

Project Information		Coordinate System	
Name:	C:\Users\Gary\Documents\Trimble Business Center\FranklinCoNA2011.vce	Name:	US State Plane 1983
Size:	2 MB	Datum:	NAD 1983 (Conus)
Modified:	2/5/2014 2:25:15 PM (UTC:-6)	Zone:	Iowa North 1401
Time zone:	Central Standard Time	Geoid:	GEOID12A (Conus)
Reference number:		Vertical datum:	NAVD88
Description:	USFeet Template		

Network Adjustment Report

Adjustment Settings

Set-Up Errors

GNSS

Error in Height of Antenna: 0.010 ft

Centering Error: 0.010 ft

Covariance Display

Horizontal:

Propagated Linear Error [E]: U.S.

Constant Term [C]: 0.000 ft

Scale on Linear Error [S]: 1.960

Three-Dimensional

Propagated Linear Error [E]: U.S.

Constant Term [C]: 0.000 ft

Scale on Linear Error [S]: 1.960

Adjustment Statistics

Number of Iterations for Successful Adjustment: 3

Network Reference Factor:1.00

Chi Square Test (95%):Passed

Precision Confidence Level:95%

Degrees of Freedom:290

Post Processed Imported Vector Statistics

Reference Factor:1.00

Redundancy Number:290.00

A Priori Scalar:3.34

Control Point Constraints

Point ID	Type	North σ (US survey foot)	East σ (US survey foot)	Height σ (US survey foot)	Elevation σ (US survey foot)
001	Grid				Fixed
002	Grid				Fixed
003	Grid				Fixed
004	Grid				Fixed
005	Grid				Fixed
006	Grid				Fixed
007	Grid				Fixed
008	Grid				Fixed
009	Grid				Fixed
010	Grid				Fixed
011	Grid				Fixed
012	Grid				Fixed
013	Grid				Fixed
014	Grid				Fixed
015	Grid				Fixed
016	Grid				Fixed
017	Grid				Fixed
018	Grid				Fixed
019	Grid				Fixed
020	Grid				Fixed
021	Grid				Fixed
022	Grid				Fixed
023	Grid				Fixed

024	Grid				Fixed
025	Grid				Fixed
026	Grid				Fixed
027	Grid				Fixed
028	Grid				Fixed
029	Grid				Fixed
030	Grid				Fixed
031	Grid				Fixed
032	Grid				Fixed
033	Grid				Fixed
034	Grid				Fixed
035	Grid				Fixed
036	Grid				Fixed
037	Grid				Fixed
038	Grid				Fixed
039	Grid				Fixed
040	Grid				Fixed
041	Grid				Fixed
042	Grid				Fixed
043	Grid				Fixed
044	Grid				Fixed
045	Grid				Fixed
046	Grid				Fixed
047	Grid				Fixed
048	Grid				Fixed
049	Grid				Fixed
050	Grid				Fixed
051	Grid				Fixed
3 CDL	Grid				Fixed
36 SAN 1972	Grid				Fixed
36 SAN 1972	Global	Fixed	Fixed		
37 SAN 1972	Grid				Fixed
42-141	Grid				Fixed
42-141	Global	Fixed	Fixed		
7001	Grid				Fixed
8001	Grid				Fixed
8019	Grid				Fixed

8020	Grid				Fixed
8022	Grid				Fixed
8039	Grid				Fixed
8040	Grid				Fixed
8056	Grid				Fixed
8073	Grid				Fixed
97-049	Grid				Fixed
97-049	Global	Fixed	Fixed		
98-101	Grid				Fixed
98-101	Global	Fixed	Fixed		
98-102	Grid				Fixed
98-103	Grid				Fixed
98-104	Grid				Fixed
98-105	Grid				Fixed
98-106	Grid				Fixed
98-107	Grid				Fixed
98-108	Grid				Fixed
A 29	Grid				Fixed
A 29	Global	Fixed	Fixed		
A 31 TBM	Grid				Fixed
G 102	Grid	Fixed	Fixed		Fixed
G 103	Grid	Fixed	Fixed		Fixed
G 104	Grid	Fixed	Fixed		Fixed
G 105	Grid	Fixed	Fixed		Fixed
G 106	Grid	Fixed	Fixed		Fixed
G 107	Grid	Fixed	Fixed		Fixed
G 108	Grid	Fixed	Fixed		Fixed
GPS 13	Grid				Fixed
GPS 22	Grid				Fixed
GPS 31	Grid				Fixed
GPS 40	Grid				Fixed
GPS 49	Grid				Fixed
HILL ET	Grid				Fixed
HILL ET	Global	Fixed	Fixed		
L28	Grid				Fixed
L28	Global	Fixed	Fixed		
R31	Grid				Fixed

R31	Global	Fixed	Fixed		
SHEFFIELD TBM	Grid				Fixed
W 28 TBM	Grid				Fixed
X 30	Grid				Fixed
Fixed = 0.000003(US survey foot)					

Adjusted Grid Coordinates

Point ID	Northing (US survey foot)	Northing Error (US survey foot)	Easting (US survey foot)	Easting Error (US survey foot)	Elevation (US survey foot)	Elevation Error (US survey foot)	Constraint
001	3684934.859	0.094	4924258.290	0.090	1140.987	?	e
002	3699978.526	0.091	4924702.528	0.088	1205.961	?	e
003	3682056.920	0.102	4938552.166	0.097	1151.953	?	e
004	3697959.195	0.099	4937829.203	0.097	1193.259	?	e
005	3713202.957	0.098	4937542.920	0.095	1202.645	?	e
006	3729902.100	0.080	4937636.921	0.077	1285.862	?	e
007	3746619.850	0.090	4937578.638	0.086	1270.469	?	e
008	3761351.278	0.095	4937612.319	0.089	1260.821	?	e
009	3777735.724	0.063	4937668.312	0.061	1269.757	?	e
010	3682948.658	0.079	4953374.786	0.076	1184.800	?	e
011	3697933.293	0.080	4953310.239	0.077	1187.015	?	e
012	3714297.820	0.078	4953448.832	0.075	1232.194	?	e
013	3729455.934	0.069	4953675.450	0.066	1231.894	?	e

014	3743793.978	0.073	4953511.389	0.069	1214.224	?	e
015	3763074.673	0.076	4953514.686	0.071	1249.783	?	e
016	3778005.368	0.062	4953542.404	0.059	1234.077	?	e
017	3682281.643	0.095	4969011.365	0.092	1200.338	?	e
018	3697752.812	0.085	4969517.738	0.083	1211.450	?	e
019	3713739.219	0.085	4969359.488	0.083	1225.152	?	e
020	3729479.339	0.065	4970334.220	0.063	1267.149	?	e
021	3745341.890	0.096	4967956.717	0.089	1235.612	?	e
022	3761811.016	0.093	4969411.023	0.089	1243.618	?	e
023	3777368.805	0.085	4969020.948	0.081	1191.930	?	e
024	3682006.202	0.076	4985746.289	0.074	1209.513	?	e
025	3698218.363	0.079	4985396.792	0.076	1261.318	?	e
026	3715353.133	0.075	4985226.608	0.073	1258.906	?	e
027	3730897.547	0.058	4985199.632	0.057	1213.302	?	e
028	3745291.517	0.067	4985658.169	0.062	1162.882	?	e
029	3761626.439	0.072	4984773.198	0.068	1141.840	?	e
030	3777398.159	0.058	4986111.077	0.056	1154.359	?	e
031	3681419.532	0.094	5000814.161	0.092	1200.197	?	e
032	3697818.714	0.098	5001128.976	0.095	1234.164	?	e
033	3714051.405	0.096	5001143.826	0.094	1194.565	?	e
034	3729588.358	0.090	4999412.828	0.088	1138.531	?	e

035	3745424.005	0.095	5000208.352	0.091	1106.898	?	e
036	3761692.422	0.086	5000850.715	0.082	1150.463	?	e
037	3777555.385	0.081	5001053.248	0.079	1111.074	?	e
038	3681966.019	0.079	5016276.140	0.077	1226.034	?	e
039	3697758.922	0.085	5017479.601	0.083	1171.471	?	e
040	3713731.771	0.087	5016983.634	0.084	1050.396	?	e
041	3727188.762	0.083	5016978.538	0.080	1113.397	?	e
042	3749826.008	0.082	5016962.065	0.079	1092.064	?	e
043	3761673.481	0.076	5015222.799	0.072	1151.064	?	e
044	3777609.786	0.056	5016924.774	0.054	1036.514	?	e
045	3682052.197	0.106	5032859.044	0.102	1123.506	?	e
046	3697353.551	0.108	5032732.180	0.104	1144.145	?	e
047	3716331.711	0.113	5032053.967	0.106	1104.408	?	e
048	3729681.763	0.102	5032801.496	0.097	1015.382	?	e
049	3745399.493	0.106	5032772.975	0.101	1041.153	?	e
050	3761721.862	0.100	5033425.829	0.096	1047.608	?	e
051	3777485.741	0.088	5032319.077	0.085	1036.478	?	e
3 CDL	3672865.273	0.097	4921364.549	0.094	1148.925	?	e
36 SAN 1972	3780311.137	?	4926943.071	?	1266.741	?	LLe
37 SAN 1972	3794699.838	0.055	4927061.029	0.054	1245.738	?	e
42-141	3634666.606	?	4985317.483	?	1134.520	?	LLe

7001	3666250.502	0.097	5048725.340	0.094	1068.540	?	e
8001	3666234.703	0.073	4921419.677	0.071	1152.600	?	e
8019	3666199.103	0.068	4937599.493	0.067	1147.330	?	e
8020	3666212.792	0.067	4953342.981	0.065	1130.400	?	e
8022	3666160.384	0.088	4968629.713	0.085	1166.150	?	e
8039	3665636.158	0.064	4985364.672	0.062	1153.660	?	e
8040	3665637.461	0.065	5001108.444	0.063	1155.680	?	e
8056	3666063.276	0.056	5016956.455	0.054	1145.800	?	e
8073	3666137.914	0.082	5035468.206	0.079	1121.920	?	e
97-049	3794152.978	?	4921508.824	?	1267.760	?	LLe
98-101	3794097.256	?	5048492.815	?	1090.830	?	LLe
98-102	3777246.771	0.079	5048531.865	0.075	1040.350	?	e
98-103	3761812.179	0.092	5048564.098	0.089	1048.950	?	e
98-104	3745754.105	0.100	5048587.414	0.096	1083.650	?	e
98-105	3730206.803	0.107	5048646.095	0.101	998.770	?	e
98-106	3713554.340	0.103	5048644.684	0.097	1053.880	?	e
98-107	3697793.521	0.103	5048686.585	0.099	1091.960	?	e
98-108	3682225.996	0.101	5048631.840	0.097	1026.970	?	e
A 29	3732675.311	?	4974749.435	?	1210.480	?	LLe
A 31 TBM	3650819.682	0.070	5017064.266	0.067	1138.170	?	e
G 102	3794067.317	?	5032586.290	?	1091.750	?	NEe

G 103	3796452.712	?	5017859.918	?	1105.610	?	NEe
G 104	3795390.679	?	5001092.319	?	1090.540	?	NEe
G 105	3793978.424	?	4984991.674	?	1106.770	?	NEe
G 106	3793959.406	?	4969099.691	?	1162.180	?	NEe
G 107	3793997.430	?	4953381.205	?	1224.289	?	NEe
G 108	3794604.957	?	4937583.260	?	1258.869	?	NEe
GPS 13	3777657.163	0.049	4921583.076	0.047	1250.837	?	e
GPS 22	3761771.549	0.075	4921538.407	0.072	1245.071	?	e
GPS 31	3745660.821	0.065	4921568.094	0.062	1241.816	?	e
GPS 40	3729584.040	0.065	4921454.232	0.063	1228.715	?	e
GPS 49	3713868.145	0.085	4921232.392	0.082	1201.895	?	e
HILL ET	3782886.060	?	5022057.160	?	1110.990	?	LLe
L28	3728441.582	?	4854556.151	?	1160.360	?	LLe
R31	3639209.442	?	4889542.915	?	1222.520	?	LLe
SHEFFIELD TBM	3788674.004	0.058	4997173.220	0.057	1076.880	?	e
W 28 TBM	3732380.803	0.079	4942910.829	0.076	1270.780	?	e
X 30	3635010.065	0.092	5044534.920	0.088	1065.530	?	e

Adjusted Geodetic Coordinates

Point ID	Latitude	Longitude	Height (US survey foot)	Height Error (US survey foot)	Constraint
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001	N42°36'31.96926"	W93°29'19.77002"	1050.758	?	e
002	N42°39'00.57527"	W93°29'13.79867"	1115.879	?	e
003	N42°36'03.47685"	W93°26'08.64673"	1060.588	?	e
004	N42°38'40.57057"	W93°26'18.15872"	1102.312	?	e
005	N42°41'11.15490"	W93°26'21.84317"	1111.960	?	e
006	N42°43'56.11188"	W93°26'20.42320"	1195.341	?	e
007	N42°46'41.25229"	W93°26'21.04301"	1179.962	?	e
008	N42°49'06.76958"	W93°26'20.44886"	1170.170	?	e
009	N42°51'48.61376"	W93°26'19.53829"	1178.808	?	e
010	N42°36'12.12680"	W93°22'50.43171"	1092.029	?	e
011	N42°38'40.15118"	W93°22'51.01237"	1094.735	?	e
012	N42°41'21.80262"	W93°22'48.84771"	1140.343	?	e
013	N42°43'51.53434"	W93°22'45.52347"	1140.347	?	e
014	N42°46'13.16963"	W93°22'47.44870"	1122.902	?	e
015	N42°49'23.62486"	W93°22'47.03673"	1158.559	?	e
016	N42°51'51.10878"	W93°22'46.37931"	1142.791	?	e
017	N42°36'05.26669"	W93°19'21.36071"	1105.741	?	e
018	N42°38'38.08562"	W93°19'14.15077"	1117.416	?	e
019	N42°41'16.00695"	W93°19'15.81547"	1131.715	?	e
020	N42°43'51.47027"	W93°19'02.30842"	1174.126	?	e
021	N42°46'28.21180"	W93°19'33.72770"	1143.242	?	e
022	N42°49'10.86408"	W93°19'13.75862"	1151.451	?	e
023	N42°51'44.55084"	W93°19'18.55277"	1099.963	?	e
024	N42°36'02.13810"	W93°15'37.60178"	1112.812	?	e
025	N42°38'42.29683"	W93°15'41.66360"	1165.341	?	e
026	N42°41'31.56306"	W93°15'43.29538"	1163.645	?	e
027	N42°44'05.11412"	W93°15'43.07052"	1118.662	?	e
028	N42°46'27.28621"	W93°15'36.37880"	1068.732	?	e
029	N42°49'08.66722"	W93°15'47.63149"	1048.324	?	e
030	N42°51'44.42134"	W93°15'29.07402"	1061.128	?	e
031	N42°35'55.87173"	W93°12'16.15389"	1101.643	?	e
032	N42°38'37.85695"	W93°12'11.17449"	1136.191	?	e
033	N42°41'18.20668"	W93°12'10.21230"	1097.200	?	e
034	N42°43'51.74256"	W93°12'32.67445"	1042.034	?	e
035	N42°46'28.14101"	W93°12'21.27696"	1010.979	?	e
036	N42°49'08.81792"	W93°12'11.89826"	1055.145	?	e
037	N42°51'45.50336"	W93°12'08.43119"	1016.297	?	e

038	N42°36'00.68431"	W93°08'49.38469"	1125.854	?	e
039	N42°38'36.64102"	W93°08'32.39973"	1071.646	?	e
040	N42°41'14.44476"	W93°08'38.13575"	951.122	?	e
041	N42°43'27.37491"	W93°08'37.44464"	1014.620	?	e
042	N42°47'10.98714"	W93°08'36.38616"	994.218	?	e
043	N42°49'08.08760"	W93°08'59.05323"	1053.940	?	e
044	N42°51'45.43383"	W93°08'35.31339"	939.808	?	e
045	N42°36'00.79202"	W93°05'07.64869"	1021.894	?	e
046	N42°38'31.94871"	W93°05'08.34221"	1042.938	?	e
047	N42°41'39.45093"	W93°05'16.17867"	1003.745	?	e
048	N42°43'51.28780"	W93°05'05.29034"	915.041	?	e
049	N42°46'26.54909"	W93°05'04.63771"	941.351	?	e
050	N42°49'07.74836"	W93°04'54.80159"	948.336	?	e
051	N42°51'43.51501"	W93°05'08.61544"	937.922	?	e
3 CDL	N42°34'32.74290"	W93°29'58.46894"	1058.702	?	e
36 SAN 1972	N42°52'14.10506"	W93°28'43.54591"	1175.744	?	LLe
37 SAN 1972	N42°54'36.23388"	W93°28'41.91224"	1154.285	?	e
42-141	N42°28'14.50827"	W93°15'45.11350"	1036.152	?	LLe
7001	N42°33'23.87534"	W93°01'36.68332"	965.533	?	e
8001	N42°33'27.24316"	W93°29'57.73276"	1062.247	?	e
8019	N42°33'26.83352"	W93°26'21.53745"	1055.600	?	e
8020	N42°33'26.80336"	W93°22'51.17233"	1036.992	?	e
8022	N42°33'26.02220"	W93°19'26.91236"	1070.900	?	e
8039	N42°33'20.43905"	W93°15'43.32061"	1056.311	?	e
8040	N42°33'19.96039"	W93°12'12.95895"	1056.508	?	e
8056	N42°33'23.56340"	W93°08'41.18165"	1045.066	?	e
8073	N42°33'23.45800"	W93°04'33.82863"	1019.724	?	e
97-049	N42°54'30.83946"	W93°29'56.52205"	1176.200	?	LLe
98-101	N42°54'26.75844"	W93°01'30.19308"	991.194	?	LLe
98-102	N42°51'40.31247"	W93°01'30.93987"	940.156	?	e
98-103	N42°49'07.85103"	W93°01'31.67039"	948.256	?	e
98-104	N42°46'29.22995"	W93°01'32.56638"	982.484	?	e
98-105	N42°43'55.65087"	W93°01'32.94886"	897.184	?	e
98-106	N42°41'11.15695"	W93°01'34.21839"	951.919	?	e
98-107	N42°38'35.46708"	W93°01'34.83973"	989.653	?	e
98-108	N42°36'01.69084"	W93°01'36.73799"	924.313	?	e
A 29	N42°44'22.94202"	W93°18'03.04720"	1117.097	?	LLe

A 31 TBM	N42°30'52.97656"	W93°08'40.59736"	1037.018	?	e
G 102	N42°54'27.29026"	W93°05'03.93300"	993.778	?	NEe
G 103	N42°54'51.52022"	W93°08'21.67740"	1009.474	?	NEe
G 104	N42°54'41.67502"	W93°12'07.06228"	996.283	?	NEe
G 105	N42°54'28.22928"	W93°15'43.47822"	1013.944	?	NEe
G 106	N42°54'28.42814"	W93°19'17.02481"	1070.299	?	NEe
G 107	N42°54'29.07788"	W93°22'48.23923"	1132.883	?	NEe
G 108	N42°54'35.24586"	W93°26'20.51699"	1167.548	?	NEe
GPS 13	N42°51'47.89647"	W93°29'55.52754"	1159.875	?	e
GPS 22	N42°49'10.97930"	W93°29'56.13005"	1154.614	?	e
GPS 31	N42°46'31.83691"	W93°29'55.73473"	1151.728	?	e
GPS 40	N42°43'53.02842"	W93°29'57.26343"	1138.823	?	e
GPS 49	N42°41'17.78348"	W93°30'00.23577"	1112.046	?	e
HILL ET	N42°52'37.33196"	W93°07'26.08326"	1013.856	?	LLe
L28	N42°43'40.77582"	W93°44'53.60534"	1069.799	?	LLe
R31	N42°29'00.05609"	W93°37'03.16962"	1133.535	?	LLe
SHEFFIELD TBM	N42°53'35.46255"	W93°13'00.03004"	982.852	?	e
W 28 TBM	N42°44'20.55328"	W93°25'09.72376"	1179.988	?	e
X 30	N42°28'15.49849"	W93°02'34.93066"	962.225	?	e

Adjusted ECEF Coordinates

Point ID	X (US survey foot)	X Error (US survey foot)	Y (US survey foot)	Y Error (US survey foot)	Z (US survey foot)	Z Error (US survey foot)	3D Error (US survey foot)	Constraint
001	-938703.385	?	-15396946.836	?	14093938.531	?	?	e
002	-937640.786	?	-15386851.254	?	14105052.116	?	?	e
003	-924553.757	?	-15399766.445	?	14091821.994	?	?	e
004	-924619.831	?	-15389003.800	?	14103553.219	?	?	e

005	-924275.288	?	15378680.763 ⁻	?	14114770.196	?	?	e
006	-923493.580	?	15367440.805 ⁻	?	14127098.640	?	?	e
007	-922858.180	?	15356096.789 ⁻	?	14139364.774	?	?	e
008	-922213.062	?	15346100.410 ⁻	?	14150168.450	?	?	e
009	-921477.378	?	15334988.837 ⁻	?	14162189.351	?	?	e
010	-909720.972	?	15400079.151 ⁻	?	14092487.880	?	?	e
011	-909165.962	?	15389947.762 ⁻	?	14103516.854	?	?	e
012	-908352.428	?	15378918.201 ⁻	?	14115581.841	?	?	e
013	-907498.465	?	15368668.228 ⁻	?	14126720.901	?	?	e
014	-907067.287	?	15358929.907 ⁻	?	14137238.991	?	?	e
015	-906265.826	?	15345879.937 ⁻	?	14151412.266	?	?	e
016	-905617.659	?	15335735.029 ⁻	?	14162350.007	?	?	e
017	-894138.746	?	15401472.755 ⁻	?	14091985.940	?	?	e
018	-892994.033	?	15391053.216 ⁻	?	14103378.394	?	?	e
019	-892491.135	?	15380238.994 ⁻	?	14115144.683	?	?	e

020	-890868.007	?	- 15369670.468	?	14126739.057	?	?	e
021	-892582.863	?	- 15358757.473	?	14138370.732	?	?	e
022	-890448.245	?	- 15347680.313	?	14150459.802	?	?	e
023	-890189.705	?	- 15337059.286	?	14161834.198	?	?	e
024	-877442.981	?	- 15402652.917	?	14091757.576	?	?	e
025	-877123.781	?	- 15391711.812	?	14103724.475	?	?	e
026	-876584.568	?	- 15380107.681	?	14116323.979	?	?	e
027	-875965.872	?	- 15369547.294	?	14127716.066	?	?	e
028	-874909.463	?	- 15359783.333	?	14138251.343	?	?	e
029	-875114.666	?	- 15348637.915	?	14150226.560	?	?	e
030	-873124.887	?	- 15338020.654	?	14161798.171	?	?	e
031	-862423.156	?	- 15403923.064	?	14091283.021	?	?	e
032	-861432.210	?	- 15392881.517	?	14103374.083	?	?	e
033	-860744.089	?	- 15381871.710	?	14115284.985	?	?	e
034	-861826.667	?	-	?	14126669.674	?	?	e

			15371210.342					
035	-860374.898	?	- 15360503.014	?	14138275.649	?	?	e
036	-859060.685	?	- 15349539.447	?	14150242.388	?	?	e
037	-858198.512	?	- 15338755.511	?	14161847.975	?	?	e
038	-846964.007	?	- 15404468.354	?	14091658.063	?	?	e
039	-845107.237	?	- 15393822.400	?	14103239.805	?	?	e
040	-844936.637	?	- 15382899.203	?	14114905.983	?	?	e
041	-844387.074	?	- 15373834.511	?	14124838.795	?	?	e
042	-843464.576	?	- 15358477.816	?	14141448.144	?	?	e
043	-844712.140	?	- 15350385.206	?	14150187.332	?	?	e
044	-842346.871	?	- 15339582.835	?	14161790.783	?	?	e
045	-830399.102	?	- 15405286.160	?	14091595.721	?	?	e
046	-829893.923	?	- 15394951.195	?	14102870.908	?	?	e
047	-829784.215	?	- 15382043.640	?	14116802.518	?	?	e
048	-828481.489	?	- 15372981.516	?	14126549.683	?	?	e

049	-827859.688	?	- 15362348.172	?	14138110.058	?	?	e
050	-826531.249	?	- 15351320.684	?	14150090.362	?	?	e
051	-826981.695	?	- 15340549.828	?	14161647.101	?	?	e
3 CDL	-942091.119	?	- 15404930.190	?	14085057.645	?	?	e
36 SAN 1972	-932076.886	?	- 15332586.952	?	14164078.907	?	?	LLe
37 SAN 1972	-931360.292	?	- 15322802.787	?	14174607.359	?	?	e
42-141	-879822.208	?	- 15434518.909	?	14056820.680	?	?	LLe
7001	-815207.697	?	- 15416819.693	?	14079859.620	?	?	e
8001	-942310.092	?	- 15409413.494	?	14080176.182	?	?	e
8019	-926159.675	?	- 15410415.818	?	14080141.139	?	?	e
8020	-910441.752	?	- 15411340.752	?	14080126.304	?	?	e
8022	-895184.311	?	- 15412313.121	?	14080090.983	?	?	e
8039	-878497.930	?	- 15413645.382	?	14079664.752	?	?	e
8040	-862779.523	?	- 15414566.180	?	14079629.188	?	?	e
8056	-846938.549	?	- 15415189.150	?	14079890.146	?	?	e

8073	-828451.416	?	- 15416182.282	?	14079865.147	?	?	e
97-049	-936926.448	?	- 15322852.077	?	14174222.246	?	?	LLe
98-101	-810144.985	?	- 15330224.026	?	14173793.648	?	?	LLe
98-102	-810803.761	?	- 15341635.905	?	14161410.951	?	?	e
98-103	-811412.373	?	- 15352120.101	?	14150097.933	?	?	e
98-104	-812056.306	?	- 15363037.299	?	14138337.224	?	?	e
98-105	-812638.660	?	- 15373513.836	?	14126862.035	?	?	e
98-106	-813331.741	?	- 15384829.187	?	14114661.843	?	?	e
98-107	-813943.524	?	- 15395521.854	?	14103096.834	?	?	e
98-108	-814639.351	?	- 15405993.973	?	14091596.653	?	?	e
A 29	-886325.250	?	- 15367725.264	?	14129040.709	?	?	LLe
A 31 TBM	-847459.943	?	- 15425476.783	?	14068650.977	?	?	e
G 102	-826028.474	?	- 15329341.574	?	14173834.846	?	?	NEe
G 103	-840633.364	?	- 15326886.317	?	14175642.293	?	?	NEe
G 104	-857417.867	?	-	?	14174903.269	?	?	NEe

			15326626.609					
G 105	-873551.783	?	15326656.831	?	14173918.211	?	?	NEe
G 106	-889420.644	?	15325771.749	?	14173971.326	?	?	NEe
G 107	-905113.773	?	15324854.001	?	14174062.119	?	?	NEe
G 108	-920860.907	?	15323515.320	?	14174543.121	?	?	NEe
GPS 13	-937537.002	?	15334050.968	?	14162123.240	?	?	e
GPS 22	-938240.858	?	15344827.164	?	14150470.508	?	?	e
GPS 31	-938879.390	?	15355753.420	?	14138645.901	?	?	e
GPS 40	-939658.808	?	15366631.477	?	14126830.978	?	?	e
GPS 49	-940529.897	?	15377239.432	?	14115263.556	?	?	e
HILL ET	-837006.437	?	15336349.391	?	14165692.173	?	?	LLe
L28	1006478.490	?	15363192.364	?	14125872.915	?	?	LLe
R31	-975247.987	?	15425735.052	?	14060287.455	?	?	LLe
SHEFFIELD TBM	-861609.162	?	15330952.522	?	14169983.503	?	?	e
W 28 TBM	-918125.342	?	15366068.896	?	14128905.767	?	?	e

X 30	-820681.087	?	15437654.118	?	14056844.710	?	?	e
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Error Ellipse Components

Point ID	Semi-major axis (US survey foot)	Semi-minor axis (US survey foot)	Azimuth
001	0.117	0.113	175°
002	0.113	0.110	173°
003	0.128	0.121	179°
004	0.124	0.121	174°
005	0.123	0.118	8°
006	0.100	0.097	179°
007	0.112	0.107	177°
008	0.119	0.111	178°
009	0.079	0.076	176°
010	0.099	0.095	177°
011	0.099	0.096	179°
012	0.097	0.094	0°
013	0.087	0.083	5°
014	0.091	0.086	175°
015	0.095	0.088	175°
016	0.078	0.074	175°
017	0.118	0.114	0°
018	0.106	0.104	2°
019	0.106	0.103	174°
020	0.081	0.079	12°
021	0.121	0.110	161°
022	0.117	0.110	171°
023	0.107	0.101	170°
024	0.095	0.092	10°
025	0.098	0.095	9°
026	0.094	0.092	4°
027	0.073	0.071	176°
028	0.085	0.077	167°

029	0.091	0.085	166°
030	0.072	0.069	166°
031	0.118	0.114	7°
032	0.122	0.118	0°
033	0.120	0.117	6°
034	0.112	0.109	170°
035	0.119	0.113	161°
036	0.107	0.103	170°
037	0.102	0.098	174°
038	0.099	0.096	177°
039	0.107	0.103	179°
040	0.108	0.105	179°
041	0.104	0.100	173°
042	0.102	0.098	171°
043	0.094	0.090	180°
044	0.071	0.067	170°
045	0.133	0.127	166°
046	0.135	0.130	173°
047	0.142	0.133	172°
048	0.128	0.121	168°
049	0.132	0.126	171°
050	0.125	0.120	174°
051	0.110	0.105	14°
3 CDL	0.121	0.118	174°
37 SAN 1972	0.069	0.067	178°
7001	0.122	0.117	170°
8001	0.091	0.089	165°
8019	0.086	0.084	167°
8020	0.084	0.081	171°
8022	0.110	0.106	171°
8039	0.081	0.077	16°
8040	0.081	0.079	8°
8056	0.070	0.067	170°
8073	0.103	0.099	168°
98-102	0.099	0.093	12°
98-103	0.115	0.111	2°
98-104	0.125	0.120	172°

98-105	0.134	0.126	168°
98-106	0.129	0.121	170°
98-107	0.129	0.123	171°
98-108	0.126	0.121	169°
A 31 TBM	0.087	0.083	169°
GPS 13	0.062	0.059	174°
GPS 22	0.094	0.090	176°
GPS 31	0.081	0.078	173°
GPS 40	0.082	0.078	173°
GPS 49	0.106	0.103	178°
SHEFFIELD TBM	0.073	0.072	164°
W 28 TBM	0.098	0.094	2°
X 30	0.115	0.110	167°

Adjusted GNSS Observations

Transformation Parameters

Deflection in Latitude:	0.064 sec (95%)	0.124 sec
Deflection in Longitude:	-0.069 sec (95%)	0.167 sec
Azimuth Rotation:	-0.012 sec (95%)	0.108 sec
Scale Factor:	1.00000038 (95%)	0.00000052

Observation ID		Observation	A-posteriori Error	Residual	Standardized Residual
G 104-SHEFFIELD TBM (IPV129)	Az.	210°27'54"	1.539 sec	-0.731 sec	-0.719
	ΔHt.	-13.428 ft	0.005 ft	-0.246 ft	-4.564
	Ellip Dist.	7776.800 ft	0.058 ft	-0.018 ft	-0.481
030-SHEFFIELD TBM (IPV52)	Az.	44°36'57"	0.876 sec	-0.089 sec	-0.196
	ΔHt.	-78.283 ft	0.010 ft	-0.208 ft	-3.993
	Ellip Dist.	15796.816 ft	0.066 ft	0.002 ft	0.051
A 29-020 (IPV120)	Az.	234°14'09"	2.441 sec	0.108 sec	0.080
	ΔHt.	57.032 ft	0.003 ft	0.195 ft	3.633

	Ellip Dist.	5450.829 ft	0.065 ft	-0.004 ft	-0.125
027-A 29 (IPV42)	Az.	279°48'57"	1.120 sec	0.121 sec	0.161
	ΔHt.	-1.562 ft	0.007 ft	-0.165 ft	-3.193
	Ellip Dist.	10600.901 ft	0.056 ft	-0.013 ft	-0.334
001-3 CDL (IPV2)	Az.	193°29'24"	1.371 sec	0.061 sec	0.154
	ΔHt.	7.949 ft	0.009 ft	-0.163 ft	-3.050
	Ellip Dist.	12412.295 ft	0.084 ft	0.002 ft	0.069
G 102-G 103 (IPV125)	Az.	279°28'58"	0.108 sec	0.474 sec	0.719
	ΔHt.	15.700 ft	0.009 ft	0.134 ft	2.756
	Ellip Dist.	14918.991 ft	0.008 ft	0.019 ft	0.410
G 104-G 105 (IPV128)	Az.	265°11'21"	0.108 sec	0.191 sec	0.314
	ΔHt.	17.666 ft	0.009 ft	-0.136 ft	-2.745
	Ellip Dist.	16163.197 ft	0.008 ft	-0.046 ft	-0.969
013-W 28 TBM (IPV20)	Az.	285°16'58"	1.012 sec	0.253 sec	0.333
	ΔHt.	39.644 ft	0.007 ft	-0.141 ft	-2.737
	Ellip Dist.	11155.503 ft	0.053 ft	0.005 ft	0.133
W 28 TBM-013 (IPV146)	Az.	105°15'20"	1.012 sec	-0.312 sec	-0.407
	ΔHt.	-39.644 ft	0.007 ft	0.162 ft	2.737
	Ellip Dist.	11155.503 ft	0.053 ft	0.000 ft	-0.011
X 30-8073 (IPV150)	Az.	344°04'13"	0.348 sec	-0.078 sec	-0.310
	ΔHt.	57.493 ft	0.027 ft	0.164 ft	2.588
	Ellip Dist.	32423.058 ft	0.057 ft	-0.013 ft	-0.320
028-A 29 (IPV47)	Az.	221°00'41"	0.807 sec	-0.427 sec	-0.604
	ΔHt.	48.372 ft	0.011 ft	-0.266 ft	-2.515
	Ellip Dist.	16679.288 ft	0.063 ft	-0.012 ft	-0.211
038-8056 (IPV61)	Az.	177°47'23"	0.914 sec	0.014 sec	0.035

	ΔHt.	-80.784 ft	0.013 ft	0.132 ft	2.480
	Ellip Dist.	15918.132 ft	0.072 ft	-0.006 ft	-0.194
006-W 28 TBM (IPV8)	Az.	64°52'05"	2.389 sec	-0.254 sec	-0.209
	ΔHt.	-15.355 ft	0.003 ft	-0.129 ft	-2.416
	Ellip Dist.	5827.668 ft	0.067 ft	0.006 ft	0.180
030-G 105 (IPV51)	Az.	356°18'06"	0.695 sec	-0.125 sec	-0.246
	ΔHt.	-47.189 ft	0.014 ft	-0.145 ft	-2.374
	Ellip Dist.	16618.792 ft	0.058 ft	0.031 ft	0.721
X 30-7001 (IPV148)	Az.	7°56'58"	0.455 sec	0.007 sec	0.032
	ΔHt.	3.297 ft	0.025 ft	0.160 ft	2.337
	Ellip Dist.	31521.818 ft	0.072 ft	-0.004 ft	-0.110
033-026 (IPV55)	Az.	274°52'36"	1.025 sec	-0.292 sec	-0.865
	ΔHt.	66.450 ft	0.010 ft	0.113 ft	2.285
	Ellip Dist.	15971.223 ft	0.078 ft	0.007 ft	0.273
010-8020 (IPV13)	Az.	180°11'23"	0.937 sec	-0.096 sec	-0.228
	ΔHt.	-55.032 ft	0.014 ft	-0.170 ft	-2.064
	Ellip Dist.	16736.785 ft	0.080 ft	-0.029 ft	-0.710
051-044 (IPV83)	Az.	270°44'33"	1.064 sec	0.150 sec	0.409
	ΔHt.	1.891 ft	0.009 ft	0.106 ft	2.049
	Ellip Dist.	15395.550 ft	0.078 ft	-0.004 ft	-0.130
025-018 (IPV37)	Az.	268°28'56"	0.966 sec	0.102 sec	0.252
	ΔHt.	-47.919 ft	0.009 ft	0.111 ft	2.037
	Ellip Dist.	15886.738 ft	0.073 ft	-0.004 ft	-0.122
G 105-SHEFFIELD TBM (IPV131)	Az.	113°41'30"	0.895 sec	0.325 sec	0.558
	ΔHt.	-31.094 ft	0.009 ft	-0.096 ft	-1.967
	Ellip Dist.	13286.955 ft	0.058 ft	-0.011 ft	-0.300

044-037 (IPV74)	Az.	270°02'44"	1.008 sec	0.262 sec	0.673
	ΔHt.	76.495 ft	0.009 ft	0.098 ft	1.903
	Ellip Dist.	15872.389 ft	0.075 ft	0.015 ft	0.515
98-108-98-107 (IPV119)	Az.	0°31'20"	1.062 sec	-0.010 sec	-0.029
	ΔHt.	65.335 ft	0.013 ft	-0.105 ft	-1.891
	Ellip Dist.	15568.460 ft	0.082 ft	0.014 ft	0.527
G 106-G 107 (IPV132)	Az.	270°15'35"	0.108 sec	0.340 sec	0.531
	ΔHt.	62.589 ft	0.009 ft	-0.096 ft	-1.857
	Ellip Dist.	15719.247 ft	0.008 ft	-0.008 ft	-0.158
W 28 TBM-014 (IPV147)	Az.	42°56'26"	0.873 sec	-0.049 sec	-0.108
	ΔHt.	-57.094 ft	0.010 ft	0.096 ft	1.856
	Ellip Dist.	15577.490 ft	0.067 ft	0.004 ft	0.100
98-103-050 (IPV109)	Az.	269°58'47"	1.106 sec	0.295 sec	0.837
	ΔHt.	0.085 ft	0.009 ft	-0.090 ft	-1.747
	Ellip Dist.	15139.307 ft	0.080 ft	-0.006 ft	-0.239
HILL ET-G 103 (IPV144)	Az.	343°03'50"	0.108 sec	-0.519 sec	-0.753
	ΔHt.	-4.385 ft	0.012 ft	0.087 ft	1.740
	Ellip Dist.	14201.745 ft	0.007 ft	0.025 ft	0.531
043-036 (IPV72)	Az.	270°18'47"	0.900 sec	-0.132 sec	-0.251
	ΔHt.	1.210 ft	0.009 ft	0.092 ft	1.737
	Ellip Dist.	14372.827 ft	0.062 ft	0.010 ft	0.266
98-108-045 (IPV117)	Az.	269°41'22"	1.092 sec	0.052 sec	0.147
	ΔHt.	97.586 ft	0.009 ft	-0.097 ft	-1.704
	Ellip Dist.	15774.598 ft	0.081 ft	0.005 ft	0.192
GPS 40-006 (IPV141)	Az.	88°52'28"	0.959 sec	-0.203 sec	-0.513
	ΔHt.	56.512 ft	0.010 ft	0.095 ft	1.574
	Ellip Dist.	16186.683 ft	0.073 ft	0.001 ft	0.042

015-022 (IPV24)	Az.	94°37'36"	1.086 sec	-0.014 sec	-0.037
	ΔHt.	-7.112 ft	0.010 ft	0.091 ft	1.557
	Ellip Dist.	15947.293 ft	0.080 ft	0.001 ft	0.026
040-033 (IPV65)	Az.	271°23'50"	1.042 sec	-0.254 sec	-0.721
	ΔHt.	146.084 ft	0.010 ft	0.077 ft	1.528
	Ellip Dist.	15843.891 ft	0.078 ft	0.008 ft	0.284
98-102-051 (IPV106)	Az.	271°09'59"	1.016 sec	0.169 sec	0.475
	ΔHt.	-2.229 ft	0.010 ft	-0.081 ft	-1.506
	Ellip Dist.	16215.336 ft	0.078 ft	-0.005 ft	-0.169
032-025 (IPV54)	Az.	271°39'23"	1.053 sec	-0.075 sec	-0.210
	ΔHt.	29.155 ft	0.010 ft	0.089 ft	1.505
	Ellip Dist.	15738.112 ft	0.078 ft	-0.001 ft	-0.032
009-GPS 13 (IPV11)	Az.	269°45'42"	0.853 sec	-0.074 sec	-0.167
	ΔHt.	-18.927 ft	0.010 ft	-0.082 ft	-1.481
	Ellip Dist.	16086.207 ft	0.065 ft	-0.006 ft	-0.165
037-030 (IPV59)	Az.	269°35'56"	1.063 sec	0.202 sec	0.504
	ΔHt.	44.836 ft	0.009 ft	0.075 ft	1.467
	Ellip Dist.	14943.723 ft	0.075 ft	0.016 ft	0.548
98-105-98-106 (IPV114)	Az.	180°19'34"	0.971 sec	-0.227 sec	-0.478
	ΔHt.	54.741 ft	0.013 ft	0.116 ft	1.460
	Ellip Dist.	16653.362 ft	0.085 ft	0.014 ft	0.344
029-036 (IPV48)	Az.	89°55'31"	1.034 sec	0.102 sec	0.248
	ΔHt.	6.815 ft	0.010 ft	-0.099 ft	-1.449
	Ellip Dist.	16078.468 ft	0.078 ft	0.002 ft	0.077
036-043 (IPV58)	Az.	90°16'36"	0.900 sec	0.200 sec	0.352
	ΔHt.	-1.210 ft	0.009 ft	-0.092 ft	-1.441

	Ellip Dist.	14372.827 ft	0.062 ft	-0.011 ft	-0.272
012-013 (IPV18)	Az.	0°56'16"	0.990 sec	-0.051 sec	-0.122
	ΔHt.	0.000 ft	0.012 ft	-0.081 ft	-1.389
	Ellip Dist.	15160.626 ft	0.076 ft	0.008 ft	0.235
GPS 13-97-049 (IPV135)	Az.	359°44'35"	0.601 sec	0.397 sec	0.699
	ΔHt.	16.319 ft	0.013 ft	0.136 ft	1.381
	Ellip Dist.	16496.756 ft	0.050 ft	-0.050 ft	-0.961
37 SAN 1972-97-049 (IPV89)	Az.	264°23'22"	2.036 sec	-0.428 sec	-0.299
	ΔHt.	21.917 ft	0.003 ft	0.067 ft	1.336
	Ellip Dist.	5579.325 ft	0.054 ft	-0.019 ft	-0.489
98-103-98-104 (IPV110)	Az.	180°14'18"	1.026 sec	-0.030 sec	-0.090
	ΔHt.	34.233 ft	0.013 ft	-0.070 ft	-1.335
	Ellip Dist.	16058.921 ft	0.082 ft	0.013 ft	0.494
043-050 (IPV73)	Az.	90°05'06"	0.943 sec	0.241 sec	0.755
	ΔHt.	-105.610 ft	0.011 ft	-0.084 ft	-1.319
	Ellip Dist.	18204.018 ft	0.081 ft	-0.009 ft	-0.308
016-G 107 (IPV27)	Az.	359°30'15"	0.776 sec	-0.162 sec	-0.342
	ΔHt.	-9.913 ft	0.013 ft	-0.069 ft	-1.297
	Ellip Dist.	15993.626 ft	0.063 ft	0.008 ft	0.207
047-98-106 (IPV80)	Az.	99°46'58"	1.131 sec	0.106 sec	0.238
	ΔHt.	-51.831 ft	0.011 ft	0.089 ft	1.291
	Ellip Dist.	16822.495 ft	0.085 ft	-0.010 ft	-0.324
017-024 (IPV29)	Az.	91°03'48"	1.015 sec	0.209 sec	0.597
	ΔHt.	7.066 ft	0.010 ft	-0.085 ft	-1.286
	Ellip Dist.	16738.088 ft	0.080 ft	-0.005 ft	-0.202
039-046 (IPV64)	Az.	91°45'53"	1.106 sec	0.150 sec	0.426

	ΔHt.	-28.713 ft	0.009 ft	0.074 ft	1.250
	Ellip Dist.	15258.791 ft	0.080 ft	0.002 ft	0.087
GPS 31-L28 (IPV140)	Az.	255°35'24"	0.200 sec	-0.014 sec	-0.124
	ΔHt.	-81.902 ft	0.039 ft	0.074 ft	1.225
	Ellip Dist.	69192.570 ft	0.065 ft	-0.018 ft	-0.495
027-020 (IPV40)	Az.	264°42'42"	0.937 sec	0.034 sec	0.075
	ΔHt.	55.470 ft	0.009 ft	0.060 ft	1.203
	Ellip Dist.	14933.710 ft	0.067 ft	0.007 ft	0.196
A 31 TBM-8073 (IPV123)	Az.	50°28'09"	0.555 sec	0.000 sec	0.001
	ΔHt.	-17.304 ft	0.014 ft	0.070 ft	1.190
	Ellip Dist.	23946.031 ft	0.062 ft	0.011 ft	0.297
045-038 (IPV78)	Az.	269°58'59"	1.056 sec	0.054 sec	0.150
	ΔHt.	103.966 ft	0.010 ft	-0.073 ft	-1.178
	Ellip Dist.	16584.016 ft	0.081 ft	0.005 ft	0.195
002-GPS 49 (IPV3)	Az.	345°58'53"	1.123 sec	0.141 sec	0.371
	ΔHt.	-3.835 ft	0.012 ft	-0.058 ft	-1.169
	Ellip Dist.	14317.318 ft	0.079 ft	0.016 ft	0.601
GPS 22-008 (IPV137)	Az.	91°29'54"	1.096 sec	0.107 sec	0.263
	ΔHt.	15.550 ft	0.010 ft	0.074 ft	1.163
	Ellip Dist.	16080.222 ft	0.080 ft	0.000 ft	-0.010
039-032 (IPV62)	Az.	270°27'07"	1.016 sec	-0.082 sec	-0.237
	ΔHt.	64.550 ft	0.010 ft	0.070 ft	1.143
	Ellip Dist.	16351.620 ft	0.078 ft	-0.001 ft	-0.025
8019-8020 (IPV93)	Az.	89°59'29"	0.919 sec	0.030 sec	0.071
	ΔHt.	-18.614 ft	0.009 ft	0.056 ft	1.140
	Ellip Dist.	15744.318 ft	0.069 ft	-0.005 ft	-0.142

008-015 (IPV10)	Az.	83°51'22"	1.111 sec	0.128 sec	0.298
	ΔHt.	-11.617 ft	0.009 ft	0.076 ft	1.134
	Ellip Dist.	15996.290 ft	0.080 ft	-0.002 ft	-0.071
A 31 TBM-42-141 (IPV121)	Az.	243°16'24"	0.389 sec	-0.053 sec	-0.241
	ΔHt.	-0.850 ft	0.020 ft	0.062 ft	1.073
	Ellip Dist.	35621.706 ft	0.065 ft	0.011 ft	0.318
GPS 22-GPS 31 (IPV138)	Az.	179°53'43"	0.946 sec	-0.245 sec	-0.616
	ΔHt.	-2.880 ft	0.013 ft	0.065 ft	1.070
	Ellip Dist.	16111.588 ft	0.077 ft	0.019 ft	0.576
R31-8020 (IPV145)	Az.	66°58'48"	0.193 sec	-0.004 sec	-0.032
	ΔHt.	-96.573 ft	0.039 ft	0.065 ft	1.058
	Ellip Dist.	69282.883 ft	0.064 ft	-0.006 ft	-0.166
98-102-98-103 (IPV108)	Az.	180°12'08"	1.059 sec	-0.146 sec	-0.409
	ΔHt.	8.105 ft	0.012 ft	-0.059 ft	-1.051
	Ellip Dist.	15435.393 ft	0.081 ft	-0.009 ft	-0.327
031-024 (IPV53)	Az.	272°25'48"	1.101 sec	0.123 sec	0.326
	ΔHt.	11.174 ft	0.009 ft	0.057 ft	1.042
	Ellip Dist.	15080.096 ft	0.079 ft	0.003 ft	0.117
98-101-G 102 (IPV105)	Az.	270°12'51"	0.108 sec	0.061 sec	0.098
	ΔHt.	2.589 ft	0.010 ft	-0.028 ft	-0.545
	Ellip Dist.	15907.278 ft	0.008 ft	-0.048 ft	-1.012
005-GPS 49 (IPV6)	Az.	272°22'35"	1.016 sec	-0.021 sec	-0.064
	ΔHt.	0.092 ft	0.010 ft	-0.052 ft	-1.003
	Ellip Dist.	16324.971 ft	0.079 ft	0.003 ft	0.129
36 SAN 1972-37 SAN 1972 (IPV86)	Az.	0°29'03"	0.778 sec	0.411 sec	0.736
	ΔHt.	-21.463 ft	0.012 ft	0.037 ft	0.622
	Ellip Dist.	14389.857 ft	0.055 ft	-0.040 ft	-1.001

040-047 (IPV67)	Az.	80°27'11"	1.170 sec	0.054 sec	0.143
	ΔHt.	52.617 ft	0.009 ft	0.057 ft	0.998
	Ellip Dist.	15293.789 ft	0.081 ft	-0.012 ft	-0.437
011-004 (IPV14)	Az.	270°10'36"	1.068 sec	0.106 sec	0.310
	ΔHt.	7.582 ft	0.009 ft	-0.050 ft	-0.990
	Ellip Dist.	15481.896 ft	0.079 ft	-0.004 ft	-0.144
023-016 (IPV36)	Az.	272°28'33"	1.074 sec	0.176 sec	0.442
	ΔHt.	42.833 ft	0.009 ft	-0.065 ft	-0.959
	Ellip Dist.	15492.379 ft	0.077 ft	-0.001 ft	-0.049
G 107-G 108 (IPV133)	Az.	272°17'01"	0.108 sec	-0.327 sec	-0.507
	ΔHt.	34.670 ft	0.010 ft	-0.054 ft	-0.948
	Ellip Dist.	15810.340 ft	0.008 ft	-0.025 ft	-0.519
36 SAN 1972-GPS 13 (IPV87)	Az.	243°40'20"	1.691 sec	-1.172 sec	-0.809
	ΔHt.	-15.866 ft	0.003 ft	-0.056 ft	-0.939
	Ellip Dist.	5981.352 ft	0.048 ft	-0.010 ft	-0.237
012-011 (IPV17)	Az.	180°33'59"	0.885 sec	-0.029 sec	-0.070
	ΔHt.	-45.602 ft	0.013 ft	0.052 ft	0.938
	Ellip Dist.	16366.002 ft	0.072 ft	0.006 ft	0.164
013-014 (IPV19)	Az.	359°25'34"	0.886 sec	-0.030 sec	-0.057
	ΔHt.	-17.450 ft	0.012 ft	-0.048 ft	-0.938
	Ellip Dist.	14339.745 ft	0.064 ft	0.019 ft	0.507
019-012 (IPV31)	Az.	272°07'55"	0.985 sec	-0.118 sec	-0.272
	ΔHt.	8.633 ft	0.010 ft	0.057 ft	0.933
	Ellip Dist.	15921.322 ft	0.074 ft	0.006 ft	0.172
030-029 (IPV50)	Az.	185°00'45"	0.922 sec	-0.119 sec	-0.270
	ΔHt.	-12.799 ft	0.013 ft	-0.050 ft	-0.855

	Ellip Dist.	15829.149 ft	0.074 ft	0.034 ft	0.924
GPS 31-GPS 40 (IPV139)	Az.	180°24'24"	0.863 sec	-0.070 sec	-0.166
	ΔHt.	-12.901 ft	0.013 ft	0.048 ft	0.916
	Ellip Dist.	16078.038 ft	0.069 ft	0.014 ft	0.417
004-002 (IPV5)	Az.	278°47'14"	1.241 sec	0.120 sec	0.304
	ΔHt.	13.571 ft	0.008 ft	-0.046 ft	-0.911
	Ellip Dist.	13281.808 ft	0.079 ft	-0.002 ft	-0.077
A 31 TBM-8056 (IPV122)	Az.	359°50'08"	0.817 sec	-0.080 sec	-0.163
	ΔHt.	8.043 ft	0.012 ft	0.042 ft	0.865
	Ellip Dist.	15244.762 ft	0.062 ft	0.004 ft	0.108
018-011 (IPV30)	Az.	270°45'34"	0.942 sec	-0.080 sec	-0.205
	ΔHt.	-22.675 ft	0.010 ft	0.045 ft	0.865
	Ellip Dist.	16209.382 ft	0.073 ft	0.000 ft	0.003
36 SAN 1972-GPS 13 (IPV88)	Az.	243°40'20"	1.691 sec	-0.591 sec	-0.413
	ΔHt.	-15.866 ft	0.003 ft	-0.048 ft	-0.856
	Ellip Dist.	5981.352 ft	0.048 ft	-0.005 ft	-0.129
028-029 (IPV45)	Az.	357°03'42"	0.914 sec	-0.180 sec	-0.381
	ΔHt.	-20.413 ft	0.013 ft	0.061 ft	0.846
	Ellip Dist.	16359.723 ft	0.078 ft	0.029 ft	0.707
007-GPS 31 (IPV9)	Az.	266°36'48"	1.038 sec	0.044 sec	0.120
	ΔHt.	-28.228 ft	0.009 ft	-0.042 ft	-0.809
	Ellip Dist.	16040.082 ft	0.078 ft	-0.004 ft	-0.146
017-010 (IPV28)	Az.	272°33'46"	1.072 sec	0.118 sec	0.326
	ΔHt.	-13.707 ft	0.010 ft	0.045 ft	0.803
	Ellip Dist.	15651.639 ft	0.079 ft	-0.006 ft	-0.208
014-007 (IPV21)	Az.	280°08'20"	1.031 sec	0.052 sec	0.141

	ΔHt.	57.064 ft	0.010 ft	-0.042 ft	-0.799
	Ellip Dist.	16182.262 ft	0.078 ft	-0.003 ft	-0.115
G 108-37 SAN 1972 (IPV134)	Az.	270°33'29"	1.081 sec	0.621 sec	0.793
	ΔHt.	-13.259 ft	0.006 ft	0.018 ft	0.320
	Ellip Dist.	10523.136 ft	0.054 ft	0.009 ft	0.217
98-106-048 (IPV115)	Az.	315°49'50"	0.695 sec	0.080 sec	0.222
	ΔHt.	-36.878 ft	0.018 ft	-0.065 ft	-0.784
	Ellip Dist.	22608.750 ft	0.082 ft	-0.028 ft	-0.609
019-026 (IPV33)	Az.	84°18'48"	0.968 sec	-0.320 sec	-0.776
	ΔHt.	31.924 ft	0.009 ft	-0.040 ft	-0.682
	Ellip Dist.	15949.852 ft	0.074 ft	0.010 ft	0.332
X 30-8073 (IPV149)	Az.	344°04'13"	0.348 sec	0.037 sec	0.138
	ΔHt.	57.493 ft	0.027 ft	0.049 ft	0.775
	Ellip Dist.	32423.058 ft	0.057 ft	0.002 ft	0.036
046-98-107 (IPV79)	Az.	88°42'04"	1.083 sec	0.155 sec	0.423
	ΔHt.	-53.291 ft	0.009 ft	0.045 ft	0.767
	Ellip Dist.	15961.334 ft	0.080 ft	0.001 ft	0.039
001-002 (IPV1)	Az.	1°41'56"	1.091 sec	0.031 sec	0.087
	ΔHt.	65.116 ft	0.012 ft	-0.039 ft	-0.733
	Ellip Dist.	15051.038 ft	0.081 ft	0.010 ft	0.398
016-009 (IPV25)	Az.	269°06'31"	0.944 sec	0.190 sec	0.381
	ΔHt.	36.022 ft	0.009 ft	-0.060 ft	-0.731
	Ellip Dist.	15877.151 ft	0.069 ft	0.001 ft	0.020
034-027 (IPV56)	Az.	275°27'36"	1.136 sec	0.185 sec	0.475
	ΔHt.	76.632 ft	0.009 ft	0.038 ft	0.723
	Ellip Dist.	14274.129 ft	0.078 ft	-0.011 ft	-0.423

028-021 (IPV43)	Az.	270°19'32"	1.058 sec	-0.037 sec	-0.087
	ΔHt.	74.516 ft	0.011 ft	0.060 ft	0.718
	Ellip Dist.	17702.453 ft	0.084 ft	0.002 ft	0.060
98-106-98-107 (IPV116)	Az.	180°10'08"	1.042 sec	0.032 sec	0.094
	ΔHt.	37.738 ft	0.013 ft	0.040 ft	0.717
	Ellip Dist.	15761.730 ft	0.083 ft	0.010 ft	0.374
041-040 (IPV69)	Az.	180°13'11"	1.114 sec	0.259 sec	0.554
	ΔHt.	-63.494 ft	0.011 ft	-0.018 ft	-0.342
	Ellip Dist.	13457.719 ft	0.075 ft	0.022 ft	0.716
8040-42-141 (IPV100)	Az.	207°12'59"	0.366 sec	0.030 sec	0.143
	ΔHt.	-20.341 ft	0.024 ft	0.034 ft	0.710
	Ellip Dist.	34765.938 ft	0.063 ft	-0.002 ft	-0.067
8039-024 (IPV97)	Az.	1°29'48"	0.912 sec	0.164 sec	0.416
	ΔHt.	56.496 ft	0.013 ft	-0.038 ft	-0.705
	Ellip Dist.	16375.359 ft	0.074 ft	0.004 ft	0.138
98-104-049 (IPV111)	Az.	269°02'13"	1.085 sec	0.020 sec	0.057
	ΔHt.	-41.128 ft	0.009 ft	-0.038 ft	-0.695
	Ellip Dist.	15819.246 ft	0.080 ft	-0.002 ft	-0.081
015-014 (IPV23)	Az.	180°05'29"	0.820 sec	-0.156 sec	-0.391
	ΔHt.	-35.651 ft	0.016 ft	0.035 ft	0.415
	Ellip Dist.	19281.692 ft	0.083 ft	0.032 ft	0.692
039-038 (IPV63)	Az.	184°36'00"	0.950 sec	0.016 sec	0.041
	ΔHt.	54.213 ft	0.013 ft	0.020 ft	0.348
	Ellip Dist.	15839.544 ft	0.074 ft	-0.021 ft	-0.684
8020-8022 (IPV95)	Az.	90°16'38"	1.071 sec	0.087 sec	0.242
	ΔHt.	33.904 ft	0.009 ft	-0.035 ft	-0.678
	Ellip Dist.	15287.623 ft	0.078 ft	0.000 ft	0.017

025-026 (IPV39)	Az.	359°35'33"	0.850 sec	-0.003 sec	-0.006
	ΔHt.	-1.701 ft	0.014 ft	-0.033 ft	-0.538
	Ellip Dist.	17136.544 ft	0.073 ft	-0.024 ft	-0.656
98-105-048 (IPV112)	Az.	268°25'25"	1.046 sec	-0.074 sec	-0.170
	ΔHt.	17.863 ft	0.009 ft	-0.008 ft	-0.128
	Ellip Dist.	15854.145 ft	0.075 ft	0.021 ft	0.654
G 103-G 104 (IPV127)	Az.	266°37'13"	0.108 sec	-0.051 sec	-0.083
	ΔHt.	-13.185 ft	0.010 ft	0.039 ft	0.648
	Ellip Dist.	16801.957 ft	0.009 ft	0.027 ft	0.547
98-105-98-104 (IPV113)	Az.	0°06'18"	1.108 sec	-0.028 sec	-0.076
	ΔHt.	85.296 ft	0.013 ft	0.000 ft	-0.007
	Ellip Dist.	15548.239 ft	0.091 ft	0.021 ft	0.641
G 105-G 106 (IPV130)	Az.	270°05'34"	0.108 sec	-0.347 sec	-0.549
	ΔHt.	56.360 ft	0.010 ft	0.027 ft	0.526
	Ellip Dist.	15892.717 ft	0.008 ft	0.030 ft	0.622
006-013 (IPV7)	Az.	91°38'05"	0.837 sec	-0.021 sec	-0.047
	ΔHt.	-54.998 ft	0.010 ft	0.032 ft	0.617
	Ellip Dist.	16045.593 ft	0.064 ft	-0.001 ft	-0.036
G 102-HILL ET (IPV126)	Az.	223°33'40"	0.108 sec	-0.172 sec	-0.263
	ΔHt.	20.085 ft	0.010 ft	0.032 ft	0.597
	Ellip Dist.	15359.201 ft	0.008 ft	-0.030 ft	-0.615
98-108-7001 (IPV118)	Az.	179°59'07"	1.032 sec	-0.016 sec	-0.050
	ΔHt.	41.225 ft	0.013 ft	0.005 ft	0.093
	Ellip Dist.	15976.615 ft	0.081 ft	0.016 ft	0.610
8001-8019 (IPV91)	Az.	90°07'36"	0.926 sec	0.027 sec	0.069
	ΔHt.	-6.651 ft	0.010 ft	0.031 ft	0.609

	Ellip Dist.	16180.703 ft	0.072 ft	-0.005 ft	-0.160
7001-8073 (IPV90)	Az.	269°50'03"	1.074 sec	0.121 sec	0.234
	ΔHt.	54.196 ft	0.008 ft	-0.030 ft	-0.589
	Ellip Dist.	13258.307 ft	0.067 ft	0.000 ft	-0.002
8039-42-141 (IPV98)	Az.	180°14'55"	0.415 sec	0.095 sec	0.374
	ΔHt.	-20.149 ft	0.025 ft	0.033 ft	0.587
	Ellip Dist.	30971.154 ft	0.064 ft	0.000 ft	0.004
028-035 (IPV46)	Az.	89°38'27"	1.158 sec	0.010 sec	0.027
	ΔHt.	-57.758 ft	0.009 ft	-0.032 ft	-0.586
	Ellip Dist.	14551.550 ft	0.080 ft	-0.002 ft	-0.091
019-018 (IPV32)	Az.	179°33'15"	0.936 sec	0.049 sec	0.117
	ΔHt.	-14.294 ft	0.013 ft	-0.020 ft	-0.356
	Ellip Dist.	15988.057 ft	0.074 ft	0.019 ft	0.582
98-102-98-101 (IPV107)	Az.	0°11'20"	0.927 sec	-0.198 sec	-0.461
	ΔHt.	51.033 ft	0.014 ft	0.003 ft	0.039
	Ellip Dist.	16851.324 ft	0.080 ft	-0.023 ft	-0.577
8056-8073 (IPV104)	Az.	90°00'35"	0.763 sec	-0.120 sec	-0.287
	ΔHt.	-25.348 ft	0.011 ft	0.041 ft	0.568
	Ellip Dist.	18512.871 ft	0.066 ft	-0.012 ft	-0.330
016-015 (IPV26)	Az.	180°11'17"	1.007 sec	-0.259 sec	-0.565
	ΔHt.	15.772 ft	0.012 ft	-0.049 ft	-0.559
	Ellip Dist.	14931.460 ft	0.078 ft	0.019 ft	0.521
GPS 13-GPS 22 (IPV136)	Az.	180°09'43"	0.939 sec	-0.233 sec	-0.560
	ΔHt.	-5.257 ft	0.013 ft	0.029 ft	0.487
	Ellip Dist.	15886.465 ft	0.075 ft	0.009 ft	0.257
035-042 (IPV57)	Az.	75°28'40"	1.046 sec	-0.056 sec	-0.127

	ΔHt.	-16.768 ft	0.010 ft	-0.043 ft	-0.557
	Ellip Dist.	17323.278 ft	0.083 ft	-0.006 ft	-0.170
027-026 (IPV41)	Az.	180°03'43"	0.929 sec	-0.009 sec	-0.023
	ΔHt.	44.988 ft	0.013 ft	-0.008 ft	-0.166
	Ellip Dist.	15545.276 ft	0.071 ft	-0.017 ft	-0.544
020-013 (IPV34)	Az.	270°02'36"	0.927 sec	0.242 sec	0.542
	ΔHt.	-33.773 ft	0.010 ft	-0.017 ft	-0.282
	Ellip Dist.	16659.681 ft	0.072 ft	0.000 ft	-0.005
8040-8056 (IPV101)	Az.	88°39'43"	0.868 sec	0.167 sec	0.363
	ΔHt.	-11.448 ft	0.009 ft	0.026 ft	0.513
	Ellip Dist.	15854.561 ft	0.065 ft	0.006 ft	0.166
041-034 (IPV68)	Az.	278°01'13"	0.928 sec	0.162 sec	0.486
	ΔHt.	27.419 ft	0.011 ft	0.011 ft	0.190
	Ellip Dist.	17729.805 ft	0.079 ft	-0.011 ft	-0.381
8001-R31 (IPV92)	Az.	229°42'32"	0.355 sec	-0.020 sec	-0.112
	ΔHt.	71.308 ft	0.025 ft	-0.032 ft	-0.483
	Ellip Dist.	41793.188 ft	0.071 ft	0.006 ft	0.182
044-HILL ET (IPV77)	Az.	44°26'59"	1.569 sec	0.546 sec	0.482
	ΔHt.	74.045 ft	0.005 ft	0.007 ft	0.130
	Ellip Dist.	7361.091 ft	0.055 ft	0.016 ft	0.396
003-001 (IPV4)	Az.	281°25'38"	1.230 sec	0.124 sec	0.264
	ΔHt.	-9.826 ft	0.009 ft	-0.032 ft	-0.482
	Ellip Dist.	14581.503 ft	0.082 ft	0.006 ft	0.246
GPS 40-GPS 49 (IPV142)	Az.	180°48'33"	1.004 sec	0.074 sec	0.201
	ΔHt.	-26.771 ft	0.013 ft	0.031 ft	0.479
	Ellip Dist.	15718.309 ft	0.079 ft	0.012 ft	0.392

044-043 (IPV75)	Az.	186°20'16"	0.921 sec	0.062 sec	0.145
	ΔHt.	114.138 ft	0.013 ft	-0.021 ft	-0.354
	Ellip Dist.	16027.728 ft	0.075 ft	0.018 ft	0.475
36 SAN 1972-009 (IPV85)	Az.	103°31'01"	1.173 sec	0.329 sec	0.471
	ΔHt.	3.061 ft	0.007 ft	0.009 ft	0.152
	Ellip Dist.	11030.651 ft	0.061 ft	0.011 ft	0.300
025-024 (IPV38)	Az.	178°55'36"	0.924 sec	0.064 sec	0.165
	ΔHt.	-52.524 ft	0.013 ft	-0.027 ft	-0.469
	Ellip Dist.	16216.803 ft	0.074 ft	0.002 ft	0.078
011-010 (IPV15)	Az.	179°50'02"	1.002 sec	0.000 sec	-0.001
	ΔHt.	-2.702 ft	0.012 ft	0.019 ft	0.378
	Ellip Dist.	14985.582 ft	0.074 ft	0.013 ft	0.431
048-041 (IPV81)	Az.	261°19'40"	1.030 sec	-0.163 sec	-0.427
	ΔHt.	99.585 ft	0.009 ft	0.001 ft	0.011
	Ellip Dist.	16019.009 ft	0.076 ft	0.009 ft	0.296
8056-42-141 (IPV102)	Az.	225°27'39"	0.238 sec	-0.047 sec	-0.224
	ΔHt.	-8.894 ft	0.028 ft	0.027 ft	0.421
	Ellip Dist.	44575.513 ft	0.051 ft	-0.003 ft	-0.067
038-031 (IPV60)	Az.	268°12'54"	1.071 sec	0.144 sec	0.393
	ΔHt.	-24.205 ft	0.009 ft	0.011 ft	0.196
	Ellip Dist.	15472.462 ft	0.079 ft	0.002 ft	0.065
022-029 (IPV35)	Az.	90°48'36"	1.144 sec	-0.154 sec	-0.388
	ΔHt.	-103.132 ft	0.009 ft	0.024 ft	0.378
	Ellip Dist.	15364.064 ft	0.081 ft	0.002 ft	0.074
012-005 (IPV16)	Az.	266°08'37"	1.079 sec	-0.134 sec	-0.300
	ΔHt.	-28.378 ft	0.009 ft	0.028 ft	0.377
	Ellip Dist.	15944.413 ft	0.081 ft	0.007 ft	0.225

3 CDL-8001 (IPV84)	Az.	179°31'26"	2.573 sec	0.273 sec	0.360
	ΔHt.	3.547 ft	0.005 ft	0.005 ft	0.096
	Ellip Dist.	6631.149 ft	0.085 ft	0.009 ft	0.348
GPS 40-L28 (IPV143)	Az.	269°01'20"	0.209 sec	-0.034 sec	-0.280
	ΔHt.	-69.001 ft	0.040 ft	0.016 ft	0.262
	Ellip Dist.	66911.427 ft	0.065 ft	-0.010 ft	-0.275
8039-8040 (IPV99)	Az.	90°09'24"	0.920 sec	0.118 sec	0.266
	ΔHt.	0.192 ft	0.009 ft	0.002 ft	0.030
	Ellip Dist.	15744.596 ft	0.069 ft	0.002 ft	0.063
030-023 (IPV49)	Az.	270°03'56"	0.991 sec	0.088 sec	0.224
	ΔHt.	38.840 ft	0.010 ft	0.020 ft	0.262
	Ellip Dist.	17090.983 ft	0.078 ft	-0.004 ft	-0.133
8022-8039 (IPV96)	Az.	91°54'48"	1.020 sec	0.102 sec	0.258
	ΔHt.	-14.595 ft	0.010 ft	-0.006 ft	-0.084
	Ellip Dist.	16744.045 ft	0.079 ft	0.001 ft	0.038
044-G 103 (IPV76)	Az.	3°04'59"	0.601 sec	-0.003 sec	-0.007
	ΔHt.	69.661 ft	0.015 ft	-0.001 ft	-0.013
	Ellip Dist.	18867.000 ft	0.057 ft	0.011 ft	0.252
028-027 (IPV44)	Az.	181°59'14"	0.949 sec	0.076 sec	0.148
	ΔHt.	49.935 ft	0.012 ft	0.005 ft	0.075
	Ellip Dist.	14402.036 ft	0.070 ft	-0.008 ft	-0.211
014-021 (IPV22)	Az.	83°57'54"	1.235 sec	-0.008 sec	-0.020
	ΔHt.	20.335 ft	0.008 ft	0.000 ft	0.005
	Ellip Dist.	14528.790 ft	0.081 ft	0.006 ft	0.197
010-003 (IPV12)	Az.	266°38'17"	1.182 sec	0.027 sec	0.069
	ΔHt.	-31.435 ft	0.009 ft	0.001 ft	0.025

	Ellip Dist.	14850.215 ft	0.081 ft	0.005 ft	0.188
041-042 (IPV70)	Az.	0°11'59"	0.683 sec	-0.016 sec	-0.058
	ΔHt.	-20.409 ft	0.018 ft	-0.011 ft	-0.176
	Ellip Dist.	22638.452 ft	0.079 ft	-0.002 ft	-0.067
042-043 (IPV71)	Az.	351°53'24"	1.254 sec	-0.028 sec	-0.056
	ΔHt.	59.718 ft	0.010 ft	-0.004 ft	-0.076
	Ellip Dist.	11975.075 ft	0.074 ft	-0.004 ft	-0.141
049-042 (IPV82)	Az.	285°55'19"	1.054 sec	0.006 sec	0.017
	ΔHt.	52.871 ft	0.011 ft	0.008 ft	0.136
	Ellip Dist.	16419.717 ft	0.081 ft	-0.001 ft	-0.039
040-039 (IPV66)	Az.	178°27'46"	0.952 sec	-0.033 sec	-0.083
	ΔHt.	120.529 ft	0.013 ft	0.003 ft	0.061
	Ellip Dist.	15981.414 ft	0.076 ft	-0.004 ft	-0.136
8019-R31 (IPV94)	Az.	240°43'17"	0.245 sec	0.000 sec	-0.003
	ΔHt.	77.959 ft	0.031 ft	-0.007 ft	-0.132
	Ellip Dist.	55119.740 ft	0.065 ft	0.000 ft	-0.008
A 31 TBM-X 30 (IPV124)	Az.	120°09'42"	0.445 sec	0.005 sec	0.022
	ΔHt.	-74.797 ft	0.023 ft	-0.007 ft	-0.122
	Ellip Dist.	31696.696 ft	0.069 ft	-0.001 ft	-0.025
8056-42-141 (IPV103)	Az.	225°27'39"	0.238 sec	-0.018 sec	-0.094
	ΔHt.	-8.894 ft	0.028 ft	0.004 ft	0.080
	Ellip Dist.	44575.513 ft	0.051 ft	0.002 ft	0.049

Covariance Terms

From Point	To Point		Components	A-posteriori Error	Horiz. Precision	3D Precision
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					(Ratio)	(Ratio)
001	002	Az.	1°41'56"	1.083 sec	1 : 186279	1 : 186283
		ΔHt.	65.121 ft	0.000 ft		
		ΔElev.	64.974 ft	0.000 ft		
		Ellip Dist.	15051.044 ft	0.081 ft		
001	003	Az.	101°23'29"	1.232 sec	1 : 178090	1 : 178089
		ΔHt.	9.830 ft	0.000 ft		
		ΔElev.	10.966 ft	0.000 ft		
		Ellip Dist.	14581.509 ft	0.082 ft		
001	3 CDL	Az.	193°29'24"	1.361 sec	1 : 148200	1 : 148200
		ΔHt.	7.944 ft	0.000 ft		
		ΔElev.	7.938 ft	0.000 ft		
		Ellip Dist.	12412.300 ft	0.084 ft		
002	004	Az.	98°45'15"	1.242 sec	1 : 168229	1 : 168229
		ΔHt.	-13.567 ft	0.000 ft		
		ΔElev.	-12.701 ft	0.000 ft		
		Ellip Dist.	13281.813 ft	0.079 ft		
002	GPS 49	Az.	345°58'53"	1.114 sec	1 : 182251	1 : 182251
		ΔHt.	-3.832 ft	0.000 ft		
		ΔElev.	-4.066 ft	0.000 ft		
		Ellip Dist.	14317.323 ft	0.079 ft		
003	010	Az.	86°36'03"	1.185 sec	1 : 184117	1 : 184119
		ΔHt.	31.440 ft	0.000 ft		
		ΔElev.	32.847 ft	0.000 ft		
		Ellip Dist.	14850.221 ft	0.081 ft		
004	011	Az.	90°08'15"	1.070 sec	1 : 196256	1 : 196255
		ΔHt.	-7.576 ft	0.000 ft		
		ΔElev.	-6.244 ft	0.000 ft		
		Ellip Dist.	15481.902 ft	0.079 ft		

005	012	Az.	86°06'12"	1.078 sec	1 : 198101	1 : 198107
		ΔHt.	28.383 ft	0.000 ft		
		ΔElev.	29.550 ft	0.000 ft		
		Ellip Dist.	15944.419 ft	0.080 ft		
005	GPS 49	Az.	272°22'35"	1.016 sec	1 : 206800	1 : 206800
		ΔHt.	0.087 ft	0.000 ft		
		ΔElev.	-0.750 ft	0.000 ft		
		Ellip Dist.	16324.978 ft	0.079 ft		
006	013	Az.	91°38'05"	0.833 sec	1 : 253253	1 : 253256
		ΔHt.	-54.993 ft	0.000 ft		
		ΔElev.	-53.967 ft	0.000 ft		
		Ellip Dist.	16045.599 ft	0.063 ft		
006	GPS 40	Az.	268°54'55"	0.948 sec	1 : 224647	1 : 224649
		ΔHt.	-56.518 ft	0.000 ft		
		ΔElev.	-57.147 ft	0.000 ft		
		Ellip Dist.	16186.689 ft	0.072 ft		
006	W 28 TBM	Az.	64°52'05"	2.384 sec	1 : 87727	1 : 87729
		ΔHt.	-15.352 ft	0.000 ft		
		ΔElev.	-15.082 ft	0.000 ft		
		Ellip Dist.	5827.670 ft	0.066 ft		
007	014	Az.	100°05'55"	1.025 sec	1 : 209309	1 : 209308
		ΔHt.	-57.060 ft	0.000 ft		
		ΔElev.	-56.245 ft	0.000 ft		
		Ellip Dist.	16182.268 ft	0.077 ft		
007	GPS 31	Az.	266°36'48"	1.031 sec	1 : 208187	1 : 208188
		ΔHt.	-28.233 ft	0.000 ft		
		ΔElev.	-28.653 ft	0.000 ft		
		Ellip Dist.	16040.088 ft	0.077 ft		
008	015	Az.	83°51'22"	1.109 sec	1 : 200632	1 : 200635

		ΔHt.	-11.611 ft	0.000 ft		
		ΔElev.	-11.037 ft	0.000 ft		
		Ellip Dist.	15996.296 ft	0.080 ft		
008	GPS 22	Az.	271°32'21"	1.094 sec	1 : 202439	1 : 202439
		ΔHt.	-15.556 ft	0.000 ft		
		ΔElev.	-15.750 ft	0.000 ft		
		Ellip Dist.	16080.228 ft	0.079 ft		
009	016	Az.	89°04'06"	0.938 sec	1 : 232073	1 : 232073
		ΔHt.	-36.017 ft	0.000 ft		
		ΔElev.	-35.680 ft	0.000 ft		
		Ellip Dist.	15877.157 ft	0.068 ft		
009	36 SAN 1972	Az.	283°32'39"	1.173 sec	1 : 181253	1 : 181250
		ΔHt.	-3.064 ft	0.000 ft		
		ΔElev.	-3.016 ft	0.000 ft		
		Ellip Dist.	11030.655 ft	0.061 ft		
009	GPS 13	Az.	269°45'42"	0.854 sec	1 : 249596	1 : 249596
		ΔHt.	-18.933 ft	0.000 ft		
		ΔElev.	-18.920 ft	0.000 ft		
		Ellip Dist.	16086.213 ft	0.064 ft		
010	011	Az.	359°50'03"	0.992 sec	1 : 202947	1 : 202949
		ΔHt.	2.707 ft	0.000 ft		
		ΔElev.	2.215 ft	0.000 ft		
		Ellip Dist.	14985.588 ft	0.074 ft		
010	017	Az.	92°31'25"	1.069 sec	1 : 199160	1 : 199159
		ΔHt.	13.712 ft	0.000 ft		
		ΔElev.	15.538 ft	0.000 ft		
		Ellip Dist.	15651.645 ft	0.079 ft		
010	8020	Az.	180°11'23"	0.925 sec	1 : 210728	1 : 210733
		ΔHt.	-55.037 ft	0.000 ft		

		ΔElev.	-54.400 ft	0.000 ft		
		Ellip Dist.	16736.791 ft	0.079 ft		
011	012	Az.	0°33'58"	0.877 sec	1 : 227561	1 : 227564
		ΔHt.	45.608 ft	0.000 ft		
		ΔElev.	45.180 ft	0.000 ft		
		Ellip Dist.	16366.008 ft	0.072 ft		
011	018	Az.	90°43'08"	0.940 sec	1 : 224080	1 : 224081
		ΔHt.	22.681 ft	0.000 ft		
		ΔElev.	24.435 ft	0.000 ft		
		Ellip Dist.	16209.388 ft	0.072 ft		
012	013	Az.	0°56'16"	0.979 sec	1 : 201747	1 : 201747
		ΔHt.	0.004 ft	0.000 ft		
		ΔElev.	-0.300 ft	0.000 ft		
		Ellip Dist.	15160.632 ft	0.075 ft		
012	019	Az.	92°05'31"	0.983 sec	1 : 216349	1 : 216345
		ΔHt.	-8.628 ft	0.000 ft		
		ΔElev.	-7.043 ft	0.000 ft		
		Ellip Dist.	15921.328 ft	0.074 ft		
013	014	Az.	359°25'34"	0.882 sec	1 : 225985	1 : 225982
		ΔHt.	-17.446 ft	0.000 ft		
		ΔElev.	-17.670 ft	0.000 ft		
		Ellip Dist.	14339.751 ft	0.063 ft		
013	020	Az.	90°00'05"	0.915 sec	1 : 234733	1 : 234744
		ΔHt.	33.779 ft	0.000 ft		
		ΔElev.	35.255 ft	0.000 ft		
		Ellip Dist.	16659.687 ft	0.071 ft		
013	W 28 TBM	Az.	285°16'58"	1.014 sec	1 : 209199	1 : 209200
		ΔHt.	39.641 ft	0.000 ft		
		ΔElev.	38.886 ft	0.000 ft		

		Ellip Dist.	11155.507 ft	0.053 ft		
014	015	Az.	0°05'28"	0.809 sec	1 : 233732	1 : 233738
		ΔHt.	35.657 ft	0.000 ft		
		ΔElev.	35.560 ft	0.000 ft		
		Ellip Dist.	19281.699 ft	0.082 ft		
014	021	Az.	83°57'54"	1.231 sec	1 : 181262	1 : 181250
		ΔHt.	20.340 ft	0.000 ft		
		ΔElev.	21.388 ft	0.000 ft		
		Ellip Dist.	14528.795 ft	0.080 ft		
014	W 28 TBM	Az.	222°58'03"	0.872 sec	1 : 232475	1 : 232489
		ΔHt.	57.087 ft	0.000 ft		
		ΔElev.	56.556 ft	0.000 ft		
		Ellip Dist.	15577.496 ft	0.067 ft		
015	016	Az.	0°11'16"	0.996 sec	1 : 192556	1 : 192560
		ΔHt.	-15.768 ft	0.000 ft		
		ΔElev.	-15.707 ft	0.000 ft		
		Ellip Dist.	14931.465 ft	0.078 ft		
015	022	Az.	94°37'36"	1.082 sec	1 : 200301	1 : 200296
		ΔHt.	-7.107 ft	0.000 ft		
		ΔElev.	-6.165 ft	0.000 ft		
		Ellip Dist.	15947.299 ft	0.080 ft		
016	023	Az.	92°26'12"	1.069 sec	1 : 202018	1 : 202013
		ΔHt.	-42.828 ft	0.000 ft		
		ΔElev.	-42.147 ft	0.000 ft		
		Ellip Dist.	15492.384 ft	0.077 ft		
016	G 107	Az.	359°30'15"	0.767 sec	1 : 256887	1 : 256890
		ΔHt.	-9.908 ft	0.000 ft		
		ΔElev.	-9.788 ft	0.000 ft		
		Ellip	15993.632 ft	0.062 ft		

		Dist.				
017	024	Az.	91°03'48"	1.012 sec	1 : 211658	1 : 211656
		ΔHt.	7.071 ft	0.000 ft		
		ΔElev.	9.175 ft	0.000 ft		
		Ellip Dist.	16738.094 ft	0.079 ft		
018	019	Az.	359°33'16"	0.934 sec	1 : 215917	1 : 215920
		ΔHt.	14.299 ft	0.000 ft		
		ΔElev.	13.702 ft	0.000 ft		
		Ellip Dist.	15988.063 ft	0.074 ft		
018	025	Az.	88°26'32"	0.965 sec	1 : 218799	1 : 218806
		ΔHt.	47.925 ft	0.000 ft		
		ΔElev.	49.868 ft	0.000 ft		
		Ellip Dist.	15886.744 ft	0.073 ft		
019	026	Az.	84°18'48"	0.966 sec	1 : 218358	1 : 218358
		ΔHt.	31.930 ft	0.000 ft		
		ΔElev.	33.754 ft	0.000 ft		
		Ellip Dist.	15949.858 ft	0.073 ft		
020	027	Az.	84°40'27"	0.939 sec	1 : 224072	1 : 224081
		ΔHt.	-55.464 ft	0.000 ft		
		ΔElev.	-53.847 ft	0.000 ft		
		Ellip Dist.	14933.716 ft	0.067 ft		
020	A 29	Az.	54°13'29"	2.430 sec	1 : 84622	1 : 84637
		ΔHt.	-57.029 ft	0.000 ft		
		ΔElev.	-56.669 ft	0.000 ft		
		Ellip Dist.	5450.831 ft	0.064 ft		
021	028	Az.	90°16'51"	1.053 sec	1 : 213770	1 : 213736
		ΔHt.	-74.510 ft	0.000 ft		
		ΔElev.	-72.730 ft	0.000 ft		
		Ellip Dist.	17702.460 ft	0.083 ft		

022	029	Az.	90°48'36"	1.140 sec	1 : 190114	1 : 190112
		ΔHt.	-103.127 ft	0.000 ft		
		ΔElev.	-101.779 ft	0.000 ft		
		Ellip Dist.	15364.069 ft	0.081 ft		
023	030	Az.	90°01'20"	0.986 sec	1 : 221255	1 : 221245
		ΔHt.	-38.835 ft	0.000 ft		
		ΔElev.	-37.571 ft	0.000 ft		
		Ellip Dist.	17090.989 ft	0.077 ft		
024	025	Az.	358°55'39"	0.913 sec	1 : 220272	1 : 220271
		ΔHt.	52.529 ft	0.000 ft		
		ΔElev.	51.805 ft	0.000 ft		
		Ellip Dist.	16216.809 ft	0.074 ft		
024	031	Az.	92°23'31"	1.103 sec	1 : 191878	1 : 191885
		ΔHt.	-11.169 ft	0.000 ft		
		ΔElev.	-9.316 ft	0.000 ft		
		Ellip Dist.	15080.102 ft	0.079 ft		
024	8039	Az.	181°29'52"	0.900 sec	1 : 222808	1 : 222802
		ΔHt.	-56.501 ft	0.000 ft		
		ΔElev.	-55.853 ft	0.000 ft		
		Ellip Dist.	16375.365 ft	0.073 ft		
025	026	Az.	359°35'33"	0.842 sec	1 : 237727	1 : 237706
		ΔHt.	-1.696 ft	0.000 ft		
		ΔElev.	-2.413 ft	0.000 ft		
		Ellip Dist.	17136.550 ft	0.072 ft		
025	032	Az.	91°37'00"	1.055 sec	1 : 201149	1 : 201147
		ΔHt.	-29.150 ft	0.000 ft		
		ΔElev.	-27.154 ft	0.000 ft		
		Ellip Dist.	15738.118 ft	0.078 ft		
026	027	Az.	0°03'43"	0.918 sec	1 : 220991	1 : 220993

		ΔHt.	-44.983 ft	0.000 ft		
		ΔElev.	-45.604 ft	0.000 ft		
		Ellip Dist.	15545.281 ft	0.070 ft		
026	033	Az.	94°50'12"	1.027 sec	1 : 204465	1 : 204473
		ΔHt.	-66.445 ft	0.000 ft		
		ΔElev.	-64.341 ft	0.000 ft		
		Ellip Dist.	15971.229 ft	0.078 ft		
027	028	Az.	1°59'09"	0.941 sec	1 : 207113	1 : 207133
		ΔHt.	-49.930 ft	0.000 ft		
		ΔElev.	-50.420 ft	0.000 ft		
		Ellip Dist.	14402.042 ft	0.070 ft		
027	034	Az.	95°25'26"	1.139 sec	1 : 183879	1 : 183877
		ΔHt.	-76.627 ft	0.000 ft		
		ΔElev.	-74.771 ft	0.000 ft		
		Ellip Dist.	14274.134 ft	0.078 ft		
027	A 29	Az.	279°48'57"	1.134 sec	1 : 187101	1 : 187093
		ΔHt.	-1.565 ft	0.000 ft		
		ΔElev.	-2.822 ft	0.000 ft		
		Ellip Dist.	10600.905 ft	0.057 ft		
028	029	Az.	357°03'42"	0.903 sec	1 : 212480	1 : 212499
		ΔHt.	-20.408 ft	0.000 ft		
		ΔElev.	-21.042 ft	0.000 ft		
		Ellip Dist.	16359.729 ft	0.077 ft		
028	035	Az.	89°38'27"	1.160 sec	1 : 182099	1 : 182086
		ΔHt.	-57.753 ft	0.000 ft		
		ΔElev.	-55.984 ft	0.000 ft		
		Ellip Dist.	14551.556 ft	0.080 ft		
028	A 29	Az.	221°00'41"	0.812 sec	1 : 261003	1 : 261072
		ΔHt.	48.365 ft	0.000 ft		

		ΔElev.	47.598 ft	0.000 ft		
		Ellip Dist.	16679.294 ft	0.064 ft		
029	030	Az.	5°00'33"	0.910 sec	1 : 214614	1 : 214640
		ΔHt.	12.804 ft	0.000 ft		
		ΔElev.	12.519 ft	0.000 ft		
		Ellip Dist.	15829.155 ft	0.074 ft		
029	036	Az.	89°55'31"	1.032 sec	1 : 206787	1 : 206773
		ΔHt.	6.821 ft	0.000 ft		
		ΔElev.	8.623 ft	0.000 ft		
		Ellip Dist.	16078.474 ft	0.078 ft		
030	037	Az.	89°33'40"	1.060 sec	1 : 200219	1 : 200216
		ΔHt.	-44.831 ft	0.000 ft		
		ΔElev.	-43.285 ft	0.000 ft		
		Ellip Dist.	14943.729 ft	0.075 ft		
030	G 105	Az.	356°18'06"	0.689 sec	1 : 287852	1 : 287867
		ΔHt.	-47.184 ft	0.000 ft		
		ΔElev.	-47.589 ft	0.000 ft		
		Ellip Dist.	16618.798 ft	0.058 ft		
030	SHEFFIELD TBM	Az.	44°36'57"	0.873 sec	1 : 239077	1 : 239097
		ΔHt.	-78.276 ft	0.000 ft		
		ΔElev.	-77.479 ft	0.000 ft		
		Ellip Dist.	15796.822 ft	0.066 ft		
031	038	Az.	88°10'34"	1.073 sec	1 : 197337	1 : 197341
		ΔHt.	24.211 ft	0.000 ft		
		ΔElev.	25.837 ft	0.000 ft		
		Ellip Dist.	15472.468 ft	0.078 ft		
032	039	Az.	90°24'39"	1.018 sec	1 : 208746	1 : 208747
		ΔHt.	-64.545 ft	0.000 ft		

		ΔElev.	-62.693 ft	0.000 ft		
		Ellip Dist.	16351.627 ft	0.078 ft		
033	040	Az.	91°21'27"	1.045 sec	1 : 202319	1 : 202344
		ΔHt.	-146.079 ft	0.000 ft		
		ΔElev.	-144.169 ft	0.000 ft		
		Ellip Dist.	15843.897 ft	0.078 ft		
034	041	Az.	97°58'34"	0.932 sec	1 : 225341	1 : 225324
		ΔHt.	-27.414 ft	0.000 ft		
		ΔElev.	-25.134 ft	0.000 ft		
		Ellip Dist.	17729.811 ft	0.079 ft		
035	042	Az.	75°28'40"	1.047 sec	1 : 209000	1 : 208983
		ΔHt.	-16.761 ft	0.000 ft		
		ΔElev.	-14.833 ft	0.000 ft		
		Ellip Dist.	17323.284 ft	0.083 ft		
036	043	Az.	90°16'36"	0.902 sec	1 : 233899	1 : 233883
		ΔHt.	-1.205 ft	0.000 ft		
		ΔElev.	0.602 ft	0.000 ft		
		Ellip Dist.	14372.832 ft	0.061 ft		
037	044	Az.	90°00'19"	1.005 sec	1 : 211978	1 : 211983
		ΔHt.	-76.490 ft	0.000 ft		
		ΔElev.	-74.560 ft	0.000 ft		
		Ellip Dist.	15872.395 ft	0.075 ft		
038	039	Az.	4°35'49"	0.939 sec	1 : 214355	1 : 214366
		ΔHt.	-54.208 ft	0.000 ft		
		ΔElev.	-54.563 ft	0.000 ft		
		Ellip Dist.	15839.550 ft	0.074 ft		
038	045	Az.	89°56'29"	1.062 sec	1 : 203461	1 : 203437
		ΔHt.	-103.960 ft	0.000 ft		
		ΔElev.	-102.528 ft	0.000 ft		

		Ellip Dist.	16584.023 ft	0.082 ft		
038	8056	Az.	177°47'23"	0.899 sec	1 : 223345	1 : 223352
		ΔHt.	-80.788 ft	0.000 ft		
		ΔElev.	-80.234 ft	0.000 ft		
		Ellip Dist.	15918.138 ft	0.071 ft		
039	040	Az.	358°27'50"	0.943 sec	1 : 211666	1 : 211667
		ΔHt.	-120.524 ft	0.000 ft		
		ΔElev.	-121.076 ft	0.000 ft		
		Ellip Dist.	15981.420 ft	0.076 ft		
039	046	Az.	91°45'53"	1.111 sec	1 : 191656	1 : 191645
		ΔHt.	-28.708 ft	0.000 ft		
		ΔElev.	-27.326 ft	0.000 ft		
		Ellip Dist.	15258.797 ft	0.080 ft		
040	041	Az.	0°13'11"	1.104 sec	1 : 180225	1 : 180240
		ΔHt.	63.499 ft	0.000 ft		
		ΔElev.	63.001 ft	0.000 ft		
		Ellip Dist.	13457.724 ft	0.075 ft		
040	047	Az.	80°27'11"	1.174 sec	1 : 188799	1 : 188801
		ΔHt.	52.623 ft	0.000 ft		
		ΔElev.	54.013 ft	0.000 ft		
		Ellip Dist.	15293.795 ft	0.081 ft		
041	042	Az.	0°11'59"	0.676 sec	1 : 289111	1 : 289136
		ΔHt.	-20.402 ft	0.000 ft		
		ΔElev.	-21.332 ft	0.000 ft		
		Ellip Dist.	22638.461 ft	0.078 ft		
041	048	Az.	81°17'16"	1.035 sec	1 : 210913	1 : 210911
		ΔHt.	-99.579 ft	0.000 ft		
		ΔElev.	-98.015 ft	0.000 ft		
		Ellip	16019.015 ft	0.076 ft		

		Dist.				
042	043	Az.	351°53'24"	1.243 sec	1 : 162349	1 : 162355
		ΔHt.	59.721 ft	0.000 ft		
		ΔElev.	59.000 ft	0.000 ft		
		Ellip Dist.	11975.079 ft	0.074 ft		
042	049	Az.	105°52'55"	1.058 sec	1 : 201470	1 : 201432
		ΔHt.	-52.867 ft	0.000 ft		
		ΔElev.	-50.911 ft	0.000 ft		
		Ellip Dist.	16419.723 ft	0.081 ft		
043	044	Az.	6°20'00"	0.909 sec	1 : 214903	1 : 214912
		ΔHt.	-114.132 ft	0.000 ft		
		ΔElev.	-114.551 ft	0.000 ft		
		Ellip Dist.	16027.734 ft	0.075 ft		
043	050	Az.	90°05'06"	0.947 sec	1 : 223686	1 : 223677
		ΔHt.	-105.603 ft	0.000 ft		
		ΔElev.	-103.457 ft	0.000 ft		
		Ellip Dist.	18204.025 ft	0.081 ft		
044	051	Az.	90°42'12"	1.067 sec	1 : 198390	1 : 198410
		ΔHt.	-1.886 ft	0.000 ft		
		ΔElev.	-0.036 ft	0.000 ft		
		Ellip Dist.	15395.555 ft	0.078 ft		
044	G 103	Az.	3°04'59"	0.591 sec	1 : 334727	1 : 334759
		ΔHt.	69.667 ft	0.000 ft		
		ΔElev.	69.096 ft	0.000 ft		
		Ellip Dist.	18867.007 ft	0.056 ft		
044	HILL ET	Az.	44°26'59"	1.559 sec	1 : 134239	1 : 134277
		ΔHt.	74.049 ft	0.000 ft		
		ΔElev.	74.476 ft	0.000 ft		
		Ellip Dist.	7361.094 ft	0.055 ft		

045	98-108	Az.	89°38'59"	1.097 sec	1 : 195309	1 : 195289
		ΔHt.	-97.581 ft	0.000 ft		
		ΔElev.	-96.536 ft	0.000 ft		
		Ellip Dist.	15774.604 ft	0.081 ft		
046	98-107	Az.	88°42'04"	1.088 sec	1 : 199137	1 : 199119
		ΔHt.	-53.285 ft	0.000 ft		
		ΔElev.	-52.185 ft	0.000 ft		
		Ellip Dist.	15961.340 ft	0.080 ft		
047	98-106	Az.	99°46'58"	1.135 sec	1 : 198206	1 : 198130
		ΔHt.	-51.826 ft	0.000 ft		
		ΔElev.	-50.528 ft	0.000 ft		
		Ellip Dist.	16822.502 ft	0.085 ft		
048	98-105	Az.	88°23'00"	1.049 sec	1 : 210898	1 : 210841
		ΔHt.	-17.857 ft	0.000 ft		
		ΔElev.	-16.612 ft	0.000 ft		
		Ellip Dist.	15854.151 ft	0.075 ft		
048	98-106	Az.	135°47'27"	0.699 sec	1 : 273733	1 : 273625
		ΔHt.	36.878 ft	0.000 ft		
		ΔElev.	38.498 ft	0.000 ft		
		Ellip Dist.	22608.758 ft	0.083 ft		
049	98-104	Az.	88°59'49"	1.089 sec	1 : 197566	1 : 197552
		ΔHt.	41.133 ft	0.000 ft		
		ΔElev.	42.497 ft	0.000 ft		
		Ellip Dist.	15819.251 ft	0.080 ft		
050	98-103	Az.	89°56'29"	1.109 sec	1 : 190576	1 : 190565
		ΔHt.	-0.080 ft	0.000 ft		
		ΔElev.	1.342 ft	0.000 ft		
		Ellip Dist.	15139.313 ft	0.079 ft		
051	98-102	Az.	91°07'31"	1.019 sec	1 : 208275	1 : 208302

		ΔHt.	2.235 ft	0.000 ft		
		ΔElev.	3.872 ft	0.000 ft		
		Ellip Dist.	16215.342 ft	0.078 ft		
3 CDL	8001	Az.	179°31'26"	2.559 sec	1 : 78239	1 : 78239
		ΔHt.	3.545 ft	0.000 ft		
		ΔElev.	3.675 ft	0.000 ft		
		Ellip Dist.	6631.151 ft	0.085 ft		
36 SAN 1972	37 SAN 1972	Az.	0°29'03"	0.774 sec	1 : 261505	1 : 261506
		ΔHt.	-21.459 ft	0.000 ft		
		ΔElev.	-21.003 ft	0.000 ft		
		Ellip Dist.	14389.862 ft	0.055 ft		
36 SAN 1972	GPS 13	Az.	243°40'20"	1.693 sec	1 : 126089	1 : 126091
		ΔHt.	-15.869 ft	0.000 ft		
		ΔElev.	-15.904 ft	0.000 ft		
		Ellip Dist.	5981.355 ft	0.047 ft		
37 SAN 1972	97-049	Az.	264°23'22"	2.034 sec	1 : 103399	1 : 103400
		ΔHt.	21.915 ft	0.000 ft		
		ΔElev.	22.022 ft	0.000 ft		
		Ellip Dist.	5579.327 ft	0.054 ft		
37 SAN 1972	G 108	Az.	90°31'53"	1.079 sec	1 : 195024	1 : 195025
		ΔHt.	13.263 ft	0.000 ft		
		ΔElev.	13.131 ft	0.000 ft		
		Ellip Dist.	10523.140 ft	0.054 ft		
42-141	8039	Az.	0°14'54"	0.413 sec	1 : 480604	1 : 480572
		ΔHt.	20.159 ft	0.000 ft		
		ΔElev.	19.140 ft	0.000 ft		
		Ellip	30971.165 ft	0.064 ft		

		Dist.				
42-141	8040	Az.	27°10'35"	0.377 sec	1 : 536136	1 : 536160
		ΔHt.	20.356 ft	0.000 ft		
		ΔElev.	21.160 ft	0.000 ft		
		Ellip Dist.	34765.951 ft	0.065 ft		
42-141	8056	Az.	45°22'53"	0.257 sec	1 : 815328	1 : 815417
		ΔHt.	8.914 ft	0.000 ft		
		ΔElev.	11.280 ft	0.000 ft		
		Ellip Dist.	44575.530 ft	0.055 ft		
42-141	A 31 TBM	Az.	63°11'37"	0.403 sec	1 : 532324	1 : 532359
		ΔHt.	0.866 ft	0.000 ft		
		ΔElev.	3.650 ft	0.000 ft		
		Ellip Dist.	35621.719 ft	0.067 ft		
7001	8073	Az.	269°50'03"	1.082 sec	1 : 197091	1 : 197087
		ΔHt.	54.191 ft	0.000 ft		
		ΔElev.	53.380 ft	0.000 ft		
		Ellip Dist.	13258.312 ft	0.067 ft		
7001	98-108	Az.	359°59'07"	1.025 sec	1 : 196863	1 : 196880
		ΔHt.	-41.220 ft	0.000 ft		
		ΔElev.	-41.570 ft	0.000 ft		
		Ellip Dist.	15976.621 ft	0.081 ft		
7001	X 30	Az.	187°57'37"	0.461 sec	1 : 429375	1 : 429425
		ΔHt.	-3.308 ft	0.000 ft		
		ΔElev.	-3.010 ft	0.000 ft		
		Ellip Dist.	31521.830 ft	0.073 ft		
8001	8019	Az.	90°07'36"	0.932 sec	1 : 224427	1 : 224427
		ΔHt.	-6.646 ft	0.000 ft		
		ΔElev.	-5.270 ft	0.000 ft		
		Ellip Dist.	16180.709 ft	0.072 ft		

8001	R31	Az.	229°42'32"	0.359 sec	1 : 583458	1 : 583460
		ΔHt.	71.289 ft	0.000 ft		
		ΔElev.	69.920 ft	0.000 ft		
		Ellip Dist.	41793.203 ft	0.072 ft		
8019	8020	Az.	89°59'29"	0.916 sec	1 : 228279	1 : 228279
		ΔHt.	-18.609 ft	0.000 ft		
		ΔElev.	-16.930 ft	0.000 ft		
		Ellip Dist.	15744.324 ft	0.069 ft		
8019	R31	Az.	240°43'17"	0.256 sec	1 : 816520	1 : 816527
		ΔHt.	77.935 ft	0.000 ft		
		ΔElev.	75.190 ft	0.000 ft		
		Ellip Dist.	55119.761 ft	0.068 ft		
8020	8022	Az.	90°16'38"	1.061 sec	1 : 199831	1 : 199829
		ΔHt.	33.909 ft	0.000 ft		
		ΔElev.	35.750 ft	0.000 ft		
		Ellip Dist.	15287.629 ft	0.077 ft		
8020	R31	Az.	247°08'24"	0.200 sec	1 : 1060970	1 : 1060993
		ΔHt.	96.544 ft	0.000 ft		
		ΔElev.	92.120 ft	0.000 ft		
		Ellip Dist.	69282.909 ft	0.065 ft		
8022	8039	Az.	91°54'48"	1.008 sec	1 : 214903	1 : 214890
		ΔHt.	-14.590 ft	0.000 ft		
		ΔElev.	-12.490 ft	0.000 ft		
		Ellip Dist.	16744.051 ft	0.078 ft		
8039	8040	Az.	90°09'24"	0.918 sec	1 : 230993	1 : 231005
		ΔHt.	0.197 ft	0.000 ft		
		ΔElev.	2.020 ft	0.000 ft		
		Ellip Dist.	15744.602 ft	0.068 ft		
8040	8056	Az.	88°39'43"	0.873 sec	1 : 243050	1 : 243052

		ΔHt.	-11.442 ft	0.000 ft		
		ΔElev.	-9.880 ft	0.000 ft		
		Ellip Dist.	15854.567 ft	0.065 ft		
8056	8073	Az.	90°00'35"	0.772 sec	1 : 278250	1 : 278231
		ΔHt.	-25.341 ft	0.000 ft		
		ΔElev.	-23.880 ft	0.000 ft		
		Ellip Dist.	18512.878 ft	0.067 ft		
8056	A 31 TBM	Az.	179°50'08"	0.820 sec	1 : 243197	1 : 243212
		ΔHt.	-8.048 ft	0.000 ft		
		ΔElev.	-7.630 ft	0.000 ft		
		Ellip Dist.	15244.767 ft	0.063 ft		
8073	A 31 TBM	Az.	230°30'56"	0.563 sec	1 : 379590	1 : 379655
		ΔHt.	17.293 ft	0.000 ft		
		ΔElev.	16.250 ft	0.000 ft		
		Ellip Dist.	23946.040 ft	0.063 ft		
8073	X 30	Az.	164°02'52"	0.364 sec	1 : 541325	1 : 541324
		ΔHt.	-57.499 ft	0.000 ft		
		ΔElev.	-56.390 ft	0.000 ft		
		Ellip Dist.	32423.070 ft	0.060 ft		
97-049	GPS 13	Az.	179°44'34"	0.590 sec	1 : 334448	1 : 334448
		ΔHt.	-16.324 ft	0.000 ft		
		ΔElev.	-16.923 ft	0.000 ft		
		Ellip Dist.	16496.763 ft	0.049 ft		
98-101	98-102	Az.	180°11'21"	0.918 sec	1 : 212525	1 : 212498
		ΔHt.	-51.038 ft	0.000 ft		
		ΔElev.	-50.480 ft	0.000 ft		
		Ellip Dist.	16851.330 ft	0.079 ft		
98-101	G 102	Az.	270°12'51"	0.000 sec	1 : 0	1 : 0
		ΔHt.	2.584 ft	0.000 ft		

		ΔElev.	0.920 ft	0.000 ft		
		Ellip Dist.	15907.284 ft	0.000 ft		
98-102	98-103	Az.	180°12'08"	1.050 sec	1 : 190312	1 : 190299
		ΔHt.	8.100 ft	0.000 ft		
		ΔElev.	8.600 ft	0.000 ft		
		Ellip Dist.	15435.399 ft	0.081 ft		
98-103	98-104	Az.	180°14'18"	1.017 sec	1 : 196779	1 : 196793
		ΔHt.	34.228 ft	0.000 ft		
		ΔElev.	34.700 ft	0.000 ft		
		Ellip Dist.	16058.927 ft	0.082 ft		
98-104	98-105	Az.	180°06'19"	1.097 sec	1 : 171414	1 : 171455
		ΔHt.	-85.300 ft	0.000 ft		
		ΔElev.	-84.880 ft	0.000 ft		
		Ellip Dist.	15548.245 ft	0.091 ft		
98-105	98-106	Az.	180°19'34"	0.963 sec	1 : 196121	1 : 196199
		ΔHt.	54.735 ft	0.000 ft		
		ΔElev.	55.110 ft	0.000 ft		
		Ellip Dist.	16653.368 ft	0.085 ft		
98-106	98-107	Az.	180°10'08"	1.031 sec	1 : 190023	1 : 190049
		ΔHt.	37.733 ft	0.000 ft		
		ΔElev.	38.080 ft	0.000 ft		
		Ellip Dist.	15761.736 ft	0.083 ft		
98-107	98-108	Az.	180°31'21"	1.052 sec	1 : 189747	1 : 189772
		ΔHt.	-65.339 ft	0.000 ft		
		ΔElev.	-64.990 ft	0.000 ft		
		Ellip Dist.	15568.466 ft	0.082 ft		
A 31 TBM	X 30	Az.	120°09'42"	0.461 sec	1 : 443560	1 : 443467
		ΔHt.	-74.793 ft	0.000 ft		
		ΔElev.	-72.640 ft	0.000 ft		

		Ellip Dist.	31696.707 ft	0.071 ft		
G 102	G 103	Az.	279°28'58"	0.000 sec	1 : 0	1 : 0
		ΔHt.	15.696 ft	0.000 ft		
		ΔElev.	13.860 ft	0.000 ft		
		Ellip Dist.	14918.996 ft	0.000 ft		
G 102	HILL ET	Az.	223°33'40"	0.000 sec	1 : 0	1 : 0
		ΔHt.	20.078 ft	0.000 ft		
		ΔElev.	19.240 ft	0.000 ft		
		Ellip Dist.	15359.207 ft	0.000 ft		
G 103	G 104	Az.	266°37'13"	0.000 sec	1 : 0	1 : 0
		ΔHt.	-13.191 ft	0.000 ft		
		ΔElev.	-15.070 ft	0.000 ft		
		Ellip Dist.	16801.963 ft	0.000 ft		
G 103	HILL ET	Az.	163°03'12"	0.000 sec	1 : 0	1 : 0
		ΔHt.	4.382 ft	0.000 ft		
		ΔElev.	5.380 ft	0.000 ft		
		Ellip Dist.	14201.750 ft	0.000 ft		
G 104	G 105	Az.	265°11'21"	0.000 sec	1 : 0	1 : 0
		ΔHt.	17.661 ft	0.000 ft		
		ΔElev.	16.230 ft	0.000 ft		
		Ellip Dist.	16163.203 ft	0.000 ft		
G 104	SHEFFIELD TBM	Az.	210°27'54"	1.530 sec	1 : 134887	1 : 134894
		ΔHt.	-13.431 ft	0.000 ft		
		ΔElev.	-13.660 ft	0.000 ft		
		Ellip Dist.	7776.803 ft	0.058 ft		
G 105	G 106	Az.	270°05'34"	0.000 sec	1 : 0	1 : 0
		ΔHt.	56.355 ft	0.000 ft		
		ΔElev.	55.410 ft	0.000 ft		

		Ellip Dist.	15892.723 ft	0.000 ft		
G 105	SHEFFIELD TBM	Az.	113°41'30"	0.897 sec	1 : 230706	1 : 230698
		ΔHt.	-31.092 ft	0.000 ft		
		ΔElev.	-29.890 ft	0.000 ft		
		Ellip Dist.	13286.960 ft	0.058 ft		
G 106	G 107	Az.	270°15'35"	0.000 sec	1 : 0	1 : 0
		ΔHt.	62.584 ft	0.000 ft		
		ΔElev.	62.109 ft	0.000 ft		
		Ellip Dist.	15719.253 ft	0.000 ft		
G 107	G 108	Az.	272°17'01"	0.000 sec	1 : 0	1 : 0
		ΔHt.	34.665 ft	0.000 ft		
		ΔElev.	34.580 ft	0.000 ft		
		Ellip Dist.	15810.346 ft	0.000 ft		
GPS 13	GPS 22	Az.	180°09'43"	0.927 sec	1 : 213132	1 : 213132
		ΔHt.	-5.262 ft	0.000 ft		
		ΔElev.	-5.766 ft	0.000 ft		
		Ellip Dist.	15886.471 ft	0.075 ft		
GPS 22	GPS 31	Az.	179°53'43"	0.934 sec	1 : 212067	1 : 212067
		ΔHt.	-2.885 ft	0.000 ft		
		ΔElev.	-3.254 ft	0.000 ft		
		Ellip Dist.	16111.595 ft	0.076 ft		
GPS 31	GPS 40	Az.	180°24'24"	0.857 sec	1 : 233571	1 : 233571
		ΔHt.	-12.906 ft	0.000 ft		
		ΔElev.	-13.101 ft	0.000 ft		
		Ellip Dist.	16078.044 ft	0.069 ft		
GPS 31	L28	Az.	255°35'24"	0.194 sec	1 : 1108658	1 : 1108660
		ΔHt.	-81.929 ft	0.000 ft		
		ΔElev.	-81.456 ft	0.000 ft		

		Ellip Dist.	69192.596 ft	0.062 ft		
GPS 40	GPS 49	Az.	180°48'33"	0.995 sec	1 : 199719	1 : 199719
		ΔHt.	-26.776 ft	0.000 ft		
		ΔElev.	-26.820 ft	0.000 ft		
		Ellip Dist.	15718.314 ft	0.079 ft		
GPS 40	L28	Az.	269°01'20"	0.202 sec	1 : 1065583	1 : 1065584
		ΔHt.	-69.024 ft	0.000 ft		
		ΔElev.	-68.355 ft	0.000 ft		
		Ellip Dist.	66911.452 ft	0.063 ft		

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