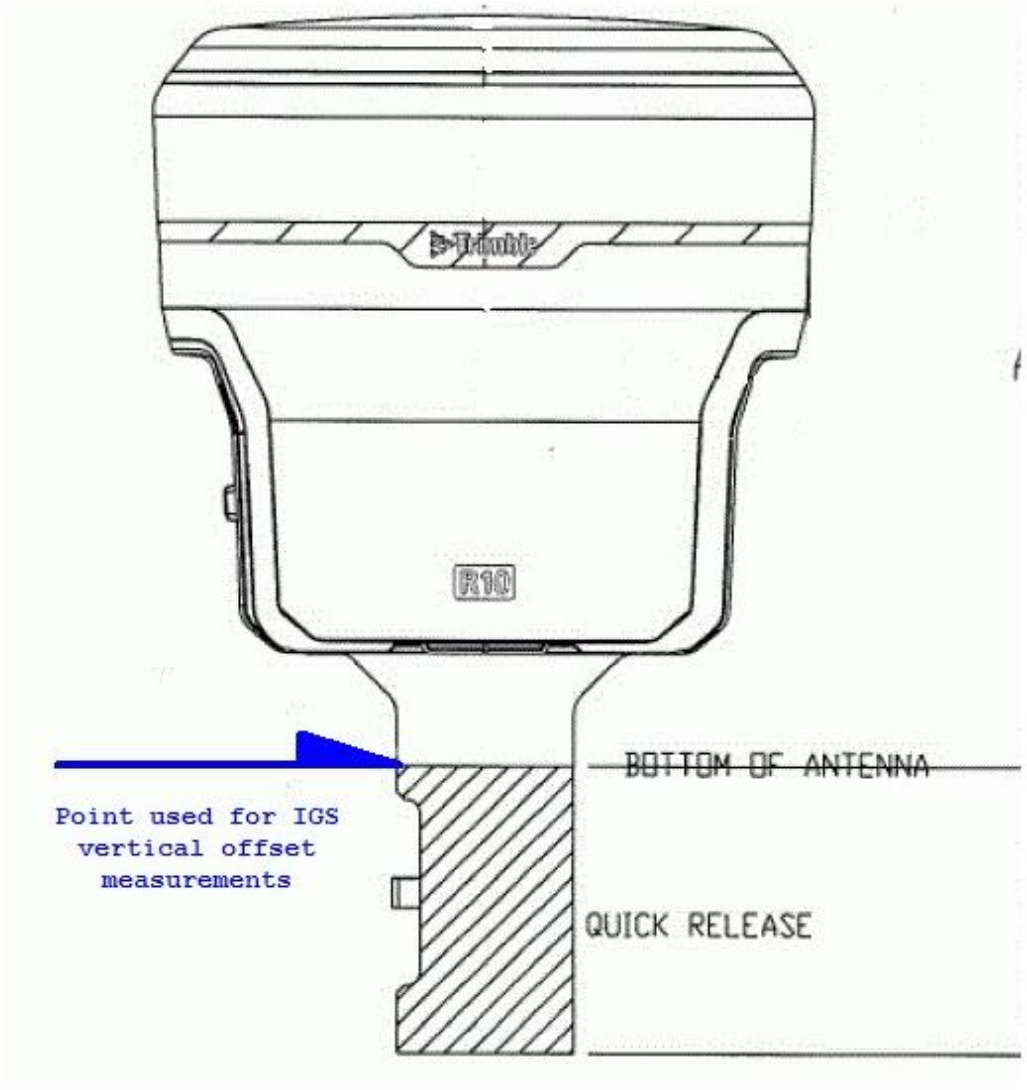
This position and the above vector components were computed without any knowledge by the National Geodetic Survey regarding the equipment or field operating procedures used.

1.5 Photographs

Due to the vast amount of points collected all pictures are submitted in digital PDF format with the final project deliverables organized by Point ID capture.

1.6 GNSS Receiver Diagrams





1.7 Custody Transference Assurance

A blank page has been intentionally inserted at the end of this report to serve as a page check when custody is transferred. The blank page is marked “This page intentionally left blank” to verify that every page of this document is accounted for.

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