



# Final Survey Report Appendix

**Task Order Name: AZ\_GrandCanyonNP\_2019\_B19**

Task Order Number: 140G0219F0272

**Grand Canyon National Park**

August 23, 2022



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**Section 1. Appendix**

**1.1 Point Summary**

**UTM 12 NORTH NAD83(2011) GEOID 12B METERS**

POINT_ID	EASTING	NORTHING	ELEVATION	CODE
ABYSS_PIN	393480.19	3991111.073	2076.845	Control
BE03	421831.214	3985708.586	2189.706	NVA
BE04	412148.386	4015334.542	2693.272	NVA
BE06	378235.927	4024310.773	2304.734	NVA
BE08	396640.826	4014313.364	2490.57	NVA
BE09	399957.857	4020937.292	2682.152	NVA
BE101	287449.528	3962654.118	587.176	NVA
BE102	290784.269	3969901.473	520.093	NVA
BE104	299816.699	3998835.121	1081.182	NVA
BE105	306359.387	4005214.275	770.856	NVA
BE106	329102.392	4014367.115	1229.409	NVA
BE107	339880.033	4016515.617	1205.578	NVA
BE204	428030.86	4004099.627	1870.434	NVA
BE208	401900.82	4002567.564	1996.091	NVA
BE210	410048.437	3989994.379	1153.127	NVA
BE701	291016.585	3982397.658	448.795	NVA
BR01	375374.282	4002323.859	1962.332	VVA
BR02	427144.292	3988356.831	2199.165	VVA
BR04	388637.184	4008781.467	2274.759	VVA
BR05	410934.073	3983904.763	2273.246	VVA
BR06	414550.06	3998012.253	2409.78	VVA
BR07	389868.14	4022537.013	2455.828	VVA
BR101	288179.161	3971206.175	900.92	VVA
BR102	298061.023	3995405.556	1083.764	VVA
BR103	323270.834	4011756.409	527.805	VVA
BR206	430385.1	3994931.691	1885.638	VVA
BR701	402462.825	3995645.633	744.346	VVA
CAPE	414538.434	3998068.34	2406.687	Control
DESERT_VIEW	425208.7	3988789.4	2286.567	Control
HG01	395014.52	3992443.46	2125.767	VVA
HG01A	395020.445	3992455.558	2126.229	VVA
HG02	403928.773	3986484.699	2182.425	VVA
HG03	400327.999	4013562.826	2499.807	VVA
HG04	415563.768	4002016.738	2447.928	VVA
HG05	422842.414	3986796.807	2215.956	VVA

HG06	391497.354	3988359.415	2015.627	VVA
HG07	374490.491	4000093.847	1926.201	VVA
HG101	289936.674	3992105.152	1212.481	VVA
HG102	308617.231	4006263.7	1007.737	VVA
HG103	289465.431	3966288.458	513.325	VVA
LCP101	287452.151	3962644.111	587.236	Control
LCP101A	393395.418	3991090.512	2071.535	Control
LCP102	289330.953	3977022.837	437.863	Control
LCP102A	389380.513	3988731.212	1948.686	Control
LCP103	287926.174	3991569.931	477.652	Control
LCP103A	375801.423	4003207.626	1981.298	Control
LCP104	298056.551	3995402.949	1083.709	Control
LCP104A	387563.337	4006676.485	2273.741	Control
LCP105	305327.496	4007093.261	1404.619	Control
LCP105A	396719.241	4014331.885	2490.117	Control
LCP106	299786.922	3998838.45	1079.513	Control
LCP106A	400797.035	4013320.528	2488.959	Control
LCP107	315312.144	4008968.281	516.979	Control
LCP107A	399949.007	4020957.345	2682.327	Control
LCP108	291431.96	3971625.577	473.746	Control
LCP108A	412132.252	4015355.435	2693.203	Control
LCP109	288103.279	3962654.355	415.027	Control
LCP110	296933.142	3982795.905	1212.373	Control
LCP111	304705.483	4002728.83	1345.164	Control
LCP209	429934.496	3999432.735	1847.39	Control
LCP210	410045.275	3989997.498	1153.27	Control
LCP211	401838.444	4002600.52	1996.231	Control
LCP551	430671.46	4003160.833	1806.157	Control
LCP552	315154.521	4009716.231	1377.231	Control
LCP701	421874.684	3985701.651	2190.444	Control
LCP702	409873.257	4013020.727	2502.204	Control
LCP703	378226.993	4024333.579	2303.79	Control
LCP704	389401.553	4023439.266	2547.91	Control
OT01	397526.728	3990213.515	2111.078	NVA
OT02	411967.272	4015426.039	2689.905	NVA
OT03	376202.105	4005206.056	2026.341	NVA
OT08	402918.641	4010942.751	2520.381	NVA
OT09	402958.476	4010902.81	2520.518	NVA
OT101	288087.051	3962640.469	414.837	NVA
OT102	287935.643	3991564.107	477.128	NVA
OT103	296958.638	3982827.079	1212.091	NVA

OT104	293467.785	3993990.671	1306.613	NVA
OT105	302847.683	4005450.377	1235.038	NVA
OT106	320559.41	4011936.846	524.927	NVA
OT107	336014.531	4017129.132	954.094	NVA
OT202	430712.573	4003062.644	1806.617	NVA
OT208	412973.096	3994542.238	1934.859	NVA
OT210	407227.62	4004948.719	1382.763	NVA
SIGNAL_HILL	377922.425	4003703.801	2065.495	Control
TR01	414515.406	3997996.338	2408.854	VVA
TR02	375800.307	4003216.127	1981.632	VVA
TR03	379778.23	4021832.362	2315.925	VVA
TR05	399070.554	3986236.682	2089.574	VVA
TR06	402679.507	4016844.318	2682.444	VVA
TR07	392202.722	4013003.849	2392.032	VVA
TR07B	395098.625	4014563.27	2512.126	VVA
TR101	291429.283	3971632.636	473.969	VVA
TR102	300824.708	4004287.914	943.242	VVA
TR103	314201.417	4004152.255	1434.872	VVA
TR201	429918.992	3999410.792	1848.072	VVA
UR0104	304723.944	4002732.378	1345.204	NVA
UR01A	391018.342	3991526.926	2031.714	NVA
UR02	398914.853	3984220.841	2071.197	NVA
UR06	405320.596	4014218.787	2525.369	NVA
UR08	405082.096	4008603.41	2518.43	NVA
UR09	404821.215	4008096.946	2542.888	NVA
UR10	405181.952	3985438.494	2202.008	NVA
UR101	289108.316	3968055.098	612.462	NVA
UR102	291603.742	3990009.284	1436.337	NVA
UR103	278859.337	3960097.377	683.32	NVA
UR105	313216.13	4008414.81	769.5	NVA
UR106B	315126.489	4009735.027	1377.911	NVA
UR107	290870.605	3982908.381	465.958	NVA
UR208	401419.8	3998243.352	1181.75	NVA
VVA551	401399.508	3998257.325	1182.585	VVA
VVA552	315129.38	4009714.173	1378.037	VVA
XLCP701	415169.479	3999107.157	2431.826	Control
XNVA701	415180.034	3999111.74	2432.341	NVA

## 1.2 GNSS Static Session Forms

- Due to the vast amount of points collected all session forms are submitted in digital PDF format attached to this appendix organized by point name.

## 1.3 Online Positioning User Service (OPUS) REPORT

- Due to the vast amount of points collected all OPUS Solution Reports are in digital PDF format attached to this appendix organized by point name.

## 1.4 Field Photographs

- Due to the vast amount of points collected all pictures are submitted in digital PDF format attached to this appendix organized by point name.

## 1.5 NGS Data Sheets

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.4

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 17, 2019

DN3661 \*\*\*\*\*

DN3661 HT\_MOD - This is a Height Modernization Survey Station.

DN3661 DESIGNATION - ABYSS PIN

DN3661 PID - DN3661

DN3661 STATE/COUNTY- AZ/COCONINO

DN3661 COUNTRY - US

DN3661 USGS QUAD - GRAND CANYON (1988)

DN3661

DN3661 \*CURRENT SURVEY CONTROL

DN3661 \_\_\_\_\_

DN3661\* NAD 83(2011) POSITION- 36 03 31.47203(N) 112 10 57.82531(W) ADJUSTED

DN3661\* NAD 83(2011) ELLIP HT- 2053.766 (meters) (06/27/12) ADJUSTED

DN3661\* NAD 83(2011) EPOCH - 2010.00

DN3661\* NAVD 88 ORTHO HEIGHT - 2076.89 (meters) 6813.9 (feet) GPS OBS

DN3661 \_\_\_\_\_

DN3661 NAVD 88 orthometric height was determined with geoid model GEOID09

DN3661 GEOID HEIGHT - -23.106 (meters) GEOID09

DN3661 GEOID HEIGHT - -22.986 (meters) GEOID18

DN3661 NAD 83(2011) X - -1,949,662.526 (meters) COMP

DN3661 NAD 83(2011) Y - -4,781,621.743 (meters) COMP

DN3661 NAD 83(2011) Z - 3,734,671.769 (meters) COMP

DN3661 LAPLACE CORR - 0.78 (seconds) DEFLEC18

DN3661

DN3661 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

DN3661 Standards:

DN3661 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

DN3661 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
 DN3661 -----  
 DN3661 NETWORK 0.27 0.41 0.12 0.10 0.21 0.08020729  
 DN3661 -----  
 DN3661 Click here for local accuracies and other accuracy information.  
 DN3661  
 DN3661  
 DN3661.The horizontal coordinates were established by GPS observations  
 DN3661.and adjusted by the National Geodetic Survey in June 2012.  
 DN3661  
 DN3661.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has  
 DN3661.been affixed to the stable North American tectonic plate. See  
 DN3661.NA2011 for more information.  
 DN3661  
 DN3661.The horizontal coordinates are valid at the epoch date displayed above  
 DN3661.which is a decimal equivalence of Year/Month/Day.  
 DN3661  
 DN3661.The orthometric height was determined by GPS observations and a  
 DN3661.high-resolution geoid model using precise GPS observation and  
 DN3661.processing techniques.  
 DN3661  
 DN3661.Significant digits in the geoid height do not necessarily reflect accuracy.  
 DN3661.GEOID18 height accuracy estimate available here.  
 DN3661  
 DN3661.Click here to see if photographs exist for this station.  
 DN3661  
 DN3661.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
 DN3661  
 DN3661.The Laplace correction was computed from DEFLEC18 derived deflections.  
 DN3661  
 DN3661.The ellipsoidal height was determined by GPS observations  
 DN3661.and is referenced to NAD 83.  
 DN3661  
 DN3661. The following values were computed from the NAD 83(2011) position.  
 DN3661  
 DN3661; North East Units Scale Factor Converg.  
 DN3661;SPC AZ C - 561,063.007 189,390.990 MT 0.99990708 -0 09 23.8  
 DN3661;SPC AZ C - 1,840,757.90 621,361.52 iFT 0.99990708 -0 09 23.8  
 DN3661;UTM 12 - 3,991,111.044 393,480.190 MT 0.99973981 -0 41 46.5  
 DN3661  
 DN3661! - Elev Factor x Scale Factor = Combined Factor  
 DN3661!SPC AZ C - 0.99967777 x 0.99990708 = 0.99958488  
 DN3661!UTM 12 - 0.99967777 x 0.99973981 = 0.99941766  
 DN3661  
 DN3661\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUE9348091111(NAD 83)  
 DN3661  
 DN3661 |-----|  
 DN3661 | PID Reference Object Distance Geod. Az |

DN3661 | dddmss.s |  
DN3661 | DG5946 ABYSS 79.135 METERS 26556 |  
DN3661 |-----|  
DN3661  
DN3661 SUPERSEDED SURVEY CONTROL  
DN3661  
DN3661 NAD 83(2007)- 36 03 31.47157(N) 112 10 57.82551(W) AD(2007.00) A  
DN3661 ELLIP H (09/10/11) 2053.791 (m) GP(2007.00) 4 1  
DN3661  
DN3661.Superseded values are not recommended for survey control.  
DN3661  
DN3661.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
DN3661.See file dsdata.pdf to determine how the superseded data were derived.  
DN3661  
DN3661\_MARKER: Z = SEE DESCRIPTION  
DN3661\_SETTING: 66 = SET IN ROCK OUTCROP  
DN3661\_STAMPING: NONE  
DN3661\_MARK LOGO: NONE  
DN3661\_MAGNETIC: N = NO MAGNETIC MATERIAL  
DN3661\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD  
DN3661+STABILITY: POSITION/ELEVATION WELL  
DN3661\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
DN3661+SATELLITE: SATELLITE OBSERVATIONS - October 24, 2003  
DN3661  
DN3661 HISTORY - Date Condition Report By  
DN3661 HISTORY - 20031024 MONUMENTED GRANCN  
DN3661  
DN3661 STATION DESCRIPTION  
DN3661  
DN3661'DESCRIBED BY GRAND CANYON MONITORING AND RESEARCH 2003 (KAK)  
DN3661'THE STATION IS LOCATED ABOUT 28.0 MI (45.1 KM) NORTH OF VALLE, 6.7 MI  
DN3661'(10.8 KM) NORTH-NORTHWEST OF TUSAYAN AND 2.5 MI (4.0 KM) WEST OF GRAND  
DN3661'CANYON VILLAGE.  
DN3661'  
DN3661'TO REACH FROM THE INTERSECTIONS OF HIGHWAY 64, EAST RIM DRIVE (HWY 64  
DN3661'EAST) AND GRAND CANYON VILLAGE ROAD, WHICH IS 0.6 MI (1.0 KM) SOUTH OF  
DN3661'MATHER POINT, GO NORTH ON GRAND CANYON VILLAGE ROAD 1.8 MI (2.9 KM) TO  
DN3661'PARK HEADQUARTERS. CONTINUE PAST HEADQUARTERS ON GRAND CANYON VILLAGE  
DN3661'ROAD 2.8 MI (4.5 KM) TO TRAIN DEPOT AND THE EL TOVAR HOTEL. CONTINUE  
DN3661'STRAIGHT (WESTERLY) ON GRAND CANYON VILLAGE ROAD AND AT 3.2 MI (5.1  
DN3661'KM) TURN RIGHT AT HERMITS REST ROAD. FOLLOW HERMIT'S REST ROAD (WEST  
DN3661'RIM DRIVE) FOR 4.8 MI (7.7 KM) TO A VEHICLE PULLOUT ON THE RIGHT WITH  
DN3661'MORTARED BARRIERS. AT 8.1 MI (13.0 KM) THERE IS A DIRT DRIVE WITH A  
DN3661'LOCKED GATE ON THE LEFT (SOUTH) SIDE OF HERMITS REST ROAD. PROCEED  
DN3661'DOWN THE DRIVE, PAST THE GATE TO THE CREST OF THE HILL. THE STATION  
DN3661'IS 5/8 INCH (16 MM) DIMPLED STAINLESS STEEL PIN IN BEDROCK OUTCROP  
DN3661'BETWEEN TWO UTILITY POLES.  
DN3661'



DN3661'A NATIONAL PARK SERVICE 'RG' KEY REQUIRED FOR GATE ENTRY. TO OBTAIN A  
DN3661'KEY, CALL THE AIR QUALITY OFFICE AT 928-638-7611, THE SCIENCE OFFICE  
DN3661'AT 928-638-7758, OR THE SECRETARY AT 928-638-7751.

\*\*\* retrieval complete.

Elapsed Time = 00:00:00

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.4

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 17, 2019

DG5947 \*\*\*\*\*

DG5947 HT\_MOD - This is a Height Modernization Survey Station.

DG5947 DESIGNATION - CAPE

DG5947 PID - DG5947

DG5947 STATE/COUNTY- AZ/COCONINO

DG5947 COUNTRY - US

DG5947 USGS QUAD - CAPE ROYAL (1988)

DG5947

DG5947 \*CURRENT SURVEY CONTROL

DG5947

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DG5947\* NAD 83(2011) POSITION- 36 07 24.73758(N) 111 56 58.91267(W) ADJUSTED

DG5947\* NAD 83(2011) ELLIP HT- 2383.516 (meters) (06/27/12) ADJUSTED

DG5947\* NAD 83(2011) EPOCH - 2010.00

DG5947\* NAVD 88 ORTHO HEIGHT - 2406.70 (meters) 7896.0 (feet) GPS OBS

DG5947

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DG5947 NAVD 88 orthometric height was determined with geoid model GEOID09

DG5947 GEOID HEIGHT - -23.160 (meters) GEOID09

DG5947 GEOID HEIGHT - -23.032 (meters) GEOID18

DG5947 NAD 83(2011) X - -1,928,714.741 (meters) COMP

DG5947 NAD 83(2011) Y - -4,785,829.245 (meters) COMP

DG5947 NAD 83(2011) Z - 3,740,677.989 (meters) COMP

DG5947 LAPLACE CORR - -5.37 (seconds) DEFLEC18

DG5947

DG5947 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

DG5947 Standards:

DG5947 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

DG5947 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

DG5947 -----

DG5947 NETWORK 0.49 2.14 0.22 0.18 1.09 0.04651242

DG5947 -----

DG5947 Click here for local accuracies and other accuracy information.

DG5947

DG5947

DG5947.The horizontal coordinates were established by GPS observations

DG5947.and adjusted by the National Geodetic Survey in June 2012.

DG5947

DG5947.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

DG5947.been affixed to the stable North American tectonic plate. See

DG5947.NA2011 for more information.

DG5947

DG5947.The horizontal coordinates are valid at the epoch date displayed above  
DG5947.which is a decimal equivalence of Year/Month/Day.

DG5947

DG5947.The orthometric height was determined by GPS observations and a  
DG5947.high-resolution geoid model using precise GPS observation and  
DG5947.processing techniques.

DG5947

DG5947.Significant digits in the geoid height do not necessarily reflect accuracy.  
DG5947.GEOID18 height accuracy estimate available here.

DG5947

DG5947.Click here to see if photographs exist for this station.

DG5947

DG5947.The X, Y, and Z were computed from the position and the ellipsoidal ht.

DG5947

DG5947.The Laplace correction was computed from DEFLEC18 derived deflections.

DG5947

DG5947.The ellipsoidal height was determined by GPS observations

DG5947.and is referenced to NAD 83.

DG5947

DG5947. The following values were computed from the NAD 83(2011) position.

DG5947

DG5947; North East Units Scale Factor Converg.

DG5947;SPC AZ C - 568,219.843 210,386.726 MT 0.99990011 -0 01 10.1

DG5947;SPC AZ C - 1,864,238.33 690,245.16 iFT 0.99990011 -0 01 10.1

DG5947;UTM 12 - 3,998,068.361 414,538.473 MT 0.99968999 -0 33 35.7

DG5947

DG5947! - Elev Factor x Scale Factor = Combined Factor

DG5947!SPC AZ C - 0.99962605 x 0.99990011 = 0.99952620

DG5947!UTM 12 - 0.99962605 x 0.99968999 = 0.99931616

DG5947

DG5947\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVE1453898068(NAD 83)

DG5947

DG5947 SUPERSEDED SURVEY CONTROL

DG5947

DG5947 NAD 83(2007)- 36 07 24.73691(N) 111 56 58.91284(W) AD(2007.00) 0

DG5947 ELLIP H (02/10/07) 2383.535 (m) GP(2007.00)

DG5947 NAD 83(1992)- 36 07 24.73682(N) 111 56 58.91256(W) AD( ) A

DG5947 ELLIP H (06/28/04) 2383.544 (m) GP( ) 3 2

DG5947 NAVD 88 (06/28/04) 2406.8 (m) GEOID03 model used GPS OBS

DG5947

DG5947.Superseded values are not recommended for survey control.

DG5947

DG5947.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DG5947.See file dsdata.pdf to determine how the superseded data were derived.

DG5947

DG5947\_MARKER: Z = SEE DESCRIPTION

DG5947\_SETTING: 66 = SET IN ROCK OUTCROP

DG5947\_MAGNETIC: I = MARKER IS A STEEL ROD  
DG5947\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD  
DG5947+STABILITY: POSITION/ELEVATION WELL  
DG5947\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
DG5947+SATELLITE: SATELLITE OBSERVATIONS - July 09, 2017  
DG5947  
DG5947 HISTORY - Date Condition Report By  
DG5947 HISTORY - 2003 MONUMENTED GRANCN  
DG5947 HISTORY - 20170709 GOOD DMCDOW  
DG5947  
DG5947 STATION DESCRIPTION  
DG5947  
DG5947'DESCRIBED BY GRAND CANYON MONITORING AND RESEARCH 2003 (FMG)  
DG5947'FROM JACOB LAKE, AZ, FOLLOW AZ RTE. 67 (NORTH RIM PARKWAY) SOUTH TO  
DG5947'CAPE ROYAL ROAD. TURN LEFT ON CAPE ROYAL ROAD AND FOLLOW ONTO THE  
DG5947'WALHALLA PLATEAU TO THE END OF THE ROAD AND A LARGE PARKING LOT.  
DG5947'IMMEDIATELY UPON REACHING THE PARKING LOT, TURN RIGHT AND PARK NEAR  
DG5947'BATHROOMS. PACK 150 METERS NORTH TO THE CLEARING AND THE STATION.  
DG5947'  
DG5947'STATION IS A 5/8-INCH DIMPLED PIN, CEMENTED IN BEDROCK  
DG5947  
DG5947 STATION RECOVERY (2017)  
DG5947  
DG5947'RECOVERY NOTE BY DAVID A MCDOW PLS 2017 (DAM)  
DG5947'RECOVERED AS DESCRIBED.  
\*\*\* retrieval complete.  
Elapsed Time = 00:00:00  
The NGS Data Sheet  
See file dsdata.pdf for more information about the datasheet.  
PROGRAM = datasheet95, VERSION = 8.12.5.14  
Starting Datasheet Retrieval...  
1 National Geodetic Survey, Retrieval Date = OCTOBER 22, 2021  
AI5115 \*\*\*\*\*  
AI5115 HT\_MOD - This is a Height Modernization Survey Station.  
AI5115 FBN - This is a Federal Base Network Control Station.  
AI5115 DESIGNATION - DAVIAN  
AI5115 PID - AI5115  
AI5115 STATE/COUNTY- AZ/MOHAVE  
AI5115 COUNTRY - US  
AI5115 USGS QUAD - MOUNT TRUMBULL SE (2018)  
AI5115  
AI5115 \*CURRENT SURVEY CONTROL  
AI5115 \_\_\_\_\_  
AI5115\* NAD 83(2011) POSITION- 36 17 09.39792(N) 113 03 55.75956(W) ADJUSTED  
AI5115\* NAD 83(2011) ELLIP HT- 1427.812 (meters) (06/27/12) ADJUSTED  
AI5115\* NAD 83(2011) EPOCH - 2010.00  
AI5115\* NAVD 88 ORTHO HEIGHT - 1451.61 (meters) 4762.5 (feet) GPS OBS  
AI5115 \_\_\_\_\_

AI5115 NAVD 88 orthometric height was determined with geoid model GEOID09

AI5115 GEOID HEIGHT - -23.776 (meters) GEOID09

AI5115 GEOID HEIGHT - -23.757 (meters) GEOID18

AI5115 NAD 83(2011) X - -2,017,069.728 (meters) COMP

AI5115 NAD 83(2011) Y - -4,736,857.920 (meters) COMP

AI5115 NAD 83(2011) Z - 3,754,659.175 (meters) COMP

AI5115 LAPLACE CORR - 8.52 (seconds) DEFLEC18

AI5115

AI5115 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

AI5115 Standards:

AI5115 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

AI5115 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

AI5115 -----

AI5115 NETWORK 0.21 0.43 0.09 0.08 0.22 -0.00863610

AI5115 -----

AI5115 [Click here for local accuracies and other accuracy information.](#)

AI5115

AI5115

AI5115.The horizontal coordinates were established by GPS observations

AI5115.and adjusted by the National Geodetic Survey in June 2012.

AI5115

AI5115.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

AI5115.been affixed to the stable North American tectonic plate. See

AI5115.NA2011 for more information.

AI5115

AI5115.The horizontal coordinates are valid at the epoch date displayed above

AI5115.which is a decimal equivalence of Year/Month/Day.

AI5115

AI5115.The orthometric height was determined by GPS observations and a

AI5115.high-resolution geoid model using precise GPS observation and

AI5115.processing techniques.

AI5115

AI5115.Significant digits in the geoid height do not necessarily reflect accuracy.

AI5115.GEOID18 height accuracy estimate available here.

AI5115

AI5115.[Click photographs](#) - Photos may exist for this station.

AI5115

AI5115.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AI5115

AI5115.The Laplace correction was computed from DEFLEC18 derived deflections.

AI5115

AI5115.The ellipsoidal height was determined by GPS observations

AI5115.and is referenced to NAD 83.

AI5115

AI5115. The following values were computed from the NAD 83(2011) position.

AI5115

AI5115; North East Units Scale Factor Converg.

AI5115;SPC AZ W - 586,475.453 274,850.828 MT 0.99997990 +0 24 18.4

AI5115;SPC AZ W - 1,924,132.06 901,741.56 iFT 0.99997990 +0 24 18.4  
AI5115;UTM 12 - 4,017,643.807 314,504.618 MT 1.00002396 -1 13 21.9  
AI5115

AI5115! - Elev Factor x Scale Factor = Combined Factor  
AI5115!SPC AZ W - 0.99977596 x 0.99997990 = 0.99975587  
AI5115!UTM 12 - 0.99977596 x 1.00002396 = 0.99979992

AI5115  
AI5115\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUF1450417643(NAD 83)  
AI5115

AI5115 SUPERSEDED SURVEY CONTROL  
AI5115  
AI5115 NAD 83(2007)- 36 17 09.39723(N) 113 03 55.75982(W) AD(2007.00) 0  
AI5115 ELLIP H (02/10/07) 1427.843 (m) GP(2007.00)  
AI5115 NAD 83(1999)- 36 17 09.39741(N) 113 03 55.75945(W) AD(1999.37) A  
AI5115 ELLIP H (05/16/00) 1427.847 (m) GP(1999.37) 4 1  
AI5115 NAVD 88 (08/22/05) 1451.59 (m) UNKNOWN model used GPS OBS  
AI5115 NAVD 88 (06/28/04) 1451.6 (m) GEOID03 model used GPS OBS  
AI5115 NAVD 88 (05/16/00) 1451.6 (m) GEOID99 model used GPS OBS  
AI5115

AI5115.Superseded values are not recommended for survey control.  
AI5115  
AI5115.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
AI5115.See file dsdata.pdf to determine how the superseded data were derived.  
AI5115

AI5115\_MARKER: DD = SURVEY DISK  
AI5115\_SETTING: 66 = SET IN ROCK OUTCROP  
AI5115\_STAMPING: DAVIAN 1999  
AI5115\_MARK LOGO: NONE  
AI5115\_MAGNETIC: N = NO MAGNETIC MATERIAL  
AI5115\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD  
AI5115+STABILITY: POSITION/ELEVATION WELL  
AI5115\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
AI5115+SATELLITE: SATELLITE OBSERVATIONS - May 31, 2009  
AI5115

AI5115 HISTORY - Date Condition Report By  
AI5115 HISTORY - 1999 MONUMENTED NGS  
AI5115 HISTORY - 19990607 GOOD NGS  
AI5115 HISTORY - 20010321 GOOD NGS  
AI5115 HISTORY - 20030529 GOOD GRANCN  
AI5115 HISTORY - 20050401 GOOD GRANCN  
AI5115 HISTORY - 20090524 GOOD GRANCN  
AI5115 HISTORY - 20090531 GOOD GEOANA  
AI5115

AI5115 STATION DESCRIPTION  
AI5115  
AI5115'DESCRIBED BY NATIONAL GEODETIC SURVEY 1999 (DHM)  
AI5115'THE STATION IS LOCATED AT THE NATIONAL PARK SERVICES RANGER STATION  
AI5115'FOR THE TUWEEP AREA OF THE GRAND CANYON NATIONAL PARK. IT IS 55

AI5115' AIRLINE MILES SOUTHWEST OF FREDONIA, ARIZONA. TO REACH THE STATION AI5115' FROM WHERE STATE ROUTE 389 CROSSES KANAB CREEK (THE COUNTY BOUNDARY AI5115' BETWEEN MOHAVE AND COCONINO COUNTIES) ON THE SOUTHWEST CITY LIMIT OF AI5115' FREDONIA, AZ PROCEED WESTERLY FOR 7.7 MILES (12.4 KM) TO MOHAVE COUNTY AI5115' ROAD 109. TURN LEFT AND GO SOUTH ON ROAD 109 FOR 39.7 MILES (63.9 KM) AI5115' TO COUNTY ROAD 115. BEAR LEFT ONTO COUNTY ROAD 115 AND PROCEED FOR AI5115' 6.8 MILES (10.9 KM) TO THE BOUNDARY OF THE GRAND CANYON NATIONAL PARK. AI5115' CONTINUE FOR 0.7 MILES (1.1 KM) TO THE STATION ON THE LEFT. THE AI5115' STATION IS 0.05 MILES (0.08 KM) BEYOND THE RANGER STATION ON THE ROAD AI5115' TO TOROWEAP OVERLOOK. THE STATION IS A STANDARD HORIZONTAL CONTROL AI5115' DISK STAMPED DAVIAN 1999, SET IN A DRILL HOLE IN A ROCK OUTCROP, 80.6 AI5115' FEET (24.6 M) FROM THE EDGE OF THE ROAD LEADING TO TOROWEAP OVERLOOK AI5115' AND APPROXIMATELY 20 FEET (6.1 M) ABOVE THE ROAD. IT IS 13.8 FEET (4.2 AI5115' M) ON A BEARING OF 285 DEGREES MAGNETIC FROM A WITNESS SIGN ON A 12 AI5115' FOOT (3.7 M) TALL DEAD JUNIPER TREE, 28.3 FEET (8.6 M) ON A MAGNETIC AI5115' BEARING OF 108 DEGREES FROM THE CENTER OF A FOUNDATION REMNANT ATOP A AI5115' PROMINENT ROCK OUTCROP (APPROXIMATELY 13 FEET (4.0 M) TALL AND 20 FOOT AI5115' (6.1 M) IN DIAMETER AT THE BASE), AND 95 FEET (29.0 M) ON A MAGNETIC AI5115' BEARING OF 219 DEGREES FROM THE SOUTHERNMOST CORNER OF THE GENERATOR AI5115' SHED (THE MOST WESTERLY OF THE RANGER STATION BUILDINGS). DESCRIBED AI5115' BY DAVID (AND MARIAN) MINKEL.

AI5115

AI5115 STATION RECOVERY (1999)

AI5115

AI5115' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1999 (CSM)

AI5115' RECOVERED AS DESCRIBED.

AI5115

AI5115 STATION RECOVERY (2001)

AI5115

AI5115' RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001 (DHM)

AI5115' RECOVERED IN GOOD CONDITION.

AI5115

AI5115 STATION RECOVERY (2003)

AI5115

AI5115' RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2003

AI5115' RECOVERED AS DESCRIBED.

AI5115

AI5115 STATION RECOVERY (2005)

AI5115

AI5115' RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2005

AI5115' RECOVERED IN GOOD CONDITION.

AI5115

AI5115 STATION RECOVERY (2009)

AI5115

AI5115' RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2009 (EW)

AI5115' RECOVERED IN GOOD CONDITION.

AI5115

AI5115 STATION RECOVERY (2009)

AI5115

AI5115'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2009 (EGW)

AI5115'RECOVERED AS DESCRIBED.

\*\*\* retrieval complete.

Elapsed Time = 00:00:03

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.4

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 19, 2019

AJ5640 \*\*\*\*\*

AJ5640 HT\_MOD - This is a Height Modernization Survey Station.

AJ5640 DESIGNATION - DESERT VIEW

AJ5640 PID - AJ5640

AJ5640 STATE/COUNTY- AZ/COCONINO

AJ5640 COUNTRY - US

AJ5640 USGS QUAD - DESERT VIEW (1988)

AJ5640

AJ5640 \*CURRENT SURVEY CONTROL

AJ5640

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AJ5640\* NAD 83(2011) POSITION- 36 02 26.77512(N) 111 49 48.92319(W) ADJUSTED

AJ5640\* NAD 83(2011) ELLIP HT- 2263.363 (meters) (06/27/12) ADJUSTED

AJ5640\* NAD 83(2011) EPOCH - 2010.00

AJ5640\* NAVD 88 ORTHO HEIGHT - 2286.62 (meters) 7502.0 (feet) GPS OBS

AJ5640

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AJ5640 NAVD 88 orthometric height was determined with geoid model GEOID09

AJ5640 GEOID HEIGHT - -23.242 (meters) GEOID09

AJ5640 GEOID HEIGHT - -23.204 (meters) GEOID18

AJ5640 NAD 83(2011) X - -1,920,709.726 (meters) COMP

AJ5640 NAD 83(2011) Y - -4,794,772.174 (meters) COMP

AJ5640 NAD 83(2011) Z - 3,733,182.323 (meters) COMP

AJ5640 LAPLACE CORR - 3.90 (seconds) DEFLEC18

AJ5640

AJ5640 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

AJ5640 Standards:

AJ5640 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

AJ5640 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

AJ5640 -----

AJ5640 NETWORK 0.27 0.59 0.12 0.10 0.30 0.02682513

AJ5640 -----

AJ5640 Click here for local accuracies and other accuracy information.

AJ5640

AJ5640

AJ5640.The horizontal coordinates were established by GPS observations

AJ5640.and adjusted by the National Geodetic Survey in June 2012.

AJ5640

AJ5640.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

AJ5640.been affixed to the stable North American tectonic plate. See

AJ5640.NA2011 for more information.

AJ5640

AJ5640.The horizontal coordinates are valid at the epoch date displayed above  
AJ5640.which is a decimal equivalence of Year/Month/Day.

AJ5640

AJ5640.The orthometric height was determined by GPS observations and a  
AJ5640.high-resolution geoid model using precise GPS observation and  
AJ5640.processing techniques.

AJ5640

AJ5640.Significant digits in the geoid height do not necessarily reflect accuracy.  
AJ5640.GEOID18 height accuracy estimate available here.

AJ5640

AJ5640.Click here to see if photographs exist for this station.

AJ5640

AJ5640.The X, Y, and Z were computed from the position and the ellipsoidal ht.

AJ5640

AJ5640.The Laplace correction was computed from DEFLEC18 derived deflections.

AJ5640

AJ5640.The ellipsoidal height was determined by GPS observations

AJ5640.and is referenced to NAD 83.

AJ5640

AJ5640. The following values were computed from the NAD 83(2011) position.

AJ5640

AJ5640; North East Units Scale Factor Converg.

AJ5640;SPC AZ C - 559,039.802 221,146.275 MT 0.99990075 +0 03 03.0

AJ5640;SPC AZ C - 1,834,120.09 725,545.52 iFT 0.99990075 +0 03 03.0

AJ5640;UTM 12 - 3,988,789.393 425,208.684 MT 0.99966892 -0 29 18.6

AJ5640

AJ5640! - Elev Factor x Scale Factor = Combined Factor

AJ5640!SPC AZ C - 0.99964489 x 0.99990075 = 0.99954568

AJ5640!UTM 12 - 0.99964489 x 0.99966892 = 0.99931393

AJ5640

AJ5640\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SVE2520888789(NAD 83)

AJ5640

AJ5640 SUPERSEDED SURVEY CONTROL

AJ5640

AJ5640 NAD 83(2007)- 36 02 26.77449(N) 111 49 48.92341(W) AD(2007.00) 0

AJ5640 ELLIP H (02/10/07) 2263.384 (m) GP(2007.00)

AJ5640 NAD 83(1992)- 36 02 26.77434(N) 111 49 48.92270(W) AD( ) A

AJ5640 ELLIP H (10/04/01) 2263.380 (m) GP( ) 3 2

AJ5640 NAVD 88 (08/22/05) 2286.68 (m) UNKNOWN model used GPS OBS

AJ5640 NAVD 88 (06/28/04) 2286.7 (m) GEOID03 model used GPS OBS

AJ5640 NAVD 88 (10/04/01) 2286.6 (m) GEOID99 model used GPS OBS

AJ5640

AJ5640.Superseded values are not recommended for survey control.

AJ5640

AJ5640.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

AJ5640.See file dsdata.pdf to determine how the superseded data were derived.

AJ5640



AJ5640\_MARKER: DD = SURVEY DISK  
AJ5640\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT  
AJ5640\_STAMPING: DSVW GCMRC 01  
AJ5640\_MARK LOGO: NONE  
AJ5640\_PROJECTION: PROJECTING 30 CENTIMETERS  
AJ5640\_MAGNETIC: N = NO MAGNETIC MATERIAL  
AJ5640\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO  
AJ5640+STABILITY: SURFACE MOTION  
AJ5640\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
AJ5640+SATELLITE: SATELLITE OBSERVATIONS - September 22, 2016  
AJ5640

AJ5640 HISTORY - Date Condition Report By  
AJ5640 HISTORY - 20010205 MONUMENTED GRANCN  
AJ5640 HISTORY - 20030524 GOOD JCLS  
AJ5640 HISTORY - 20030528 GOOD GRANCN  
AJ5640 HISTORY - 20050401 GOOD GRANCN  
AJ5640 HISTORY - 20050721 GOOD GEOCAC  
AJ5640 HISTORY - 20090524 GOOD GRANCN  
AJ5640 HISTORY - 20100618 GOOD GRANCN  
AJ5640 HISTORY - 20160922 GOOD AZDT  
AJ5640 HISTORY - 20170529 GOOD GEOCAC  
AJ5640

#### AJ5640 STATION DESCRIPTION

AJ5640

AJ5640'DESCRIBED BY GRAND CANYON MONITORING AND RESEARCH 2001 (FMG)  
AJ5640'THIS STATION IS A REPLACEMENT FOR NAVAJO POINT (GP0594) THAT WAS  
AJ5640'LOST TO VANDALISM EARLIER THIS YEAR. THE STATION IS LOCATED NEAR  
AJ5640'DESERT VIEW OVERLOOK (WATCH TOWER) ON SOUTH RIM DRIVE, HIGHWAY  
AJ5640'64, GRAND CANYON, ARIZONA. THE STATION IS 34 MILES WEST OF  
AJ5640'CAMERON, AZ, 80 MILES NORTH OF FLAGSTAFF, AZ, AND 55 MILES NORTH OF  
AJ5640'WILLIAMS, AZ. THE STATION IS NEAR THE EASTERN EDGE OF GRAND  
AJ5640'CANYON NATIONAL PARK.

AJ5640'

AJ5640'TO REACH THE STATION FROM FLAGSTAFF, AZ DRIVE NORTH ON US  
AJ5640'HIGHWAY 89 TO THE TOWN OF CAMERON. TURN WEST (LEFT) ON TO STATE  
AJ5640'HIGHWAY 64 AND PROCEED FOR 33 MILES TO THE ENTRANCE GRAND  
AJ5640'CANYON NATIONAL PARK. CONTINUE FOR 3.7 MILES TO A PULLOUT ON THE  
AJ5640'RIGHT (NORTH) AND PARK IN THE PULLOUT. THE PULLOUT IS ALSO 0.6 MILES  
AJ5640'BEYOND THE FEE STATION AND 0.2 MILES FROM WEST DRIVE OF DESERT  
AJ5640'VIEW PARKING LOT. WALK NORTHERLY TOWARD THE CANYON RIM FOR  
AJ5640'APPROXIMATELY 250 FT TO THE STATION.

AJ5640'

AJ5640'THE STATION IS A 5 INCH X 5 INCH X 12 INCH HIGH CONCRETE PEDESTAL  
AJ5640'WITH A FLAT BRASS DISK IN THE CENTER APPROXIMATELY 25 FT FROM THE  
AJ5640'RIM OF THE CANYON. THE STATION DISK IS 2.5 INCHES IN DIAMETER, WITH  
AJ5640'STAMPINGS DSVW, GCMRC, AND 01.

AJ5640

AJ5640 STATION RECOVERY (2003)

AJ5640  
AJ5640'RECOVERY NOTE BY JOHN CHANCE LAND SURVEYS INC 2003  
AJ5640'RECOVERED IN GOOD CONDITION.  
AJ5640  
AJ5640 STATION RECOVERY (2003)  
AJ5640  
AJ5640'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2003 (DHM)  
AJ5640'RECOVERED AS DESCRIBED.  
AJ5640  
AJ5640 STATION RECOVERY (2005)  
AJ5640  
AJ5640'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2005  
AJ5640'RECOVERED AS DESCRIBED  
AJ5640  
AJ5640 STATION RECOVERY (2005)  
AJ5640  
AJ5640'RECOVERY NOTE BY GEOCACHING 2005 (WD)  
AJ5640'FOUND THE STATION IN GOOD CONDITION. FOUND REFERENCE MARK NO. 1 AND  
AJ5640'REFERENCE MARK NO. 2 FOR THE REPLACED STATION NAVAJO POINT IN GOOD  
AJ5640'CONDITION.  
AJ5640  
AJ5640 STATION RECOVERY (2009)  
AJ5640  
AJ5640'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2009 (JH)  
AJ5640'RECOVERED IN GOOD CONDITION.  
AJ5640  
AJ5640 STATION RECOVERY (2010)  
AJ5640  
AJ5640'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2010 (KAK)  
AJ5640'RECOVERED AS DESCRIBED.  
AJ5640  
AJ5640 STATION RECOVERY (2016)  
AJ5640  
AJ5640'RECOVERY NOTE BY ARIZONA DEPARTMENT OF TRANSPORTATION 2016 (DLR)  
AJ5640'RECOVERED IN GOOD CONDITION.  
AJ5640  
AJ5640 STATION RECOVERY (2017)  
AJ5640  
AJ5640'RECOVERY NOTE BY GEOCACHING 2017 (CDH)  
AJ5640'RECOVERED IN GOOD CONDITION.  
\*\*\* retrieval complete.  
Elapsed Time = 00:00:00  
The NGS Data Sheet  
See file dsdata.pdf for more information about the datasheet.  
PROGRAM = datasheet95, VERSION = 8.12.5.13  
Starting Datasheet Retrieval...  
1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2021  
DN3649 \*\*\*\*\*

DN3649 HT\_MOD - This is a Height Modernization Survey Station.

DN3649 DESIGNATION - SHIVWITS

DN3649 PID - DN3649

DN3649 STATE/COUNTY- AZ/MOHAVE

DN3649 COUNTRY - US

DN3649 USGS QUAD - TRAVERTINE RAPIDS (2018)

DN3649

DN3649 \*CURRENT SURVEY CONTROL

DN3649

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DN3649\* NAD 83(2011) POSITION- 35 50 05.17162(N) 113 28 13.72337(W) ADJUSTED

DN3649\* NAD 83(2011) ELLIP HT- 1824.656 (meters) (06/27/12) ADJUSTED

DN3649\* NAD 83(2011) EPOCH - 2010.00

DN3649\* NAVD 88 ORTHO HEIGHT - 1850.55 (meters) 6071.3 (feet) GPS OBS

DN3649

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DN3649 NAVD 88 orthometric height was determined with geoid model GEOID09

DN3649 GEOID HEIGHT - -25.874 (meters) GEOID09

DN3649 GEOID HEIGHT - -25.768 (meters) GEOID18

DN3649 NAD 83(2011) X - -2,062,368.474 (meters) COMP

DN3649 NAD 83(2011) Y - -4,749,813.819 (meters) COMP

DN3649 NAD 83(2011) Z - 3,714,412.278 (meters) COMP

DN3649 LAPLACE CORR - 11.77 (seconds) DEFLEC18

DN3649

DN3649 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

DN3649 Standards:

DN3649 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

DN3649 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

DN3649 -----

DN3649 NETWORK 0.43 0.86 0.19 0.16 0.44 0.02956808

DN3649 -----

DN3649 [Click here for local accuracies and other accuracy information.](#)

DN3649

DN3649

DN3649.The horizontal coordinates were established by GPS observations

DN3649.and adjusted by the National Geodetic Survey in June 2012.

DN3649

DN3649.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

DN3649.been affixed to the stable North American tectonic plate. See

DN3649.NA2011 for more information.

DN3649

DN3649.The horizontal coordinates are valid at the epoch date displayed above

DN3649.which is a decimal equivalence of Year/Month/Day.

DN3649

DN3649.The orthometric height was determined by GPS observations and a

DN3649.high-resolution geoid model using precise GPS observation and

DN3649.processing techniques.

DN3649

DN3649.Significant digits in the geoid height do not necessarily reflect accuracy.

DN3649.GEOID18 height accuracy estimate available [here](#).

DN3649

DN3649.Click photographs - Photos may exist for this station.

DN3649

DN3649.The X, Y, and Z were computed from the position and the ellipsoidal ht.

DN3649

DN3649.The Laplace correction was computed from DEFLEC18 derived deflections.

DN3649

DN3649.The ellipsoidal height was determined by GPS observations

DN3649.and is referenced to NAD 83.

DN3649

DN3649. The following values were computed from the NAD 83(2011) position.

DN3649

DN3649; North East Units Scale Factor Converg.

DN3649;SPC AZ W - 536,235.148 238,613.486 MT 0.99994119 +0 09 49.1

DN3649;SPC AZ W - 1,759,301.67 782,852.64 iFT 0.99994119 +0 09 49.1

DN3649;UTM 12 - 3,968,439.748 276,856.156 MT 1.00021361 -1 26 49.0

DN3649

DN3649! - Elev Factor x Scale Factor = Combined Factor

DN3649!SPC AZ W - 0.99971370 x 0.99994119 = 0.99965490

DN3649!UTM 12 - 0.99971370 x 1.00021361 = 0.99992725

DN3649

DN3649\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12STE7685668439(NAD 83)

DN3649

DN3649 SUPERSEDED SURVEY CONTROL

DN3649

DN3649 NAD 83(2007)- 35 50 05.17107(N) 113 28 13.72354(W) AD(2007.00) A

DN3649 ELLIP H (09/10/11) 1824.675 (m) GP(2007.00) 4 1

DN3649

DN3649.Superseded values are not recommended for survey control.

DN3649

DN3649.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DN3649.See file dsdata.pdf to determine how the superseded data were derived.

DN3649

DN3649\_MARKER: Z = SEE DESCRIPTION

DN3649\_SETTING: 66 = SET IN ROCK OUTCROP

DN3649\_STAMPING: NONE

DN3649\_MARK LOGO: NONE

DN3649\_MAGNETIC: O = OTHER; SEE DESCRIPTION

DN3649\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

DN3649+STABILITY: POSITION/ELEVATION WELL

DN3649\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

DN3649+SATELLITE: SATELLITE OBSERVATIONS - 2009

DN3649

DN3649 HISTORY - Date Condition Report By

DN3649 HISTORY - 2009 MONUMENTED GRANCN

DN3649

DN3649 STATION DESCRIPTION

DN3649

DN3649'DESCRIBED BY GRAND CANYON MONITORING AND RESEARCH 2009 (KAK)  
 DN3649'THE STATION IS LOCATED ABOUT 22.7 MI (36.5 KM) WEST OF FRAZIER WELLS,  
 DN3649'21.5 MI (34.6 KM) NORTHWEST OF ROBBERS ROOST AND 21.2 MI (34.1 KM)  
 DN3649'NORTH OF PEACH SPRINGS. BY ROAD, THE STATION IS 270 MI (434.4 KM)  
 DN3649'FROM FLAGSTAFF, ARIZONA. FROM THE ARIZONA/UTAH STATE LINE, REQUIRES  
 DN3649'3.5 HOURS OF TRAVEL ON OVER 100 MI (160.9 KM) OF DIRT ROAD.  
 DN3649'FOUR-WHEEL DRIVE IS REQUIRED.  
 DN3649'  
 DN3649'TO REACH FROM WHERE RIVER ROAD CROSSES THE ARIZONA/UTAH STATE LINE  
 DN3649'(APPROXIMATELY 6 MI (9.7 KM) SOUTH OF SAINT GEORGE), DRIVE 37.1 MI  
 DN3649'(59.7 KM) SOUTH ON BLM1069/CR5 TO INTERSECTION OF CR5 AND CR103 WHICH  
 DN3649'IS 2 MI (3.2 KM) SOUTH OF DIAMOND BUTTE. TURN RIGHT (SOUTHWEST) ON  
 DN3649'CR103 TO THE GRAND CANYON/PARASHANT CANYON NATIONAL MONUMENT SIGN AT  
 DN3649'51.6 MI (83.0 KM) AND CONTINUE TO 54.2 MI (87.2 KM) AND THE  
 DN3649'INTERSECTION OF CR103 AND CR1018. TURN RIGHT ON CR103 AND TRAVEL  
 DN3649'SOUTHERLY TO 73.4 MI (118.1 KM) AND INTERSECTION OF CR1019 AND CR103.  
 DN3649'TURN LEFT ON CR 103 AND RIGHT AT 76.4 MI (122.9 KM) AND CONTINUE TO  
 DN3649'NATIONAL PARK SERVICE ADMIN TURNOFF. STAY LEFT AT 77.6 MI (124.9 KM)  
 DN3649'THROUGH GATE AT 79.0 MI (127.1 KM) AND TO 79.8 MI (128.4 KM) AND A  
 DN3649'REGISTRATION STATION. CONTINUE TO 82.0 MI (131.9 KM) AND PINE VALLEY  
 DN3649'INTERSECTION. GO STRAIGHT AND SOUTH TO 104.3 MI (167.8 KM) AND  
 DN3649'STATION. THE STATION IS A 5/8 INCH (16 MM) DIMPLED STAINLESS STEEL  
 DN3649'PIN SET 100 FT (30 M) WEST OF THE MAIN CAMP AND APPROXIMATELY 10 FT (3  
 DN3649'M) FROM CANYON RIM IN BEDROCK LIMESTONE.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

The NGS Data Sheet

See file dsdata.pdf for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.4

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 16, 2019

GQ0298 \*\*\*\*\*

GQ0298 HT\_MOD - This is a Height Modernization Survey Station.

GQ0298 DESIGNATION - SIGNAL HILL

GQ0298 PID - GQ0298

GQ0298 STATE/COUNTY- AZ/COCONINO

GQ0298 COUNTRY - US

GQ0298 USGS QUAD - HAVASUPAI POINT (1988)

GQ0298

GQ0298 \*CURRENT SURVEY CONTROL

GQ0298 \_\_\_\_\_

GQ0298\* NAD 83(2011) POSITION- 36 10 13.49415(N) 112 21 26.58322(W) ADJUSTED

GQ0298\* NAD 83(2011) ELLIP HT- 2042.378 (meters) (06/27/12) ADJUSTED

GQ0298\* NAD 83(2011) EPOCH - 2010.00

GQ0298\* NAVD 88 ORTHO HEIGHT - 2065.65 (meters) 6777.1 (feet) GPS OBS

GQ0298 \_\_\_\_\_

GQ0298 NAVD 88 orthometric height was determined with geoid model GEOID09

GQ0298 GEOID HEIGHT - -23.249 (meters) GEOID09

GQ0298 GEOID HEIGHT - -23.079 (meters) GEOID18

GQ0298 NAD 83(2011) X - -1,961,446.772 (meters) COMP  
GQ0298 NAD 83(2011) Y - -4,768,891.217 (meters) COMP  
GQ0298 NAD 83(2011) Z - 3,744,678.500 (meters) COMP  
GQ0298 LAPLACE CORR - -12.50 (seconds) DEFLEC18  
GQ0298  
GQ0298 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
GQ0298 Standards:  
GQ0298 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
GQ0298 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
GQ0298 -----  
GQ0298 NETWORK 0.25 0.55 0.11 0.09 0.28 -0.00001626  
GQ0298 -----  
GQ0298 [Click here for local accuracies and other accuracy information.](#)  
GQ0298  
GQ0298  
GQ0298.The horizontal coordinates were established by GPS observations  
GQ0298.and adjusted by the National Geodetic Survey in June 2012.  
GQ0298  
GQ0298.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has  
GQ0298.been affixed to the stable North American tectonic plate. See  
GQ0298.NA2011 for more information.  
GQ0298  
GQ0298.The horizontal coordinates are valid at the epoch date displayed above  
GQ0298.which is a decimal equivalence of Year/Month/Day.  
GQ0298  
GQ0298.The orthometric height was determined by GPS observations and a  
GQ0298.high-resolution geoid model using precise GPS observation and  
GQ0298.processing techniques.  
GQ0298  
GQ0298.Significant digits in the geoid height do not necessarily reflect accuracy.  
GQ0298.GEOID18 height accuracy estimate available [here](#).  
GQ0298  
GQ0298.[Click here to see if photographs exist for this station.](#)  
GQ0298  
GQ0298.The X, Y, and Z were computed from the position and the ellipsoidal ht.  
GQ0298  
GQ0298.The Laplace correction was computed from DEFLEC18 derived deflections.  
GQ0298  
GQ0298.The ellipsoidal height was determined by GPS observations  
GQ0298.and is referenced to NAD 83.  
GQ0298  
GQ0298. The following values were computed from the NAD 83(2011) position.  
GQ0298  
GQ0298; North East Units Scale Factor Converg.  
GQ0298;SPC AZ C - 573,510.346 173,712.793 MT 0.99991936 -0 15 36.4  
GQ0298;SPC AZ C - 1,881,595.62 569,923.86 iFT 0.99991936 -0 15 36.4  
GQ0298;UTM 12 - 4,003,703.782 377,922.439 MT 0.99978362 -0 48 04.4  
GQ0298

GQ0298! - Elev Factor x Scale Factor = Combined Factor  
 GQ0298!SPC AZ C - 0.99967956 x 0.99991936 = 0.99959894  
 GQ0298!UTM 12 - 0.99967956 x 0.99978362 = 0.99946325  
 GQ0298  
 GQ0298: Primary Azimuth Mark Grid Az  
 GQ0298:SPC AZ C - SUBLIME 072 19 32.8  
 GQ0298:UTM 12 - SUBLIME 072 52 00.8  
 GQ0298  
 GQ0298\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12SUF7792203703(NAD 83)  
 GQ0298  
 GQ0298|-----|  
 GQ0298| PID Reference Object Distance Geod. Az |  
 GQ0298| dddmss.s |  
 GQ0298| CH3368 SIGNAL HILL RM 1 10.985 METERS 02031 |  
 GQ0298| GQ0297 SUBLIME APPROX.10.1 KM 0720356.4 |  
 GQ0298| GQ0300 BASS 5.980 METERS 08138 |  
 GQ0298| GQ0299 SIGNAL HILL LOOKOUT TOWER 9.000 METERS 09656 |  
 GQ0298|-----|  
 GQ0298  
 GQ0298 SUPERSEDED SURVEY CONTROL  
 GQ0298  
 GQ0298 NAD 83(2007)- 36 10 13.49341(N) 112 21 26.58322(W) AD(2007.00) 0  
 GQ0298 ELLIP H (02/10/07) 2042.394 (m) GP(2007.00)  
 GQ0298 NAD 83(1992)- 36 10 13.49336(N) 112 21 26.58295(W) AD( ) A  
 GQ0298 ELLIP H (09/30/99) 2042.405 (m) GP( ) 3 1  
 GQ0298 NAD 83(1992)- 36 10 13.49187(N) 112 21 26.58340(W) AD( ) 1  
 GQ0298 NAD 83(1986)- 36 10 13.48614(N) 112 21 26.58429(W) AD( ) 1  
 GQ0298 NAD 27 - 36 10 13.55700(N) 112 21 23.94600(W) AD( ) 1  
 GQ0298 NAVD 88 (06/28/04) 2065.6 (m) GEOID03 model used GPS OBS  
 GQ0298 NAVD 88 (09/30/99) 2065.6 (m) GEOID99 model used GPS OBS  
 GQ0298 NGVD 29 (05/08/89) 2064.4 (m) 6773. (f) VERT ANG  
 GQ0298  
 GQ0298.Superseded values are not recommended for survey control.  
 GQ0298  
 GQ0298.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 GQ0298.See file dsdata.pdf to determine how the superseded data were derived.  
 GQ0298  
 GQ0298\_MARKER: DS = TRIANGULATION STATION DISK  
 GQ0298\_SETTING: 66 = SET IN ROCK OUTCROP  
 GQ0298\_STAMPING: SIGNAL HILL 1934  
 GQ0298\_MARK LOGO: CGS  
 GQ0298\_MAGNETIC: N = NO MAGNETIC MATERIAL  
 GQ0298\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD  
 GQ0298+STABILITY: POSITION/ELEVATION WELL  
 GQ0298\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 GQ0298+SATELLITE: SATELLITE OBSERVATIONS - September 28, 2010  
 GQ0298  
 GQ0298 HISTORY - Date Condition Report By

GQ0298 HISTORY - 1934 MONUMENTED CGS

GQ0298 HISTORY - 1952 GOOD CGS

GQ0298 HISTORY - 1956 GOOD USGS

GQ0298 HISTORY - 19990125 GOOD USGS

GQ0298 HISTORY - 20030529 GOOD GRANCN

GQ0298 HISTORY - 20090524 GOOD GRANCN

GQ0298 HISTORY - 20100928 GOOD GRANCN

GQ0298

GQ0298 STATION DESCRIPTION

GQ0298

GQ0298'DESCRIBED BY COAST AND GEODETIC SURVEY 1934 (CP)

GQ0298'STATION IS ON THE HIGHEST POINT OF SIGNAL HILL, ABOUT 1.5

GQ0298'MILES SW OF HAVASUAPI POINT, AND 3.5 MILES (AIR LINE) NE OF

GQ0298'THE PASTURE RANGE STATION, AND THE HIGHEST POINT IN THE VICINITY.

GQ0298'

GQ0298'STATION AND REFERENCE MARKS ARE STANDARD BRONZE DISKS WEDGED

GQ0298'IN DRILL HOLES IN OUTCROPPING BEDROCK.

GQ0298'

GQ0298'REACHED FROM GRAND CANYON VILLAGE AS FOLLOWS. GO W ON THE HILLTOP

GQ0298'ROAD 22.2 MILES (PASSING ROWE WELLS AT 3.0 MILES) TURN RIGHT

GQ0298'AS PER SIGN TO THE RANGER STATION AND FOLLOW THE MAIN-TRAVELED

GQ0298'ROAD, 3.3 MILES, TURN RIGHT AND GO 2.1 MILES, TAKE RIGHT

GQ0298'FORK AND GO 0.7 MILE, TURN RIGHT AND FOLLOW THE ROAD 1.0

GQ0298'MILE TO THE LOOKOUT TOWER AND STATION. STATION IS 9 METERS

GQ0298'NW OF THE CENTER OF THE LOOKOUT TOWER.

GQ0298

GQ0298 STATION RECOVERY (1952)

GQ0298

GQ0298'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1952 (GES)

GQ0298'STATION WAS RECOVERED AND ALL MARKS WERE FOUND IN GOOD CONDITION.

GQ0298'THE ORIGINAL DESCRIPTION IS ADEQUATE TO REACH THE STATION.

GQ0298

GQ0298 STATION RECOVERY (1956)

GQ0298

GQ0298'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1956

GQ0298'RECOVERED IN GOOD CONDITION.

GQ0298'

GQ0298'BASS USGS--STANDARD BRONZE TABLET, STAMPING UNKNOWN, CEMENTED IN

GQ0298'FLAT LIMESTONE LEDGE.

GQ0298

GQ0298 STATION RECOVERY (1999)

GQ0298

GQ0298'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1999 (FMG)

GQ0298'RECOVERED AS DESCRIBED.

GQ0298

GQ0298 STATION RECOVERY (2003)

GQ0298

GQ0298'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2003



GQ0298'RECOVERED AS DESCRIBED.  
GQ0298  
GQ0298 STATION RECOVERY (2009)  
GQ0298  
GQ0298'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2009 (KK)  
GQ0298'RECOVERED IN GOOD CONDITION.  
GQ0298  
GQ0298 STATION RECOVERY (2010)  
GQ0298  
GQ0298'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2010 (KAK)  
GQ0298'RECOVERED AS DESCRIBED.  
\*\*\* retrieval complete.  
Elapsed Time = 00:00:01  
The NGS Data Sheet  
See file dsdata.pdf for more information about the datasheet.  
PROGRAM = datasheet95, VERSION = 8.12.5.13  
Starting Datasheet Retrieval...  
1 National Geodetic Survey, Retrieval Date = AUGUST 19, 2021  
GQ0372 \*\*\*\*\*  
GQ0372 HT\_MOD - This is a Height Modernization Survey Station.  
GQ0372 DESIGNATION - WHITMORE  
GQ0372 PID - GQ0372  
GQ0372 STATE/COUNTY- AZ/MOHAVE  
GQ0372 COUNTRY - US  
GQ0372 USGS QUAD - WHITMORE POINT (2018)  
GQ0372  
GQ0372 \*CURRENT SURVEY CONTROL  
GQ0372 \_\_\_\_\_  
GQ0372\* NAD 83(2011) POSITION- 36 10 54.03918(N) 113 15 41.08473(W) ADJUSTED  
GQ0372\* NAD 83(2011) ELLIP HT- 1650.420 (meters) (06/27/12) ADJUSTED  
GQ0372\* NAD 83(2011) EPOCH - 2010.00  
GQ0372\* NAVD 88 ORTHO HEIGHT - 1674.88 (meters) 5495.0 (feet) GPS OBS  
GQ0372 \_\_\_\_\_  
GQ0372 NAVD 88 orthometric height was determined with geoid model GEOID09  
GQ0372 GEOID HEIGHT - -24.438 (meters) GEOID09  
GQ0372 GEOID HEIGHT - -24.388 (meters) GEOID18  
GQ0372 NAD 83(2011) X - -2,036,027.987 (meters) COMP  
GQ0372 NAD 83(2011) Y - -4,736,382.090 (meters) COMP  
GQ0372 NAD 83(2011) Z - 3,745,456.210 (meters) COMP  
GQ0372 LAPLACE CORR - 0.14 (seconds) DEFLEC18  
GQ0372  
GQ0372 Network accuracy estimates per FGDC Geospatial Positioning Accuracy  
GQ0372 Standards:  
GQ0372 FGDC (95% conf, cm) Standard deviation (cm) CorrNE  
GQ0372 Horiz Ellip SD\_N SD\_E SD\_h (unitless)  
GQ0372 -----  
GQ0372 NETWORK 0.27 0.55 0.12 0.10 0.28 0.03899909  
GQ0372 -----

GQ0372 Click here for local accuracies and other accuracy information.

GQ0372

GQ0372

GQ0372.The horizontal coordinates were established by GPS observations

GQ0372.and adjusted by the National Geodetic Survey in June 2012.

GQ0372

GQ0372.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

GQ0372.been affixed to the stable North American tectonic plate. See

GQ0372.NA2011 for more information.

GQ0372

GQ0372.The horizontal coordinates are valid at the epoch date displayed above

GQ0372.which is a decimal equivalence of Year/Month/Day.

GQ0372

GQ0372.The orthometric height was determined by GPS observations and a

GQ0372.high-resolution geoid model using precise GPS observation and

GQ0372.processing techniques.

GQ0372

GQ0372.Significant digits in the geoid height do not necessarily reflect accuracy.

GQ0372.GEOID18 height accuracy estimate available here.

GQ0372

GQ0372.Click photographs - Photos may exist for this station.

GQ0372

GQ0372.The X, Y, and Z were computed from the position and the ellipsoidal ht.

GQ0372

GQ0372.The Laplace correction was computed from DEFLEC18 derived deflections.

GQ0372

GQ0372.The ellipsoidal height was determined by GPS observations

GQ0372.and is referenced to NAD 83.

GQ0372

GQ0372. The following values were computed from the NAD 83(2011) position.

GQ0372

GQ0372; North East Units Scale Factor Converg.

GQ0372;SPC AZ W - 574,799.722 257,308.826 MT 0.99995712 +0 17 18.4

GQ0372;SPC AZ W - 1,885,825.86 844,189.06 iFT 0.99995712 +0 17 18.4

GQ0372;UTM 12 - 4,006,469.402 296,636.645 MT 1.00010960 -1 20 07.7

GQ0372

GQ0372! - Elev Factor x Scale Factor = Combined Factor

GQ0372!SPC AZ W - 0.99974104 x 0.99995712 = 0.99969817

GQ0372!UTM 12 - 0.99974104 x 1.00010960 = 0.99985061

GQ0372

GQ0372: Primary Azimuth Mark Grid Az

GQ0372:SPC AZ W - WHITMORE AZ MK 334 30 11.7

GQ0372:UTM 12 - WHITMORE AZ MK 336 07 37.8

GQ0372

GQ0372\_U.S. NATIONAL GRID SPATIAL ADDRESS: 12STF9663606469(NAD 83)

GQ0372

GQ0372 |-----|

GQ0372 | PID Reference Object Distance Geod. Az |

GQ0372 | dddmmss.s |  
 GQ0372 | CH4551 WHITMORE RM 1 5.920 METERS 10227 |  
 GQ0372 | CH4550 WHITMORE AZ MK 3344730.1 |  
 GQ0372 |-----|  
 GQ0372  
 GQ0372 SUPERSEDED SURVEY CONTROL  
 GQ0372  
 GQ0372 NAD 83(2007)- 36 10 54.03863(N) 113 15 41.08491(W) AD(2007.00) A  
 GQ0372 ELLIP H (09/10/11) 1650.438 (m) GP(2007.00) 4 1  
 GQ0372 NAD 83(1992)- 36 10 54.03155(N) 113 15 41.08718(W) AD( ) 3  
 GQ0372 NAD 83(1986)- 36 10 54.02484(N) 113 15 41.08518(W) AD( ) 3  
 GQ0372 NAD 27 - 36 10 54.07500(N) 113 15 38.33700(W) AD( ) 3  
 GQ0372 NGVD 29 (07/19/86) 1674.6 (m) 5494. (f) VERT ANG  
 GQ0372  
 GQ0372.Superseded values are not recommended for survey control.  
 GQ0372  
 GQ0372.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.  
 GQ0372.See file dsdata.pdf to determine how the superseded data were derived.  
 GQ0372  
 GQ0372\_MARKER: DS = TRIANGULATION STATION DISK  
 GQ0372\_SETTING: 66 = SET IN ROCK OUTCROP  
 GQ0372\_STAMPING: WHITMORE 1953  
 GQ0372\_MARK LOGO: CGS  
 GQ0372\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD  
 GQ0372+STABILITY: POSITION/ELEVATION WELL  
 GQ0372\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR  
 GQ0372+SATELLITE: SATELLITE OBSERVATIONS - May 27, 2013  
 GQ0372  
 GQ0372 HISTORY - Date Condition Report By  
 GQ0372 HISTORY - 1953 MONUMENTED CGS  
 GQ0372 HISTORY - 1965 GOOD CGS  
 GQ0372 HISTORY - 20090525 GOOD GRANCN  
 GQ0372 HISTORY - 20090601 GOOD GEOANA  
 GQ0372 HISTORY - 20130527 GOOD USGS  
 GQ0372  
 GQ0372 STATION DESCRIPTION  
 GQ0372  
 GQ0372'DESCRIBED BY COAST AND GEODETIC SURVEY 1953 (LGT)  
 GQ0372'THE STATION IS ABOUT 17-1/2 MILES SOUTH OF AND 2 MILES EAST  
 GQ0372'OF MT. TRUMBULL VILLAGE AND 10 MILES SOUTH OF MT. EMMA. IT IS  
 GQ0372'ON THE RIM OF GRAND CANYON AND IS AT THE SOUTHERN TIP OF A  
 GQ0372'LONG STRIP OF LAND THAT EXTENDS SOUTHERLY BETWEEN COLD SPRING  
 GQ0372'WASH AND A DEEP CANYON TO THE WEST (SAID TO BE MULE CANYON BUT  
 GQ0372'NOT SHOWN ON AVAILABLE MAPS). THIS POINT IS LOCALLY KNOWN AS  
 GQ0372'WHITMORE POINT. THE EXACT LOCALITY OF THE STATION IS  
 GQ0372'DISTINGUISHED BY A COARSE, REDDISH SANDSTONE FORMATION.  
 GQ0372'  
 GQ0372'TO REACH THE STATION FROM THE CROSS ROAD AT THE SCHOOL HOUSE

GQ0372'IN MT. TRUMBULL VILLAGE GO WEST FOR 0.5 MILE TO A CROSS ROAD.  
GQ0372'KEEP STRAIGHT AHEAD, WEST, FOR 0.3 MILE TO A FORK, JUST AFTER  
GQ0372'PASSING A CORRAL ON THE RIGHT. TAKE THE LEFT FORK, SOUTHWEST,  
GQ0372'FOR 100 YARDS TO A FORK. TAKE THE RIGHT FORK AND CONTINUE  
GQ0372'SOUTHWESTERLY FOR 1.0 MILE TO A FORK, JUST AFTER CROSSING A  
GQ0372'CATTLE GUARD. TAKE THE LEFT FORK AND CONTINUE FOR 1.15 MILE  
GQ0372'TO A FORK. TAKE THE RIGHT FORK AND CONTINUE SOUTHWEST ON THE  
GQ0372'OLD ROAD FOR 0.75 MILE TO A GATE. PASS THROUGH THE GATE AND  
GQ0372'CONTINUE SOUTH FOR 0.1 MILE TO A FORK. TAKE THE LEFT FORK  
GQ0372'AND CONTINUE SOUTH ON THE DIM ROAD ALONG THE WEST SIDE OF  
GQ0372'THE FENCE FOR 0.85 MILE TO A ROAD INTERSECTION. BEAR LEFT  
GQ0372'AND CONTINUE SOUTHEAST, PASSING RESERVOIR, FOR 2.15 MILES TO  
GQ0372'3 FORKS. TAKE THE MIDDLE FORK, MAIN ROAD, AND CONTINUE SOUTHEAST  
GQ0372'FOR 0.85 MILE TO A GATE. PASS THROUGH THE GATE AND  
GQ0372'CONTINUE SOUTH FOR 0.6 MILE TO A FORK. KEEP THE LEFT FORK,  
GQ0372'MAIN ROAD, FOR 0.9 MILE TO A RESERVOIR ON THE RIGHT.  
GQ0372'CONTINUE STRAIGHT AHEAD, SOUTHEAST, FOR 4.2 MILES TO A DIM  
GQ0372'FORK ON THE RIGHT. CONTINUE STRAIGHT AHEAD FOR 0.35 MILE TO  
GQ0372'A FORK. TAKE THE RIGHT FORK AND GO WEST, UP HILL, AND THEN  
GQ0372'SOUTH ALONG THE TOP OF THE RIDGE FOR 2.9 MILES TO A  
GQ0372'FORK. KEEP THE RIGHT FORK AND CONTINUE ON THE MAIN ROAD  
GQ0372'LEADING SOUTH FOR 4.3 MILES TO THE AZIMUTH MARK ON THE  
GQ0372'RIGHT, ON A HIGH POINT OF THE RIM AND ABOUT 300 FEET WEST  
GQ0372'OF THE ROAD. CONTINUE SOUTH FOR 0.1 MILE TO THE END OF  
GQ0372'THE ROAD. THENCE BEAR LEFT, SOUTH-SOUTHEAST, AND CONTINUE  
GQ0372'ACROSS COUNTRY FOR 0.7 MILE TO THE EXTREME SOUTHERN TIP OF THE  
GQ0372'RIM AND THE STATION.

GQ0372'

GQ0372'THE STATION MARK IS STAMPED WHITMORE 1953. IT IS A STANDARD  
GQ0372'DISK SET FLUSH WITH THE SURFACE IN A RED SANDSTONE OUTCROP  
GQ0372'THAT PROTRUDES 4 FEET ABOVE THE RIM. IT IS 12 FEET EAST OF  
GQ0372'A JUNIPER TREE, 7 FEET NORTH OF THE EDGE OF THE RIM AND 3 FEET  
GQ0372'SOUTH OF THE EDGE OF THE OUTCROP.

GQ0372'

GQ0372'REFERENCE MARK 1 IS STAMPED WHITMORE 1953 NO 1. IT IS A STANDARD  
GQ0372'DISK SET IN A 7-FOOT BY 10-FOOT BOULDER THAT IS DETACHED FROM  
GQ0372'THE RIM OF THE CANYON. IT IS 1 FOOT LOWER THAN THE STATION MARK.

GQ0372'

GQ0372'REFERENCE MARK 2 IS STAMPED WHITMORE 1953 NO 2. IT IS A  
GQ0372'STANDARD DISK SET IN A 7-FOOT BY 3-FOOT OUTCROP THAT PROJECTS  
GQ0372'6 INCHES. IT IS 10 FEET SOUTHEAST OF THE JUNIPER TREE AND  
GQ0372'6 FEET NORTH OF THE RIM OF THE CANYON.

GQ0372'

GQ0372'THE AZIMUTH MARK IS STAMPED WHITMORE 1953. IT IS A STANDARD  
GQ0372'DISK SET IN A BOULDER ON THE HIGHEST POINT OF THE WEST RIM.  
GQ0372'IT IS 5 FEET SOUTHWEST OF A WHITE WITNESS POST AND 2 FEET EAST  
GQ0372'OF THE EDGE OF THE RIM.

GQ0372'

GQ0372 STATION RECOVERY (1965)

GQ0372

GQ0372'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1965 (FHB)

GQ0372'THE STATION WAS RECOVERED AS DESCRIBED AND ALL MARKS WERE FOUND  
GQ0372'IN GOOD CONDITION. A NEW DESCRIPTION ON HOW TO REACH FOLLOWS.

GQ0372'

GQ0372'TO REACH THE STATION FROM THE CROSS ROAD AND SCHOOL HOUSE IN MT.

GQ0372'TRUMBULL, A SMALL VILLAGE WHICH IS ABOUT 55 MILES SOUTH OF ST

GQ0372'GEORGE BY ROAD, GO SOUTH ON THE DIRT ROAD FOR 0.9 MILE. CONTINUE

GQ0372'STRAIGHT AHEAD, SOUTH AT THE BRIDGE FOR 0.9 MILE. TAKE THE

GQ0372'LEFT FORK, PASS THROUGH THE GATE AND GO SOUTHERLY FOR 0.6

GQ0372'MILE. TAKE THE LEFT FORK AND GO SOUTH FOR 0.4 MILE. PASS

GQ0372'THROUGH THE GATE AND GO SOUTH FOR 0.7 MILE. PASS THROUGH THE

GQ0372'GATE AND GO SOUTH FOR 0.2 MILE. TAKE THE RIGHT FORK AND GO

GQ0372'SOUTH FOR 0.6 MILE TO STATION COLD 1953 ON THE KNOLL TO THE

GQ0372'LEFT. CONTINUE SOUTH ON THE DIRT ROAD FOR 2.5 MILES. TURN

GQ0372'LEFT OFF THE RIDGE, DOWNHILL, SOUTHEASTERLY FOR 2.5 MILES.

GQ0372'TURN RIGHT ONTO THE REVERSE Y-FORK AND GO WESTERLY ACROSS

GQ0372'WIDE WASH AND UPHILL FOR 1.1 MILES TO THE TOP OF THE RIDGE.

GQ0372'GO SOUTHERLY FOR 1.0 MILE. TAKE THE LEFT FORK AND GO

GQ0372'SOUTH FOR 0.3 MILE. TAKE THE RIGHT FORK AND GO SOUTH FOR

GQ0372'0.4 MILE. TAKE THE RIGHT FORK AND GO SOUTHERLY FOR 1.5

GQ0372'MILES. TAKE THE RIGHT FORK AND GO SOUTHERLY FOR 0.2 MILE.

GQ0372'TAKE THE LEFT FORK AND GO SOUTH FOR 0.15 MILE. TURN LEFT AT

GQ0372'THE T-ROAD AND GO SOUTHEASTERLY FOR 3.5 MILES. TAKE THE

GQ0372'LEFT FORK AND GO SOUTHEASTERLY FOR 0.4 MILE TO THE

GQ0372'STATION. THE AZIMUTH MARK IS ABOUT 3/4 MILE

GQ0372'NORTH-NORTHWEST OF THE STATION.

GQ0372

GQ0372 STATION RECOVERY (2009)

GQ0372

GQ0372'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH 2009 (MD)

GQ0372'RECOVERED IN GOOD CONDITION.

GQ0372

GQ0372 STATION RECOVERY (2009)

GQ0372

GQ0372'RECOVERY NOTE BY GEODETIC ANALYSIS LLC 2009 (MLD)

GQ0372'RECOVERED AS DESCRIBED.

GQ0372

GQ0372 STATION RECOVERY (2013)

GQ0372

GQ0372'RECOVERY NOTE BY US GEOLOGICAL SURVEY 2013 (TA)

GQ0372'RECOVERY NOTE BY GRAND CANYON MONITORING AND RESEARCH CENTER MAY 2013.

GQ0372'

GQ0372'STATION WAS RECOVERED IN GOOD CONDITION. THE STATION WAS REACHED BY

GQ0372'USING A HH GPS WITH A .GPX FILE. THE .GPX FILE WAS CREATED FROM

GQ0372'A DIGITIZED ESRI SHAPEFILE AND INCLUDES THE ROUTE STARTING AT MT.

GQ0372'TRUMBULL ROAD, OFF HWY 389 JUST WEST OF FREDONIA, AZ, TO THE WHITMORE

GQ0372'STATION.  
\*\*\* retrieval complete.  
Elapsed Time = 00:00:01

## 1.6 Network Adjustment

```

*****
* NETWORK - WEIGHTED GNSS NETWORK ADJUSTMENT *
*
* (c) Copyright NovAtel Inc., (2016) *
*
* Version: 8.60.6717 *
*
* FILE:
\\larry\Field\19057_USGS_GrandCanyon\ground_acquisition\control_network\All_Test\19057_2021_N
etwork.net
*****

```

DATE(m/d/y): Tue. 11/16/21 TIME: 10:16:56

\*\*\*\*\*

DATUM: 'NAD83(2011)'  
SCALE\_FACTOR: 4.5410  
CONFIDENCE LEVEL: 95.00 % (Scale factor is 2.4479)

\*\*\*\*\*

### INPUT CONTROL/CHECK POINTS

\*\*\*\*\*

STA_ID	TYPE	--	LATITUDE	--	LONGITUDE	--	ELLHGT	-	HZ-SD	V-SD
ABYSS_PIN	CHK-3D	36 03	31.47304	-112 10	57.82526	2053.772				
AZPG	GCP-3D	36 54	31.19180	-111 27	45.63653	1302.735	0.00500	0.00500		
BKUP_B	CHK-3D	36 24	57.89355	-112 07	51.24130	2642.961				
CAPE	CHK-3D	36 07	24.73707	-111 56	58.91305	2383.516				
DAVIAN	CHK-3D	36 17	09.39852	-113 03	55.75945	1427.792				
DESERT_VIEW	CHK-3D	36 02	26.77531	-111 49	48.92371	2263.363				
FERN	GCP-HZ	35 20	30.72374	-112 27	17.00735	0.00500				
FRED	GCP-HZ	36 59	17.97853	-112 29	57.13527	0.00500				
GCES	GCP-3D	36 02	52.79798	-112 07	44.90530	2111.784	0.00500	0.00100		

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KGMN   GCP-3D 35 13 51.76831 -114 00 08.41859 1016.389 0.00500 0.00010
P008   GCP-3D 36 08 34.13988 -111 07 48.12574 1522.869 0.00500 0.00500
SGU1   GCP-3D 37 06 47.48133 -113 34 13.02327 895.566 0.00500 0.00050
SHIVWITS  CHK-3D 35 50 05.17184 -113 28 13.72332 1824.630
SIGNAL_HILL  CHK-3D 36 10 13.49493 -112 21 26.58399 2042.378
WHITMORE  CHK-3D 36 10 54.03882 -113 15 41.08557 1650.459
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INPUT VECTORS

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SESSION NAME      VECTOR(m)  ----- Covariance (m) [unscaled] -----
                DX/DY/DZ      standard deviations in brackets
ABYSS_PIN to BE208 (1) 10271.8108 1.2293e-004 (0.0111)
                    3247.3638 1.0940e-004 2.4712e-004 (0.0157)
                    9292.3439 -5.3493e-005 -8.2689e-005 1.5367e-004 (0.0124)

ABYSS_PIN to BE209 (1) 9692.7124 1.6503e-004 (0.0128)
                    172.7963 2.0155e-004 5.4511e-004 (0.0233)
                    2968.2166 -2.0479e-004 -4.8777e-004 8.4451e-004 (0.0291)

ABYSS_PIN to BE210 (1) 15445.5463 9.1918e-005 (0.0096)
                    -6054.2384 9.7089e-005 3.4065e-004 (0.0185)
                    -1296.9323 -5.7091e-005 -1.8094e-004 2.3874e-004 (0.0155)

ABYSS_PIN to BR701 (1) 9710.8926 3.8598e-004 (0.0196)
                    163.8251 3.8635e-004 6.7727e-004 (0.0260)
                    2966.0418 -2.8041e-004 -3.2514e-004 4.0415e-004 (0.0201)

ABYSS_PIN to HG01 (1) 1692.1066 3.3300e-005 (0.0058)
                    126.9458 3.5447e-005 9.6029e-005 (0.0098)
                    1121.3394 -3.0945e-005 -5.6079e-005 7.2573e-005 (0.0085)

ABYSS_PIN to HG01A (1) 1700.0307 3.6907e-005 (0.0061)
                    131.0872 2.9290e-005 5.8618e-005 (0.0077)
                    1131.4363 -1.0101e-005 -1.9759e-005 4.1963e-005 (0.0065)

ABYSS_PIN to HG02 (1) 8702.8541 8.1156e-005 (0.0090)
                    -6493.5314 6.0196e-005 2.2312e-004 (0.0149)
                    -3583.2097 -4.1319e-005 -1.0174e-004 1.5806e-004 (0.0126)

ABYSS_PIN to HG06 (1) -2404.2709 3.7726e-005 (0.0061)
                    -730.8224 3.8791e-005 8.1768e-005 (0.0090)
                    -2281.5738 -1.4538e-005 -3.7232e-005 8.0409e-005 (0.0090)

ABYSS_PIN to LCP101A (1) -81.4697 3.0404e-005 (0.0055)
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24.1317 2.4254e-005 8.0939e-005 (0.0090)  
-20.5670 -1.1541e-005 -2.5886e-005 4.3667e-005 (0.0066)

ABYSS\_PIN to LCP102A (1) -4271.8625 7.1271e-005 (0.0084)  
310.0528 6.8127e-005 1.1590e-004 (0.0108)  
-2041.5248 -3.2466e-005 -7.1435e-005 1.0638e-004 (0.0103)

ABYSS\_PIN to LCP210 (1) 15443.2155 1.0016e-004 (0.0100)  
-6051.4809 9.3706e-005 2.8280e-004 (0.0168)  
-1294.3691 -6.0385e-005 -9.2377e-005 2.1141e-004 (0.0145)

ABYSS\_PIN to LCP211 (1) 10220.7655 7.9839e-005 (0.0089)  
3288.4869 7.3888e-005 2.4550e-004 (0.0157)  
9318.4490 -5.3103e-005 -1.1780e-004 2.1774e-004 (0.0148)

ABYSS\_PIN to OT01 (1) 3560.3907 6.4598e-005 (0.0080)  
-2020.0198 6.2331e-005 1.0589e-004 (0.0103)  
-666.8245 -2.8587e-005 -6.2521e-005 1.0034e-004 (0.0100)

ABYSS\_PIN to OT208 (1) 18889.0589 2.8137e-004 (0.0168)  
-5217.9689 3.0699e-004 5.4642e-004 (0.0234)  
2865.0654 -1.4366e-004 -2.7964e-004 3.2058e-004 (0.0179)

ABYSS\_PIN to OT209 (1) 16473.8956 2.0031e-004 (0.0142)  
-734.3865 1.9601e-004 3.4046e-004 (0.0185)  
7205.2597 -9.2511e-005 -1.4501e-004 1.8699e-004 (0.0137)

ABYSS\_PIN to OT210 (1) 15913.8269 1.5176e-004 (0.0123)  
3049.2798 2.7285e-004 1.0015e-003 (0.0316)  
10900.5097 -1.4583e-004 -4.8963e-004 4.0922e-004 (0.0202)

ABYSS\_PIN to TR05 (1) 4162.7867 1.3197e-004 (0.0115)  
-4761.6153 1.4074e-004 3.5203e-004 (0.0188)  
-3882.6288 -1.1605e-004 -1.9095e-004 2.5158e-004 (0.0159)

ABYSS\_PIN to UR01 (1) -2126.4087 3.1606e-005 (0.0056)  
1187.0415 3.0628e-005 1.1390e-004 (0.0107)  
332.3226 -6.5903e-006 -2.8343e-005 3.2143e-005 (0.0057)

ABYSS\_PIN to UR01A (1) -2185.7225 3.2709e-005 (0.0057)  
1176.5023 3.5661e-005 9.8235e-005 (0.0099)  
285.3080 -3.0982e-005 -5.6802e-005 7.3437e-005 (0.0086)

ABYSS\_PIN to UR02 (1) 3598.6719 1.7079e-004 (0.0131)  
-5797.3789 1.6370e-004 4.1359e-004 (0.0203)  
-5526.4407 -6.4753e-005 -7.1021e-005 1.2753e-004 (0.0113)

ABYSS\_PIN to UR03 (1) 6119.3700 2.8376e-005 (0.0053)



-2478.7445 3.2990e-005 8.9916e-005 (0.0095)  
168.1889 -1.1365e-005 -2.6015e-005 4.9348e-005 (0.0070)

ABYSS\_PIN to UR10 (1) 9641.4112 1.1431e-004 (0.0107)  
-7546.3865 1.0642e-004 3.6162e-004 (0.0190)  
-4407.3818 -2.9149e-005 -9.5127e-005 1.1579e-004 (0.0108)

ABYSS\_PIN to UR208 (1) 9157.5694 1.3838e-004 (0.0118)  
1652.4134 1.4817e-004 3.8165e-004 (0.0195)  
5313.7636 -8.2982e-005 -2.8258e-004 4.5593e-004 (0.0214)

ABYSS\_PIN to UR209 (1) 11436.4953 9.4614e-005 (0.0097)  
-3107.6630 1.0869e-004 3.4899e-004 (0.0187)  
962.2478 -3.6305e-005 -1.2619e-004 1.7081e-004 (0.0131)

ABYSS\_PIN to VVA551 (1) 9141.3369 9.5256e-005 (0.0098)  
1666.9977 1.1599e-004 3.7223e-004 (0.0193)  
5325.4595 -3.9609e-005 -1.2388e-004 1.5691e-004 (0.0125)

AZPG to ABYSS\_PIN (1) -80989.4447 2.3995e-005 (0.0049)  
-28641.4130 6.0748e-006 1.9774e-005 (0.0044)  
-75403.8142 -5.1865e-006 -8.0982e-006 8.1718e-006 (0.0029)

AZPG to ABYSS\_PIN (4) -80989.4522 1.5006e-003 (0.0387)  
-28641.4593 -3.5017e-004 1.7780e-003 (0.0422)  
-75403.7759 -1.4542e-004 -3.4712e-004 6.8594e-004 (0.0262)

AZPG to BKUP\_B (2) -68008.9743 3.0776e-004 (0.0175)  
-9123.0018 -1.2461e-005 2.4675e-004 (0.0157)  
-43061.7735 -2.2284e-005 -4.7581e-005 8.3419e-005 (0.0091)

AZPG to BKUP\_B (4) -68008.9258 7.1457e-005 (0.0085)  
-9122.9994 -4.0730e-005 8.5575e-005 (0.0093)  
-43061.7220 -2.0292e-006 -1.5149e-005 2.3998e-005 (0.0049)

AZPG to CAPE (2) -60041.7229 1.4503e-004 (0.0120)  
-32849.0005 -2.1702e-005 1.4351e-004 (0.0120)  
-69397.5785 -2.4536e-005 -4.0791e-005 7.2215e-005 (0.0085)

AZPG to DESERT\_VIEW (1) -52036.6328 1.3282e-004 (0.0115)  
-41791.8890 -9.8873e-006 1.2893e-004 (0.0114)  
-76893.2573 -2.1024e-005 -3.7053e-005 5.5916e-005 (0.0075)

AZPG to HG03 (1) -70003.2280 3.5868e-002 (0.1894)  
-19120.0196 1.7030e-003 2.2264e-002 (0.1492)  
-56951.4856 -8.6612e-003 -5.2833e-003 1.8400e-002 (0.1356)

AZPG to SIGNAL\_HILL (1) -92773.6906 3.3543e-005 (0.0058)

-15910.8805 1.4244e-006 3.5710e-005 (0.0060)  
-65397.0988 -7.2315e-006 -1.1574e-005 1.4306e-005 (0.0038)

AZPG to TR01 (1) -60079.0216 1.7024e-003 (0.0413)  
-32881.7887 -4.0799e-004 1.3557e-003 (0.0368)  
-69454.6825 -1.8951e-004 -3.8656e-004 8.0643e-004 (0.0284)

BE01 to SIGNAL\_HILL (1) 3368.2796 3.0756e-005 (0.0055)  
154.4950 3.2364e-005 9.8075e-005 (0.0099)  
2158.9810 -2.9229e-005 -5.3686e-005 7.3316e-005 (0.0086)

BE03 to DESERT\_VIEW (1) 3764.0583 3.4346e-005 (0.0059)  
378.6300 3.3712e-005 9.2894e-005 (0.0096)  
2573.8868 -2.3107e-005 -4.5766e-005 5.8444e-005 (0.0076)

BE04 to BKUP\_B (1) -9314.7776 1.0951e-003 (0.0331)  
13531.3658 -1.2654e-003 3.0504e-003 (0.0552)  
12243.3062 5.6293e-005 -3.5891e-004 3.3099e-004 (0.0182)

BE05 to BKUP\_B (1) 14514.7291 1.7301e-004 (0.0132)  
-1396.3969 1.9347e-004 4.3138e-004 (0.0208)  
6077.1930 -1.0003e-004 -1.6985e-004 2.2165e-004 (0.0149)

BE07 to BKUP\_B (1) -6765.1023 1.0249e-004 (0.0101)  
13826.3496 9.2460e-005 3.7387e-004 (0.0193)  
14240.2721 -4.5499e-005 -1.4711e-004 2.0006e-004 (0.0141)

BE09 to BKUP\_B (1) 828.1711 7.5124e-004 (0.0274)  
5917.7672 -1.1050e-004 2.6474e-004 (0.0163)  
7837.7031 -8.7835e-005 -5.8250e-005 1.5516e-004 (0.0125)

BE101 to SHIVWITS (1) -8972.3201 2.6582e-004 (0.0163)  
6289.5575 3.4175e-004 9.4477e-004 (0.0307)  
5218.1976 -1.2578e-004 -1.9127e-004 1.8925e-004 (0.0138)

BE102 to SHIVWITS (1) -13593.7110 1.5148e-004 (0.0123)  
3556.1198 1.3615e-004 3.9540e-004 (0.0199)  
-681.9259 -7.8982e-005 -1.5786e-004 2.2424e-004 (0.0150)

BE103 to SHIVWITS (1) -15168.3108 1.4289e-004 (0.0120)  
-7591.2778 1.7997e-004 4.7994e-004 (0.0219)  
-15555.4873 -6.8698e-005 -1.7259e-004 1.8508e-004 (0.0136)

BE104 to WHITMORE (1) -1513.1428 7.8538e-005 (0.0089)  
4980.8420 7.3458e-005 2.4609e-004 (0.0157)  
6454.8308 -5.5279e-005 -1.2328e-004 2.2658e-004 (0.0151)

BE105 to DAVIAN (1) 9950.3242 1.2790e-004 (0.0113)

3256.2910 1.5134e-004 4.1668e-004 (0.0204)  
10571.0418 -8.3685e-005 -1.4539e-004 2.2114e-004 (0.0149)

BE106 to DAVIAN (1) -12882.9618 1.1314e-004 (0.0106)  
7183.0315 9.9291e-005 2.4691e-004 (0.0157)  
2532.1007 -6.2671e-005 -8.2037e-005 1.9157e-004 (0.0138)

BE107 to DAVIAN (1) -23326.2758 4.3765e-005 (0.0066)  
10050.5406 -2.9715e-005 1.0534e-004 (0.0103)  
648.3519 -3.9182e-006 -2.1052e-005 2.1173e-005 (0.0046)

BE204 to DESERT\_VIEW (1) -5987.6902 1.0377e-004 (0.0102)  
-7705.4186 9.3472e-005 3.0272e-004 (0.0174)  
-12150.4482 -4.0924e-005 -1.0688e-004 1.6021e-004 (0.0127)

BE701 to WHITMORE (1) 9881.7546 1.1015e-004 (0.0105)  
10178.7746 1.0850e-004 2.9456e-004 (0.0172)  
20281.2717 -7.3504e-005 -1.3045e-004 1.8230e-004 (0.0135)

BKUP\_B to BR04 (1) -13803.2022 1.5791e-003 (0.0397)  
-8132.0909 1.2592e-003 4.9812e-003 (0.0706)  
-17996.0389 -4.5520e-004 -1.6902e-003 8.3999e-004 (0.0290)

BKUP\_B to BR03 (1) -18915.3035 2.0822e-004 (0.0144)  
3770.0602 3.0046e-004 7.8663e-004 (0.0280)  
-5517.5093 -2.0695e-004 -4.7358e-004 4.7050e-004 (0.0217)

BKUP\_B to BR06 (1) 7965.2607 9.1307e-005 (0.0096)  
-23763.4804 1.0328e-004 2.9499e-004 (0.0172)  
-26379.2854 -3.4995e-005 -9.4133e-005 1.8251e-004 (0.0135)

BKUP\_B to BR07 (1) -9795.9412 1.2962e-004 (0.0114)  
-1120.6466 1.0458e-004 3.0897e-004 (0.0176)  
-6780.8292 -6.4749e-005 -1.4366e-004 2.0412e-004 (0.0143)

BKUP\_B to HG04 (1) 9743.7280 1.2930e-004 (0.0114)  
-21959.3245 1.5917e-004 5.0676e-004 (0.0225)  
-23112.7137 -1.2384e-004 -2.8920e-004 3.2165e-004 (0.0179)

BKUP\_B to LCP104A (1) -15246.3493 5.1264e-005 (0.0072)  
-8893.6384 -3.2431e-005 1.0918e-004 (0.0104)  
-19707.1932 -1.7036e-006 -1.3949e-005 2.0908e-005 (0.0046)

BKUP\_B to LCP107A (1) -832.1628 9.7065e-004 (0.0312)  
-5903.5093 9.5565e-005 3.4694e-004 (0.0186)  
-7821.5214 -1.5307e-004 -9.8014e-005 1.7515e-004 (0.0132)

BKUP\_B to LCP108A (1) 9304.2406 1.6396e-003 (0.0405)

-13513.8507 -1.1300e-003 2.8408e-003 (0.0533)  
-12226.5750 3.9345e-004 -1.0021e-003 1.0172e-003 (0.0319)

BKUP\_B to LCP702 (1) 6765.3156 1.1696e-004 (0.0108)  
-13827.7924 9.6071e-005 3.6845e-004 (0.0192)  
-14241.8381 -6.9936e-005 -1.7494e-004 2.3837e-004 (0.0154)

BKUP\_B to LCP704 (1) -10065.7423 3.7506e-004 (0.0194)  
-516.2596 1.9208e-004 4.7261e-004 (0.0217)  
-6003.8980 -4.0213e-004 -1.2566e-004 7.6043e-004 (0.0276)

BKUP\_B to OT02 (1) 9166.6715 6.9156e-004 (0.0263)  
-13411.4886 -9.9612e-005 5.8015e-004 (0.0241)  
-12172.9754 -7.0502e-005 -1.8444e-004 3.3384e-004 (0.0183)

BKUP\_B to OT05 (1) 7947.5696 3.7724e-004 (0.0194)  
-23772.2358 4.2165e-004 7.8288e-004 (0.0280)  
-26400.4878 -2.6661e-004 -4.0152e-004 7.5608e-004 (0.0275)

BKUP\_B to TR01 (1) 7929.9044 9.4801e-005 (0.0097)  
-23758.7879 1.0804e-004 2.9035e-004 (0.0170)  
-26392.9666 -3.7536e-005 -8.6223e-005 1.8043e-004 (0.0134)

BKUP\_B to TR04 (1) 9650.4836 1.0291e-004 (0.0101)  
-18298.6116 1.1221e-004 3.4709e-004 (0.0186)  
-18283.1049 -8.8005e-005 -1.5540e-004 2.2553e-004 (0.0150)

BKUP\_B to TR06 (1) 832.7226 2.1086e-004 (0.0145)  
-9189.9974 2.5382e-004 5.9087e-004 (0.0243)  
-11113.0218 -1.3200e-004 -2.5024e-004 2.3403e-004 (0.0153)

BKUP\_B to TR07 (1) -9631.3712 4.0199e-003 (0.0634)  
-7212.4851 -2.1472e-003 9.1250e-003 (0.0955)  
-14482.7576 -1.3404e-003 -5.0751e-004 1.9610e-003 (0.0443)

BKUP\_B to TR07B (1) -6646.2028 2.4328e-003 (0.0493)  
-7515.1326 -1.0289e-003 6.4194e-003 (0.0801)  
-13124.9776 -1.1179e-004 -5.5212e-004 4.9675e-004 (0.0223)

BKUP\_B to TR07C (1) -5261.9943 7.6909e-004 (0.0277)  
-8206.2161 -1.8217e-004 1.7882e-003 (0.0423)  
-13322.4217 -1.4612e-004 -2.5905e-004 3.0765e-004 (0.0175)

BKUP\_B to UR05 (1) 1250.1136 1.3813e-004 (0.0118)  
-13927.2044 2.2881e-004 1.8534e-003 (0.0431)  
-17255.7842 -8.6450e-005 -1.5890e-005 2.4618e-004 (0.0157)

BKUP\_B to UR06 (1) 2778.7371 9.9150e-005 (0.0100)

-11501.1048 9.8908e-005 4.8677e-004 (0.0221)  
-13300.4000 -2.8845e-005 -1.1236e-004 1.6020e-004 (0.0127)

BKUP\_B to UR07 (1) -799.4946 9.5998e-005 (0.0098)  
-6281.3420 1.0094e-004 3.0583e-004 (0.0175)  
-8291.7343 -8.8970e-005 -1.6087e-004 2.2356e-004 (0.0150)

BKUP\_B to XLCP701 (1) 8766.3445 1.0739e-004 (0.0104)  
-23405.2182 1.7836e-004 7.5984e-004 (0.0276)  
-25476.4515 -7.2798e-005 -2.5277e-004 2.6841e-004 (0.0164)

BKUP\_B to XNVA701 (1) 8776.9671 1.1852e-004 (0.0109)  
-23407.0061 1.7628e-004 5.0237e-004 (0.0224)  
-25472.3390 -6.6544e-005 -1.7120e-004 1.8613e-004 (0.0136)

BKUP\_B to XVVA701 (1) -10069.8078 9.3813e-005 (0.0097)  
-520.3227 1.0990e-004 4.1634e-004 (0.0204)  
-6011.4718 -4.1553e-005 -5.4389e-005 1.4483e-004 (0.0120)

BR01 to SIGNAL\_HILL (1) 2625.7641 3.6802e-005 (0.0061)  
-266.9076 2.9472e-005 6.6951e-005 (0.0082)  
1204.4857 -9.7184e-006 -2.2800e-005 4.4701e-005 (0.0067)

DESERT\_VIEW to BR02 (1) 1736.6368 3.4367e-005 (0.0059)  
-883.1718 3.3490e-005 8.5775e-005 (0.0093)  
-388.2314 -2.4266e-005 -4.4526e-005 5.6873e-005 (0.0075)

BR04 to CAPE (1) 21770.4984 1.3948e-003 (0.0373)  
-15594.0473 8.6891e-004 4.3216e-003 (0.0657)  
-8339.7378 -1.7646e-004 -1.5092e-003 7.5545e-004 (0.0275)

BR05 to DESERT\_VIEW (1) 14307.3733 9.5000e-005 (0.0097)  
-2583.2729 8.7930e-005 2.6123e-004 (0.0162)  
4068.8896 -3.6433e-005 -6.4809e-005 1.1806e-004 (0.0109)

BR101 to SHIVWITS (1) -11339.7824 1.8263e-004 (0.0135)  
2127.6525 2.2741e-004 5.6712e-004 (0.0238)  
-1911.6990 -1.7730e-004 -5.2305e-004 7.6282e-004 (0.0276)

BR102 to WHITMORE (1) 834.4987 1.0202e-004 (0.0101)  
6199.4834 8.6646e-005 2.3968e-004 (0.0155)  
9256.5762 -6.9068e-005 -1.0992e-004 2.1089e-004 (0.0145)

BR103 to WHITMORE (1) -26111.0849 1.0736e-004 (0.0104)  
6370.5321 1.3472e-004 8.2114e-004 (0.0287)  
-4056.6557 -1.2829e-004 -6.8585e-004 8.5737e-004 (0.0293)

BR206 to DESERT\_VIEW (1) -6235.8197 1.4472e-004 (0.0120)

-1779.1626 7.2307e-005 3.2611e-004 (0.0181)  
-4766.3811 -1.8556e-004 -7.7415e-006 7.2935e-004 (0.0270)

DAVIAN to HG102 (1) -7715.8776 1.1447e-004 (0.0107)  
-3713.6458 1.5954e-004 5.2239e-004 (0.0229)  
-9544.0539 -6.3241e-005 -1.8830e-004 1.8440e-004 (0.0136)

DAVIAN to OT105 (1) -13293.8572 1.1946e-004 (0.0109)  
-2131.6453 1.4583e-004 4.2072e-004 (0.0205)  
-10170.0024 -5.6759e-005 -1.3860e-004 1.4802e-004 (0.0122)

DAVIAN to OT106 (1) 4683.2714 2.7182e-004 (0.0165)  
-4764.6110 1.2116e-004 8.5939e-004 (0.0293)  
-5047.2421 1.6058e-004 -1.0727e-003 2.0477e-003 (0.0453)

DAVIAN to OT107 (1) 19954.9414 1.0919e-004 (0.0104)  
-8065.4987 9.2523e-005 3.1389e-004 (0.0177)  
-360.6937 -9.4312e-005 -9.2900e-005 3.2205e-004 (0.0179)

DAVIAN to UR105 (1) -2932.4929 2.0420e-004 (0.0143)  
-4100.5663 2.5765e-004 6.0699e-004 (0.0246)  
-7868.4317 -2.9743e-004 -6.4976e-004 1.1244e-003 (0.0335)

DAVIAN to UR106 (1) 10303.4859 1.9234e-004 (0.0139)  
-5379.9778 2.0241e-004 3.9249e-004 (0.0198)  
-1544.7859 -1.6757e-004 -3.6810e-004 6.5591e-004 (0.0256)

DESERT\_VIEW to LCP209 (1) 6779.2152 8.3614e-005 (0.0091)  
4451.6989 8.5898e-005 3.2375e-004 (0.0180)  
8379.1335 -5.1978e-005 -1.7102e-004 2.3239e-004 (0.0152)

DESERT\_VIEW to HG05 (1) -2601.4016 3.0855e-005 (0.0056)  
-172.3873 2.8817e-005 1.1153e-004 (0.0106)  
-1670.5053 -7.6566e-006 -3.1968e-005 3.8257e-005 (0.0062)

DESERT\_VIEW to LCP551 (1) 8266.3771 7.9935e-005 (0.0089)  
6266.9298 7.4933e-005 2.5011e-004 (0.0158)  
11371.5669 -5.4574e-005 -1.2435e-004 2.2406e-004 (0.0150)

DESERT\_VIEW to LCP701 (1) -3725.2927 2.8483e-005 (0.0053)  
-399.0039 2.9258e-005 9.5183e-005 (0.0098)  
-2578.7987 -2.6288e-005 -4.7139e-005 6.8865e-005 (0.0083)

DESERT\_VIEW to OT04 (1) -14305.8011 1.3572e-004 (0.0116)  
1153.0901 1.3672e-004 3.5703e-004 (0.0189)  
-5887.4278 -9.0054e-005 -1.6595e-004 1.9184e-004 (0.0139)

DESERT\_VIEW to OT202 (1) 8283.7472 1.1331e-004 (0.0106)

6197.3893 1.2829e-004 3.6621e-004 (0.0191)  
11292.7705 -7.3311e-005 -1.9450e-004 2.5310e-004 (0.0159)

DESERT\_VIEW to TR201 (1) 6759.9457 1.2184e-004 (0.0110)  
4444.7781 9.3527e-005 3.0221e-004 (0.0174)  
8361.6959 -8.4116e-005 -7.8053e-005 3.3121e-004 (0.0182)

DESERT\_VIEW to UR04 (1) 425.3524 2.5496e-005 (0.0050)  
-92.7086 2.5137e-005 8.9629e-005 (0.0095)  
88.5017 -2.2839e-005 -4.0244e-005 6.3414e-005 (0.0080)

FERN to BE204 (1) 75262.9953 3.7034e-004 (0.0192)  
27940.3472 -3.6077e-004 8.7917e-004 (0.0297)  
75438.9583 4.1412e-005 -1.9811e-004 1.6875e-004 (0.0130)

FERN to ABYSS\_PIN (1) 40322.5017 6.8825e-006 (0.0026)  
33385.3780 -2.1538e-006 7.8945e-006 (0.0028)  
64777.9633 -8.3863e-007 -2.5844e-006 2.8736e-006 (0.0017)

FERN to ABYSS\_PIN (2) 40322.4592 8.5144e-005 (0.0092)  
33385.3921 -5.0468e-005 1.1760e-004 (0.0108)  
64777.9581 -1.0776e-005 -2.1465e-005 3.2577e-005 (0.0057)

FERN to ABYSS\_PIN (3) 40322.4853 7.7017e-006 (0.0028)  
33385.3824 1.5504e-006 1.1805e-005 (0.0034)  
64777.9640 -1.4470e-006 -3.7423e-006 3.2116e-006 (0.0018)

FERN to ABYSS\_PIN (5) 40322.4671 2.6557e-003 (0.0515)  
33385.4056 -2.7144e-003 5.0396e-003 (0.0710)  
64777.9880 -6.5237e-005 -5.6183e-004 6.8876e-004 (0.0262)

FERN to AZPG (1) 121311.9451 6.6428e-006 (0.0026)  
62026.8153 -1.1726e-007 4.4420e-006 (0.0021)  
140181.7609 -8.1234e-007 -1.9495e-006 2.1326e-006 (0.0015)

FERN to AZPG (2) 121311.9518 1.2345e-005 (0.0035)  
62026.8087 1.0148e-006 1.1328e-005 (0.0034)  
140181.7635 -1.1345e-006 -4.1016e-006 4.0158e-006 (0.0020)

FERN to AZPG (7) 121311.9451 6.6428e-006 (0.0026)  
62026.8153 -1.1726e-007 4.4420e-006 (0.0021)  
140181.7609 -8.1234e-007 -1.9495e-006 2.1326e-006 (0.0015)

FERN to AZPG (8) 121311.9518 1.2345e-005 (0.0035)  
62026.8087 1.0148e-006 1.1328e-005 (0.0034)  
140181.7635 -1.1345e-006 -4.1016e-006 4.0158e-006 (0.0020)

FERN to BE02 (1) 35955.6236 1.8253e-002 (0.1351)

33770.2559 -1.6086e-002 3.2173e-002 (0.1794)  
62779.1608 -1.3580e-004 -2.6020e-003 3.6927e-003 (0.0608)

FERN to BE104 (1) -44529.8603 2.1174e-004 (0.0146)  
73644.1493 8.2080e-005 7.4068e-004 (0.0272)  
69107.5755 -7.1270e-005 -1.7791e-004 1.8711e-004 (0.0137)

FERN to BE106 (1) -14201.7560 3.9674e-004 (0.0199)  
70966.1952 -1.6631e-004 5.1587e-004 (0.0227)  
82233.2619 -4.8228e-005 -6.4199e-005 1.1840e-004 (0.0109)

FERN to BE107 (1) -3758.4215 1.7340e-004 (0.0132)  
68098.6880 8.2545e-005 4.2915e-004 (0.0207)  
84117.0182 -5.3657e-005 -1.1694e-004 8.5413e-005 (0.0092)

FERN to BE208 (1) 50594.2814 4.6579e-004 (0.0216)  
36632.7508 -2.4102e-004 7.3808e-004 (0.0272)  
74070.2869 -9.9451e-006 3.9311e-005 1.4486e-004 (0.0120)

FERN to BE209 (1) 50015.2122 2.9276e-004 (0.0171)  
33558.2133 -1.1490e-004 2.3926e-004 (0.0155)  
67746.1418 -3.6957e-005 -6.0519e-005 8.8664e-005 (0.0094)

FERN to BE210 (1) 55768.0254 1.4725e-004 (0.0121)  
27331.1344 -4.8305e-005 5.9228e-004 (0.0243)  
63481.0275 -1.4838e-005 -1.1647e-004 1.0054e-004 (0.0100)

FERN to BE701 (1) -55924.7754 9.9608e-005 (0.0100)  
68446.2584 -2.7470e-005 8.4005e-005 (0.0092)  
55281.1223 2.2195e-006 -2.1401e-005 2.7443e-005 (0.0052)

FERN to BKUP\_B (1) 53303.0100 8.5512e-006 (0.0029)  
52903.8208 -2.3347e-006 1.9425e-005 (0.0044)  
97120.0128 -7.2264e-007 -5.1921e-006 4.2453e-006 (0.0021)

FERN to BKUP\_B (3) 53302.9969 9.9682e-006 (0.0032)  
52903.8018 -4.5978e-006 2.1556e-005 (0.0046)  
97120.0390 2.5568e-008 -6.0460e-006 4.7398e-006 (0.0022)

FERN to BKUP\_B (4) 53303.0040 2.8351e-005 (0.0053)  
52903.7948 9.7041e-007 1.0086e-004 (0.0100)  
97120.0416 -1.0568e-005 -2.6107e-005 2.4836e-005 (0.0050)

FERN to BR101 (1) -61043.6559 4.4804e-004 (0.0212)  
63065.6438 -2.2084e-004 4.6247e-004 (0.0215)  
46430.1961 -3.4132e-005 -1.0874e-004 1.4530e-004 (0.0121)

FERN to BR103 (1) -19931.9068 4.5075e-004 (0.0212)



72254.4724 2.6648e-004 2.8520e-004 (0.0169)  
79619.0277 -9.6326e-005 -8.4096e-005 5.0945e-005 (0.0071)

FERN to CAPE (1) 61270.2391 1.0743e-005 (0.0033)  
29177.7797 1.9205e-006 2.0510e-005 (0.0045)  
70784.2021 -2.3639e-006 -5.7705e-006 5.1537e-006 (0.0023)

FERN to DAVIAN (1) -27084.6901 2.7126e-005 (0.0052)  
78149.1667 -1.0595e-005 2.7730e-005 (0.0053)  
84765.3754 -2.8617e-006 -9.1398e-006 1.0233e-005 (0.0032)

FERN to DESERT\_VIEW (1) 69275.2880 7.5075e-006 (0.0027)  
20234.9428 -1.1208e-006 1.3884e-005 (0.0037)  
63288.4973 -9.5665e-007 -4.2654e-006 3.8762e-006 (0.0020)

FERN to HG02 (1) 49025.3700 1.7436e-003 (0.0418)  
26891.8637 -7.5725e-004 4.9695e-003 (0.0705)  
61194.7485 4.0564e-007 -1.0401e-003 1.0187e-003 (0.0319)

FERN to HG05 (1) 66673.8886 1.6399e-003 (0.0405)  
20062.6054 -7.0321e-004 2.1604e-003 (0.0465)  
61617.9903 -1.9088e-005 -5.2726e-004 9.3450e-004 (0.0306)

FERN to LCP103 (1) -56854.7554 2.9977e-003 (0.0548)  
74644.4762 -3.2573e-003 4.8805e-003 (0.0699)  
62655.7274 6.2879e-004 -9.1558e-004 4.2884e-004 (0.0207)

FERN to LCP104 (1) -46882.1898 4.7240e-004 (0.0217)  
72425.7946 -6.0597e-004 3.1252e-003 (0.0559)  
66303.6291 1.9985e-005 -3.5738e-004 2.2422e-004 (0.0150)

FERN to LCP105A (1) 48120.4360 5.7877e-003 (0.0761)  
44675.9809 2.5035e-003 1.9633e-002 (0.1401)  
83811.0378 -7.2583e-004 -2.5485e-003 2.0821e-003 (0.0456)

FERN to LCP209 (1) 76054.5097 1.4694e-004 (0.0121)  
24686.6432 -5.5069e-005 6.4688e-004 (0.0254)  
71667.6181 -5.0834e-006 -1.1639e-004 9.3654e-005 (0.0097)

FERN to LCP211 (1) 50543.2296 1.5296e-004 (0.0124)  
36673.8992 2.5965e-005 3.6979e-004 (0.0192)  
74096.4258 -3.2921e-005 -9.2443e-005 9.5956e-005 (0.0098)

FERN to LCP551 (1) 77541.6586 1.7134e-004 (0.0131)  
26501.9406 5.4455e-005 4.8962e-004 (0.0221)  
74660.0480 -3.4456e-005 -1.0399e-004 9.3842e-005 (0.0097)

FERN to LCP552 (1) -28140.8820 3.7734e-003 (0.0614)

73578.6011 -2.6852e-003 4.4289e-003 (0.0666)  
78339.3445 9.1036e-005 -7.5687e-004 8.7854e-004 (0.0296)

FERN to LCP701 (1) 65550.0275 2.1884e-003 (0.0468)  
19835.9671 8.9365e-004 4.6066e-003 (0.0679)  
60709.7249 -2.4774e-004 -7.5406e-004 6.9552e-004 (0.0264)

FERN to LCP703 (1) 33123.8664 3.2235e-003 (0.0568)  
57224.4207 -1.1751e-003 4.0333e-003 (0.0635)  
91571.1262 -8.6048e-004 -8.2096e-004 2.1756e-003 (0.0466)

FERN to OT04 (1) 54969.4912 5.5395e-004 (0.0235)  
21388.0072 -5.3537e-004 7.5825e-003 (0.0871)  
57401.0780 7.7390e-006 -8.5523e-004 3.1829e-004 (0.0178)

FERN to OT06 (1) 33215.8097 5.5718e-003 (0.0746)  
55722.6216 -5.6727e-003 9.5651e-003 (0.0978)  
89711.4216 1.5439e-005 -5.6751e-004 8.5151e-004 (0.0292)

FERN to OT07 (1) 53211.3335 3.9057e-003 (0.0625)  
40400.7682 1.9316e-003 7.1471e-003 (0.0845)  
81076.6839 -2.1398e-004 -9.0015e-004 9.1558e-004 (0.0303)

FERN to OT101 (1) -62769.9718 3.7399e-004 (0.0193)  
58780.2724 3.4749e-004 1.2175e-003 (0.0349)  
39200.8161 -1.5722e-004 -3.5925e-004 1.8420e-004 (0.0136)

FERN to OT107 (1) -7129.7681 1.7774e-004 (0.0133)  
70083.7511 8.5824e-005 5.4265e-004 (0.0233)  
84404.6592 -5.9104e-005 -1.4236e-004 9.0153e-005 (0.0095)

FERN to OT202 (1) 77559.0135 1.6062e-004 (0.0127)  
26432.3797 9.1014e-006 5.7183e-004 (0.0239)  
74581.2714 -1.8583e-005 -1.0631e-004 9.5832e-005 (0.0098)

FERN to SHIVWITS (1) -72383.4345 3.1274e-005 (0.0056)  
65193.3251 -1.0669e-005 4.4769e-005 (0.0067)  
44518.4309 -4.8700e-006 -1.0170e-005 1.1160e-005 (0.0033)

FERN to SHIVWITS (2) -72383.4344 2.0821e-005 (0.0046)  
65193.3247 -7.0545e-006 2.9383e-005 (0.0054)  
44518.4311 -3.2228e-006 -6.7144e-006 7.3871e-006 (0.0027)

FERN to SHIVWITS (3) -72383.4313 3.8736e-005 (0.0062)  
65193.2932 -1.6781e-005 2.7783e-005 (0.0053)  
44518.4424 -5.0696e-006 -6.4900e-006 1.0497e-005 (0.0032)

FERN to SIGNAL\_HILL (1) 28538.2272 1.6026e-005 (0.0040)

46115.9103 8.6916e-007 2.7002e-005 (0.0052)  
74784.6891 -3.7191e-006 -7.0824e-006 7.3796e-006 (0.0027)

FERN to SIGNAL\_HILL (2) 28538.2272 1.6026e-005 (0.0040)  
46115.9103 8.6916e-007 2.7002e-005 (0.0052)  
74784.6891 -3.7191e-006 -7.0824e-006 7.3796e-006 (0.0027)

FERN to TR01 (1) 61232.8929 1.8667e-003 (0.0432)  
29145.0087 -6.1155e-004 1.3890e-003 (0.0373)  
70727.0447 -2.5998e-004 -2.7747e-004 7.3699e-004 (0.0271)

FERN to TR03 (1) 34028.8095 6.3831e-003 (0.0799)  
55252.1822 -1.1596e-002 3.0733e-002 (0.1753)  
89580.1573 2.0191e-004 -3.7086e-003 2.2108e-003 (0.0470)

FERN to TR102 (1) -42401.4227 2.7016e-004 (0.0164)  
76365.3209 -3.2254e-004 9.5319e-004 (0.0309)  
73447.7283 2.2070e-005 -1.2793e-004 1.0811e-004 (0.0104)

FERN to TR201 (1) 76035.2314 3.1933e-004 (0.0179)  
24679.7318 -1.1761e-004 3.0882e-004 (0.0176)  
71650.1873 -4.9867e-006 -9.6816e-005 1.7093e-004 (0.0131)

FERN to UR01 (1) 38196.0776 1.5053e-003 (0.0388)  
34572.3933 -6.6935e-004 2.4099e-003 (0.0491)  
65110.2921 -3.5673e-006 -5.5778e-004 8.4932e-004 (0.0291)

FERN to UR07 (1) 52503.5131 2.5574e-003 (0.0506)  
46622.4863 9.5729e-004 6.2336e-003 (0.0790)  
88828.2981 -2.6207e-004 -1.0100e-003 9.2400e-004 (0.0304)

FERN to UR101 (1) -60754.6388 1.0113e-003 (0.0318)  
61200.6753 -1.0864e-003 1.4776e-003 (0.0384)  
43725.8469 1.2283e-004 -1.8699e-004 1.1668e-004 (0.0108)

FERN to UR103 (1) -71907.4925 6.0071e-004 (0.0245)  
60733.5924 -4.7881e-004 7.4001e-004 (0.0272)  
37112.1209 -8.0003e-006 -4.5502e-005 1.1147e-004 (0.0106)

FERN to UR105 (1) -30017.2097 4.1095e-004 (0.0203)  
74048.6414 -2.3039e-004 4.6493e-004 (0.0216)  
76896.9610 -1.9709e-005 -1.0239e-004 1.3223e-004 (0.0115)

FERN to UR106B (1) -28163.0445 3.0903e-004 (0.0176)  
73599.1240 7.4083e-005 6.0844e-004 (0.0247)  
78354.4307 -7.3018e-005 -1.5567e-004 1.1986e-004 (0.0109)

FERN to UR107 (1) -55957.5478 3.7305e-004 (0.0193)

68769.5507 -9.4870e-005 1.7975e-004 (0.0134)  
55701.6111 -7.2701e-005 -3.0436e-005 9.0734e-005 (0.0095)

FERN to VVA551 (1) 49463.8659 1.3150e-003 (0.0363)  
35052.3740 -3.8999e-004 3.2761e-004 (0.0181)  
70103.3907 -2.4013e-004 8.5525e-006 1.4149e-004 (0.0119)

FERN to VVA552 (1) -28164.8283 2.3538e-003 (0.0485)  
73586.4222 -2.1849e-003 3.5301e-003 (0.0594)  
78337.7299 2.5970e-004 -3.1146e-004 2.9874e-004 (0.0173)

FERN to WHITMORE (1) -46043.0004 3.2473e-005 (0.0057)  
78625.0135 -2.1185e-005 7.7493e-005 (0.0088)  
75562.3990 8.1928e-007 -2.2612e-005 1.6868e-005 (0.0041)

FERN to WHITMORE (3) -46042.9859 5.5051e-005 (0.0074)  
78625.0270 1.5902e-005 3.1247e-005 (0.0056)  
75562.3773 -9.5736e-006 -1.1250e-005 1.1855e-005 (0.0034)

FRED to BE209 (1) 12413.7194 3.2516e-004 (0.0180)  
-67792.9144 -1.2776e-004 2.6594e-004 (0.0163)  
-79639.3905 -4.1024e-005 -6.7046e-005 9.9079e-005 (0.0100)

FRED to ABYSS\_PIN (1) 2721.0256 1.0944e-005 (0.0033)  
-67965.7275 -3.3934e-006 1.2417e-005 (0.0035)  
-82607.5853 -1.3909e-006 -4.2821e-006 4.7477e-006 (0.0022)

FRED to BE204 (1) 37661.5281 3.7228e-004 (0.0193)  
-73410.7400 -3.6317e-004 8.8341e-004 (0.0297)  
-71946.6085 4.0245e-005 -2.0189e-004 1.7218e-004 (0.0131)

FRED to BE208 (1) 12992.8334 4.7062e-004 (0.0217)  
-64718.3691 -2.4367e-004 7.4559e-004 (0.0273)  
-73315.2481 -1.0737e-005 3.5740e-005 1.5376e-004 (0.0124)

FRED to BE210 (1) 18166.5682 1.7645e-004 (0.0133)  
-74019.9461 -6.0404e-005 7.0850e-004 (0.0266)  
-83904.5422 -1.7735e-005 -1.4043e-004 1.2293e-004 (0.0111)

FRED to DESERT\_VIEW (1) 31673.8147 1.0488e-005 (0.0032)  
-81116.1452 -1.6297e-006 1.8780e-005 (0.0043)  
-84097.0696 -1.4645e-006 -6.0052e-006 5.5722e-006 (0.0024)

FRED to FERN (1) -37601.4705 1.1702e-005 (0.0034)  
-101351.0904 2.1869e-006 1.6528e-005 (0.0041)  
-147385.5666 -3.0002e-006 -7.5906e-006 9.1564e-006 (0.0030)

FRED to FERN (2) -37601.4696 2.6735e-006 (0.0016)

-101351.0936 -5.4333e-008 1.9052e-006 (0.0014)  
-147385.5699 -3.7209e-007 -8.0893e-007 8.7099e-007 (0.0009)

FRED to LCP209 (1) 38453.0417 1.5344e-004 (0.0124)  
-76664.4374 -6.0161e-005 6.7459e-004 (0.0260)  
-75717.9486 -5.1715e-006 -1.2253e-004 9.9866e-005 (0.0100)

FRED to LCP211 (1) 12941.7827 1.5373e-004 (0.0124)  
-64677.1772 2.6070e-005 3.7288e-004 (0.0193)  
-73289.1403 -3.3086e-005 -9.4551e-005 9.7976e-005 (0.0099)

FRED to LCP551 (1) 39940.1964 1.7109e-004 (0.0131)  
-74849.1662 5.4348e-005 4.8995e-004 (0.0221)  
-72725.5151 -3.4600e-005 -1.0549e-004 9.5381e-005 (0.0098)

FRED to OT202 (1) 39957.5546 1.6053e-004 (0.0127)  
-74918.7215 8.6486e-006 5.7292e-004 (0.0239)  
-72804.2911 -1.8711e-005 -1.0793e-004 9.7547e-005 (0.0099)

FRED to TR201 (1) 38433.7781 3.3730e-004 (0.0184)  
-76671.3584 -1.2178e-004 3.2214e-004 (0.0179)  
-75735.3780 -9.2888e-006 -1.0157e-004 1.8371e-004 (0.0136)

FRED to UR208 (1) 11878.5553 6.0724e-004 (0.0246)  
-66313.3006 -3.3105e-004 5.3724e-004 (0.0232)  
-77293.7752 -3.5040e-005 -8.9520e-005 1.3708e-004 (0.0117)

FRED to VVA551 (1) 11862.3285 1.4109e-003 (0.0376)  
-66298.7389 -4.1652e-004 3.5106e-004 (0.0187)  
-77282.1242 -2.5900e-004 8.5391e-006 1.5381e-004 (0.0124)

GCES to ABYSS\_PIN (1) -4191.0799 3.6672e-005 (0.0061)  
2514.9750 3.5510e-005 9.7872e-005 (0.0099)  
929.9098 -1.8086e-005 -4.3747e-005 6.3826e-005 (0.0080)

GCES to ABYSS\_PIN (2) -4191.0849 3.4412e-005 (0.0059)  
2514.9620 3.1896e-005 7.8685e-005 (0.0089)  
929.9006 -1.6840e-005 -3.5164e-005 5.8555e-005 (0.0077)

GCES to ABYSS\_PIN (3) -4191.0789 3.1118e-005 (0.0056)  
2514.9795 3.3222e-005 8.2125e-005 (0.0091)  
929.8862 -1.5429e-005 -3.8936e-005 6.7561e-005 (0.0082)

GCES to ABYSS\_PIN (4) -4191.0914 3.4362e-005 (0.0059)  
2514.9748 2.9458e-005 7.4270e-005 (0.0086)  
929.8940 -1.2890e-005 -2.8621e-005 4.9097e-005 (0.0070)

GCES to ABYSS\_PIN (5) -4191.0831 4.4316e-005 (0.0067)

2514.9950 4.5068e-005 9.1370e-005 (0.0096)  
929.8923 -1.9652e-005 -5.2916e-005 9.0406e-005 (0.0095)

GCES to ABYSS\_PIN (6) -4191.0919 2.8755e-005 (0.0054)  
2514.9811 2.6017e-005 8.0311e-005 (0.0090)  
929.8967 -2.0423e-005 -3.8584e-005 5.9140e-005 (0.0077)

GCES to ABYSS\_PIN (7) -4191.0834 3.4658e-005 (0.0059)  
2514.9628 3.2742e-005 8.7521e-005 (0.0094)  
929.8954 -1.2668e-005 -2.7723e-005 4.8778e-005 (0.0070)

GCES to ABYSS\_PIN (8) -4191.0882 3.4079e-005 (0.0058)  
2514.9676 3.4256e-005 8.6882e-005 (0.0093)  
929.8910 -1.2148e-005 -2.7614e-005 5.2969e-005 (0.0073)

GCES to AZPG (10) 76798.3474 9.2531e-006 (0.0030)  
31156.4431 -3.0836e-006 7.9975e-006 (0.0028)  
76333.6985 8.0186e-007 -2.9053e-006 2.8403e-006 (0.0017)

GCES to AZPG (11) 76798.3510 9.5280e-006 (0.0031)  
31156.4349 -1.9071e-006 5.3998e-006 (0.0023)  
76333.7011 1.3377e-007 -2.1401e-006 2.4856e-006 (0.0016)

GCES to AZPG (12) 76798.3524 9.2425e-006 (0.0030)  
31156.4188 -3.3133e-006 9.3561e-006 (0.0031)  
76333.7196 2.8921e-007 -3.3081e-006 2.9919e-006 (0.0017)

GCES to AZPG (15) 76798.3419 1.0938e-005 (0.0033)  
31156.4445 -3.1817e-006 9.6421e-006 (0.0031)  
76333.7035 8.6677e-007 -3.5800e-006 3.4455e-006 (0.0019)

GCES to AZPG (2) 76798.3532 1.9907e-005 (0.0045)  
31156.4649 8.5179e-007 2.6514e-005 (0.0051)  
76333.6884 -1.9708e-006 -1.1173e-005 1.3889e-005 (0.0037)

GCES to AZPG (3) 76798.3421 1.8910e-005 (0.0043)  
31156.4487 -6.9211e-006 1.5507e-005 (0.0039)  
76333.7037 1.6699e-006 -5.5341e-006 5.2730e-006 (0.0023)

GCES to AZPG (4) 76798.3377 1.7634e-005 (0.0042)  
31156.4249 -4.8225e-006 1.0124e-005 (0.0032)  
76333.7157 7.3149e-007 -3.6732e-006 3.9289e-006 (0.0020)

GCES to AZPG (6) 76798.3436 8.0486e-006 (0.0028)  
31156.4447 -1.6685e-006 6.7020e-006 (0.0026)  
76333.7036 -1.8150e-008 -2.2103e-006 2.3618e-006 (0.0015)

GCES to BE01 (1) -19343.6092 1.0019e-004 (0.0100)

15090.9626 1.0108e-004 4.0943e-004 (0.0202)  
8777.6459 -9.3570e-005 -2.0085e-004 2.5112e-004 (0.0158)

GCES to BE03 (1) 20997.6752 1.2079e-004 (0.0110)  
-11014.0740 1.1808e-004 2.9890e-004 (0.0173)  
-3133.4678 -8.1071e-005 -1.4835e-004 1.8491e-004 (0.0136)

GCES to BE04 (1) 18104.1559 4.8104e-003 (0.0694)  
8502.0423 -6.5652e-003 1.1684e-002 (0.1081)  
21028.6338 4.7201e-004 -1.2727e-003 7.8460e-004 (0.0280)

GCES to BE05 (1) -5725.2996 2.3999e-004 (0.0155)  
23429.8708 3.2227e-004 7.2366e-004 (0.0269)  
27194.7377 -1.4143e-004 -2.6442e-004 2.6371e-004 (0.0162)

GCES to BE06 (1) -11386.5621 1.0086e-004 (0.0100)  
26337.3617 8.9645e-005 3.8108e-004 (0.0195)  
27705.3517 -3.3298e-005 -1.2857e-004 1.8258e-004 (0.0135)

GCES to BE07 (1) 15554.5227 9.7525e-005 (0.0099)  
8207.1233 8.4338e-005 3.5962e-004 (0.0190)  
19031.6648 -3.8014e-005 -1.3204e-004 1.8551e-004 (0.0136)

GCES to BE08 (1) 3530.0172 2.5513e-003 (0.0505)  
13824.3616 -1.3018e-003 1.5389e-002 (0.1241)  
19947.5278 7.7317e-005 -3.4141e-003 1.8943e-003 (0.0435)

GCES to BE09 (1) 7961.2651 3.5530e-003 (0.0596)  
16115.6894 9.8814e-005 1.2539e-003 (0.0354)  
25434.2393 -5.9242e-004 -2.5146e-004 1.0347e-003 (0.0322)

GCES to BE10 (1) 3512.5908 1.8069e-003 (0.0425)  
13830.5747 7.2033e-004 7.0338e-003 (0.0839)  
19946.7316 -1.0719e-004 -1.0920e-003 7.5579e-004 (0.0275)

GCES to BE103 (1) -101728.6853 9.5591e-004 (0.0309)  
41914.1848 -2.5045e-004 1.5372e-004 (0.0124)  
-3774.1599 -1.1051e-004 -1.9984e-006 7.5119e-005 (0.0087)

GCES to BE105 (1) -81548.5769 1.6430e-003 (0.0405)  
44022.5044 -4.3529e-004 2.4403e-004 (0.0156)  
10346.2316 -2.3318e-004 2.4744e-005 1.2499e-004 (0.0112)

GCES to BE106 (1) -58715.3395 3.0286e-004 (0.0174)  
40095.7949 -1.2633e-004 3.9082e-004 (0.0198)  
18385.2176 -3.6342e-005 -4.9305e-005 9.0536e-005 (0.0095)

GCES to BE107 (1) -48272.0037 1.2423e-004 (0.0111)

37228.2905 5.8254e-005 2.9482e-004 (0.0172)  
20268.9480 -3.7977e-005 -8.1291e-005 6.0846e-005 (0.0078)

GCES to BE204 (1) 30749.3794 1.0901e-004 (0.0104)  
-2930.0534 9.9602e-005 3.2523e-004 (0.0180)  
11590.8945 -4.3456e-005 -1.1549e-004 1.7168e-004 (0.0131)

GCES to BE208 (1) 6080.7171 1.2273e-004 (0.0111)  
5762.3647 1.0923e-004 2.4681e-004 (0.0157)  
10222.2541 -5.3353e-005 -8.2478e-005 1.5333e-004 (0.0124)

GCES to BE210 (1) 11254.4430 8.5332e-005 (0.0092)  
-3539.2682 8.7935e-005 3.2764e-004 (0.0181)  
-367.0203 -5.3109e-005 -1.7368e-004 2.3521e-004 (0.0153)

GCES to BE701 (1) -100438.3838 1.0196e-004 (0.0101)  
37575.8411 -2.8547e-005 8.7239e-005 (0.0093)  
-8566.9330 2.0870e-006 -2.2258e-005 2.8652e-005 (0.0054)

GCES to BKUP\_B (4) 8789.4267 1.2047e-004 (0.0110)  
22033.4481 1.0320e-004 2.8218e-004 (0.0168)  
33271.9492 -4.1126e-005 -8.3121e-005 1.5619e-004 (0.0125)

GCES to BR01 (1) -18601.1181 1.1446e-004 (0.0107)  
15512.3833 9.9592e-005 2.5667e-004 (0.0160)  
9732.1256 -3.2154e-005 -6.9370e-005 1.3874e-004 (0.0118)

GCES to BR05 (1) 10454.3465 8.5035e-005 (0.0092)  
-8052.1928 7.6550e-005 2.6819e-004 (0.0164)  
-4628.4407 -3.3270e-005 -6.0640e-005 1.1200e-004 (0.0106)

GCES to BR06 (1) 16754.6680 8.2547e-005 (0.0091)  
-1730.0526 9.1603e-005 2.6339e-004 (0.0162)  
6892.6859 -2.8831e-005 -8.3284e-005 1.6561e-004 (0.0129)

GCES to BR07 (1) -1006.5308 1.0209e-004 (0.0101)  
20912.8570 8.1163e-005 3.0980e-004 (0.0176)  
26491.0859 -5.0885e-005 -1.4860e-004 2.2085e-004 (0.0149)

GCES to BR101 (1) -105557.2407 4.9812e-004 (0.0223)  
32195.2489 -2.4625e-004 5.1621e-004 (0.0227)  
-17417.8633 -3.7444e-005 -1.2136e-004 1.6240e-004 (0.0127)

GCES to BR103 (1) -64445.5281 3.5744e-004 (0.0189)  
41384.0532 2.1101e-004 2.2514e-004 (0.0150)  
15770.9696 -7.6295e-005 -6.6513e-005 4.0382e-005 (0.0064)

GCES to BR206 (1) 30997.5169 1.1681e-004 (0.0108)



-8856.3023 1.0084e-004 3.1539e-004 (0.0178)  
4206.8212 -4.9854e-005 -1.0831e-004 1.7495e-004 (0.0132)

GCES to BR701 (1) 5519.7967 3.8305e-004 (0.0196)  
2678.7951 3.8425e-004 6.7616e-004 (0.0260)  
3895.9598 -2.7834e-004 -3.2377e-004 4.0150e-004 (0.0200)

GCES to DAVIAN (1) -71598.2741 2.0640e-005 (0.0045)  
47278.8228 -7.9019e-006 2.0007e-005 (0.0045)  
20917.2888 -2.6114e-006 -6.6357e-006 8.1861e-006 (0.0029)

GCES to DESERT\_VIEW (1) 24761.6972 1.2220e-004 (0.0111)  
-10635.4611 1.1584e-004 3.0611e-004 (0.0175)  
-559.5535 -6.3708e-005 -1.4012e-004 2.5642e-004 (0.0160)

GCES to DESERT\_VIEW (2) 24761.7257 1.1547e-004 (0.0107)  
-10635.4603 1.0367e-004 2.4735e-004 (0.0157)  
-559.5732 -5.7761e-005 -1.1033e-004 1.9036e-004 (0.0138)

GCES to DESERT\_VIEW (3) 24761.7042 1.2109e-004 (0.0110)  
-10635.4847 1.0076e-004 2.6318e-004 (0.0162)  
-559.5433 -3.7910e-005 -8.5828e-005 1.5545e-004 (0.0125)

GCES to FERN (4) -44513.5824 4.6641e-006 (0.0022)  
-30870.3891 9.0651e-007 6.3906e-006 (0.0025)  
-63848.0622 -1.1443e-006 -2.8936e-006 3.5059e-006 (0.0019)

GCES to FERN (5) -44513.5824 4.7038e-006 (0.0022)  
-30870.3891 8.9532e-007 6.3816e-006 (0.0025)  
-63848.0622 -1.1113e-006 -2.8276e-006 3.4748e-006 (0.0019)

GCES to FERN (7) -44513.5845 4.7693e-006 (0.0022)  
-30870.3970 9.1978e-007 6.4378e-006 (0.0025)  
-63848.0578 -1.1553e-006 -2.8652e-006 3.5379e-006 (0.0019)

GCES to FRED (1) -6912.1054 5.9442e-006 (0.0024)  
70480.7148 1.0684e-006 8.1110e-006 (0.0028)  
83537.4929 -1.4336e-006 -3.6072e-006 4.5059e-006 (0.0021)

GCES to FRED (2) -6912.1168 6.4072e-006 (0.0025)  
70480.6908 1.2241e-006 8.6429e-006 (0.0029)  
83537.5097 -1.6021e-006 -3.9809e-006 4.9051e-006 (0.0022)

GCES to HG01 (1) -2498.9848 3.3547e-005 (0.0058)  
2641.9408 3.5424e-005 9.7110e-005 (0.0099)  
2051.2230 -3.0883e-005 -5.5928e-005 7.3096e-005 (0.0085)

GCES to HG01A (1) -2491.0650 3.7808e-005 (0.0061)

2646.0529 3.0018e-005 6.0606e-005 (0.0078)  
2061.3360 -9.8022e-006 -2.1558e-005 4.4748e-005 (0.0067)

GCES to HG02 (1) 4511.7673 2.6236e-005 (0.0051)  
-3978.5273 1.9377e-005 7.2745e-005 (0.0085)  
-2653.3372 -1.3729e-005 -3.4164e-005 5.2693e-005 (0.0073)

GCES to HG03 (1) 6795.1425 4.9426e-003 (0.0703)  
12036.4422 -2.3741e-005 1.9183e-003 (0.0438)  
19382.2440 -8.7762e-004 -3.7961e-004 1.6548e-003 (0.0407)

GCES to HG04 (1) 18533.1621 1.5940e-004 (0.0126)  
74.1319 1.7267e-004 4.0037e-004 (0.0200)  
10159.2435 -1.2431e-004 -2.1047e-004 2.3497e-004 (0.0153)

GCES to HG06 (1) -6595.3433 3.3115e-005 (0.0058)  
1784.1517 3.4756e-005 8.2368e-005 (0.0091)  
-1351.6864 -1.2335e-005 -3.3515e-005 7.8833e-005 (0.0089)

GCES to HG07 (1) -19882.0773 9.0826e-005 (0.0095)  
14640.3297 7.3298e-005 2.2940e-004 (0.0151)  
7899.1300 -5.5546e-005 -1.1173e-004 1.6165e-004 (0.0127)

GCES to LCP101A (1) -4272.5693 2.7525e-004 (0.0166)  
2539.1126 6.3738e-007 9.9873e-005 (0.0100)  
909.3152 -4.6770e-005 -2.1408e-005 8.2216e-005 (0.0091)

GCES to LCP102A (1) -8462.9556 5.2892e-004 (0.0230)  
2824.9735 -7.3890e-004 1.2370e-003 (0.0352)  
-1111.6602 6.4205e-005 -1.3338e-004 6.1977e-005 (0.0079)

GCES to LCP103 (1) -101368.3174 6.1179e-003 (0.0782)  
43774.0815 -6.9013e-003 9.6912e-003 (0.0984)  
-1192.3207 1.3095e-003 -1.9111e-003 8.8160e-004 (0.0297)

GCES to LCP103A (1) -18023.4406 1.7663e-003 (0.0420)  
15826.0221 -1.9898e-003 3.1430e-003 (0.0561)  
10462.0331 9.9462e-005 -2.5929e-004 2.2594e-004 (0.0150)

GCES to LCP104A (1) -6456.8507 2.4963e-004 (0.0158)  
13139.7354 -3.0942e-004 4.9041e-004 (0.0221)  
13564.7170 2.1692e-005 -4.6885e-005 2.8945e-005 (0.0054)

GCES to LCP105A (1) 3606.9612 6.6805e-004 (0.0258)  
13805.8631 2.4733e-004 2.2646e-003 (0.0476)  
19962.9537 -7.2240e-005 -2.8364e-004 2.1992e-004 (0.0148)

GCES to LCP106 (1) -89069.7270 4.8201e-004 (0.0220)

42788.1970 -2.7629e-004 6.3449e-004 (0.0252)  
5260.6707 -3.3617e-005 -5.0533e-005 1.1636e-004 (0.0108)

GCES to LCP106A (1) 7183.0431 9.2700e-003 (0.0963)  
11736.9519 1.1284e-003 8.2523e-003 (0.0908)  
19184.6138 -5.2457e-004 -9.5167e-004 1.1209e-003 (0.0335)

GCES to LCP107 (1) -72395.2840 3.5219e-004 (0.0188)  
42874.2268 1.3221e-004 2.0061e-004 (0.0142)  
13382.3447 -4.2237e-005 -6.1253e-005 8.5253e-005 (0.0092)

GCES to LCP107A (1) 7957.2454 5.9318e-003 (0.0770)  
16129.9356 1.9716e-003 2.0159e-003 (0.0449)  
25450.4266 -1.0431e-003 -6.1327e-004 7.4191e-004 (0.0272)

GCES to LCP110 (1) -95133.5785 6.8601e-004 (0.0262)  
34962.9033 2.6995e-004 4.4426e-004 (0.0211)  
-7683.7963 -1.4754e-004 -1.3536e-004 1.6096e-004 (0.0127)

GCES to LCP209 (1) 31540.9267 1.3545e-004 (0.0116)  
-6183.7507 1.7941e-004 5.1495e-004 (0.0227)  
7819.5746 -1.0155e-004 -2.7642e-004 3.1441e-004 (0.0177)

GCES to LCP210 (1) 11252.1151 9.9286e-005 (0.0100)  
-3536.4859 9.2818e-005 2.8044e-004 (0.0167)  
-364.4511 -5.9855e-005 -9.1493e-005 2.0975e-004 (0.0145)

GCES to LCP211 (1) 6029.6812 7.9631e-005 (0.0089)  
5803.5160 7.3758e-005 2.4535e-004 (0.0157)  
10248.3609 -5.3077e-005 -1.1798e-004 2.1774e-004 (0.0148)

GCES to LCP551 (1) 33028.0786 8.4947e-005 (0.0092)  
-4368.5265 8.0313e-005 2.6864e-004 (0.0164)  
10812.0086 -5.9450e-005 -1.3681e-004 2.4380e-004 (0.0156)

GCES to LCP552 (1) -72654.4548 3.2343e-003 (0.0569)  
42708.1770 -2.3420e-003 3.7789e-003 (0.0615)  
14491.2689 8.6130e-005 -6.2648e-004 7.2467e-004 (0.0269)

GCES to LCP703 (1) -11389.6801 2.0416e-003 (0.0452)  
26354.0061 -6.3185e-004 2.2836e-003 (0.0478)  
27723.0781 -6.9271e-004 -5.0570e-004 1.4395e-003 (0.0379)

GCES to OT01 (1) -630.6888 6.0658e-005 (0.0078)  
494.9717 5.9777e-005 1.0412e-004 (0.0102)  
263.0644 -2.7092e-005 -6.0459e-005 9.7586e-005 (0.0099)

GCES to OT03 (1) -17242.3076 8.8129e-005 (0.0094)

16744.9356 8.5930e-005 3.0770e-004 (0.0175)  
12107.0450 -7.4796e-005 -1.2695e-004 2.0829e-004 (0.0144)

GCES to OT04 (1) 10455.9196 1.3018e-004 (0.0114)  
-9482.3130 1.2766e-004 3.3862e-004 (0.0184)  
-6446.9958 -8.5839e-005 -1.5864e-004 1.8795e-004 (0.0137)

GCES to OT05 (1) 16737.0313 9.7611e-005 (0.0099)  
-1738.7421 8.9645e-005 3.6107e-004 (0.0190)  
6871.4757 -2.5205e-005 -1.0734e-004 1.2947e-004 (0.0114)

GCES to OT08 (1) 8641.6395 1.4453e-003 (0.0380)  
9614.6107 -1.5963e-003 2.4611e-003 (0.0496)  
17303.7048 8.0031e-005 -2.0131e-004 1.8762e-004 (0.0137)

GCES to OT09 (1) 8670.1651 1.5661e-003 (0.0396)  
9577.7094 -1.8921e-003 3.1733e-003 (0.0563)  
17271.9085 4.9807e-005 -2.2947e-004 2.6110e-004 (0.0162)

GCES to OT10 (1) 9566.4018 8.2018e-004 (0.0286)  
8256.1774 -5.6100e-004 1.1899e-003 (0.0345)  
15967.9969 -1.8339e-005 -1.7937e-004 3.0560e-004 (0.0175)

GCES to OT102 (1) -101360.6568 4.0710e-004 (0.0202)  
43767.6415 1.3198e-004 2.8652e-003 (0.0535)  
-1197.1623 -1.0841e-004 -2.6288e-004 2.0010e-004 (0.0141)

GCES to OT104 (1) -96004.6935 5.7249e-004 (0.0239)  
42367.5968 -7.7984e-005 3.8624e-004 (0.0197)  
1359.0567 -5.5864e-005 -1.1502e-004 2.4356e-004 (0.0156)

GCES to OT105 (1) -84892.1639 1.2327e-003 (0.0351)  
45147.1798 -3.7522e-004 2.5723e-004 (0.0160)  
10747.2912 -6.5321e-005 -1.6419e-005 7.8194e-005 (0.0088)

GCES to OT107 (1) -51643.3586 1.3026e-004 (0.0114)  
39213.3261 6.2899e-005 3.9553e-004 (0.0199)  
20556.6023 -4.3229e-005 -1.0404e-004 6.6044e-005 (0.0081)

GCES to OT208 (1) 14697.9909 2.7845e-004 (0.0167)  
-2702.9499 3.0434e-004 5.4240e-004 (0.0233)  
3794.9555 -1.4257e-004 -2.7797e-004 3.1838e-004 (0.0178)

GCES to OT209 (1) 12282.8038 1.9805e-004 (0.0141)  
1780.6130 1.9457e-004 3.3959e-004 (0.0184)  
8135.1588 -9.2060e-005 -1.4563e-004 1.8760e-004 (0.0137)

GCES to OT210 (1) 11722.7352 1.4870e-004 (0.0122)

5564.2401 2.6466e-004 1.0071e-003 (0.0317)  
11830.4116 -1.4521e-004 -4.8811e-004 4.1497e-004 (0.0204)

GCES to SHIVWITS (1) -116897.0267 2.9350e-005 (0.0054)  
34322.9181 -1.2686e-005 2.0511e-005 (0.0045)  
-19329.6191 -3.7865e-006 -4.8893e-006 8.0154e-006 (0.0028)

GCES to SHIVWITS (3) -116897.0268 2.9350e-005 (0.0054)  
34322.9182 -1.2686e-005 2.0511e-005 (0.0045)  
-19329.6191 -3.7865e-006 -4.8893e-006 8.0154e-006 (0.0028)

GCES to SIGNAL\_HILL (2) -15975.3556 1.4832e-004 (0.0122)  
15245.4844 1.1965e-004 2.5634e-004 (0.0160)  
10936.6219 -4.8385e-005 -9.3793e-005 1.6911e-004 (0.0130)

GCES to TR01 (1) 16719.3187 8.8548e-005 (0.0094)  
-1725.3511 1.0353e-004 2.8842e-004 (0.0170)  
6879.0021 -3.5317e-005 -8.6540e-005 1.5763e-004 (0.0126)

GCES to TR02 (1) -18022.7804 1.3085e-004 (0.0114)  
15830.8764 1.0463e-004 2.1007e-004 (0.0145)  
10469.0835 -2.8467e-005 -7.6412e-005 1.5593e-004 (0.0125)

GCES to TR04 (1) 18439.9288 9.8708e-005 (0.0099)  
3734.8153 1.0678e-004 3.4683e-004 (0.0186)  
14988.8208 -7.6768e-005 -1.3376e-004 2.0110e-004 (0.0142)

GCES to TR05 (1) -28.3059 4.0075e-005 (0.0063)  
-2246.6842 4.4119e-005 1.2962e-004 (0.0114)  
-2952.7298 -3.4950e-005 -5.9049e-005 7.5855e-005 (0.0087)

GCES to TR06 (1) 9622.1462 2.2756e-004 (0.0151)  
12843.4850 2.7565e-004 6.3509e-004 (0.0252)  
22158.9206 -1.5927e-004 -2.8401e-004 2.5923e-004 (0.0161)

GCES to TR201 (1) 31521.6411 1.7606e-004 (0.0133)  
-6190.6987 1.8840e-004 4.5823e-004 (0.0214)  
7802.1254 -1.0349e-004 -1.6431e-004 2.7349e-004 (0.0165)

GCES to UR01 (1) -6317.4960 9.6943e-005 (0.0098)  
3702.0359 9.1488e-005 3.6249e-004 (0.0190)  
1262.1837 -2.8411e-005 -1.0786e-004 1.5020e-004 (0.0123)

GCES to UR0104 (1) -83767.8985 7.3258e-004 (0.0271)  
42851.6854 -1.2347e-004 1.2748e-003 (0.0357)  
8652.1919 -1.5146e-004 -2.7397e-004 2.8662e-004 (0.0169)

GCES to UR01A (1) -6376.7865 3.5852e-005 (0.0060)

3691.4852 3.9623e-005 1.0770e-004 (0.0104)  
1215.1847 -3.4609e-005 -6.3551e-005 8.1096e-005 (0.0090)

GCES to UR02 (1) -592.4234 3.9326e-005 (0.0063)  
-3282.3933 3.5442e-005 9.8125e-005 (0.0099)  
-4596.5555 -1.3608e-005 -1.8953e-005 3.6751e-005 (0.0061)

GCES to UR03 (1) 1928.2894 2.8796e-005 (0.0054)  
36.2216 3.4781e-005 9.2496e-005 (0.0096)  
1098.0878 -1.2422e-005 -2.6689e-005 4.6490e-005 (0.0068)

GCES to UR04 (1) 25187.1019 7.5888e-004 (0.0275)  
-10728.1560 3.2854e-004 1.3536e-003 (0.0368)  
-471.0290 -9.7162e-005 -2.3143e-004 2.0982e-004 (0.0145)

GCES to UR05 (1) 10039.5302 1.3296e-004 (0.0115)  
8106.3219 2.0230e-004 1.8947e-003 (0.0435)  
16016.1830 -8.2707e-005 1.7092e-004 3.7634e-004 (0.0194)

GCES to UR06 (1) 11568.1637 1.1257e-004 (0.0106)  
10532.4089 1.0343e-004 3.8100e-004 (0.0195)  
19971.5436 -5.2828e-005 -1.4293e-004 4.6703e-004 (0.0216)

GCES to UR08 (1) 10157.9122 6.6539e-003 (0.0816)  
7524.1750 -2.1437e-003 3.9496e-003 (0.0628)  
15433.4540 -1.0435e-003 -7.4109e-004 2.4463e-003 (0.0495)

GCES to UR09 (1) 9800.6234 2.2616e-003 (0.0476)  
7322.8058 -7.2864e-004 6.4607e-004 (0.0254)  
15036.7175 -1.8322e-004 -8.1286e-005 3.6752e-004 (0.0192)

GCES to UR10 (1) 5450.3377 1.2184e-004 (0.0110)  
-5031.4119 1.1153e-004 3.5663e-004 (0.0189)  
-3477.5068 -3.5166e-005 -9.7201e-005 1.2438e-004 (0.0112)

GCES to UR105 (1) -74530.7769 3.4578e-004 (0.0186)  
43178.2662 -1.9488e-004 3.9131e-004 (0.0198)  
13048.8806 -1.6226e-005 -8.5770e-005 1.1103e-004 (0.0105)

GCES to UR107 (1) -100471.1570 3.8705e-004 (0.0197)  
37899.1557 -9.8714e-005 1.8692e-004 (0.0137)  
-8146.4419 -7.5155e-005 -3.1611e-005 9.4420e-005 (0.0097)

GCES to UR208 (1) 4966.4818 1.3771e-004 (0.0117)  
4167.3937 1.4759e-004 3.8144e-004 (0.0195)  
6243.6924 -8.2705e-005 -2.8436e-004 4.5960e-004 (0.0214)

GCES to UR209 (1) 7245.4149 9.3192e-005 (0.0097)

-592.6696 1.0485e-004 3.4064e-004 (0.0185)  
1892.1547 -3.3531e-005 -1.2648e-004 1.7262e-004 (0.0131)

GCES to VVA551 (1) 4950.2499 9.5098e-005 (0.0098)  
4181.9878 1.1590e-004 3.7230e-004 (0.0193)  
6255.3686 -3.9557e-005 -1.2381e-004 1.5659e-004 (0.0125)

GCES to WHITMORE (1) -90556.5894 1.5695e-005 (0.0040)  
47754.5835 -2.7510e-006 2.8747e-005 (0.0054)  
11714.3359 -1.5866e-006 -9.1153e-006 7.5780e-006 (0.0028)

GCES to WHITMORE (2) -90556.5828 3.7194e-005 (0.0061)  
47754.5955 -1.4002e-005 4.3307e-005 (0.0066)  
11714.3435 5.4468e-007 -1.2023e-005 1.1649e-005 (0.0034)

GCES to WHITMORE (3) -90556.5972 7.7250e-005 (0.0088)  
47754.6095 -1.9190e-005 4.7364e-005 (0.0069)  
11714.3334 1.3581e-006 -1.2078e-005 1.5754e-005 (0.0040)

GCES to WHITMORE (4) -90556.6057 7.8006e-005 (0.0088)  
47754.6043 -1.6363e-005 4.8560e-005 (0.0070)  
11714.3336 -1.2274e-007 -1.1541e-005 1.5050e-005 (0.0039)

GCES to XLCP701 (1) 17555.7443 1.0419e-004 (0.0102)  
-1371.8309 1.6662e-004 6.4814e-004 (0.0255)  
7795.5232 -7.1332e-005 -2.1745e-004 2.5811e-004 (0.0161)

GCES to XNVA701 (1) 17566.3776 1.0890e-004 (0.0104)  
-1373.5826 1.6203e-004 4.6852e-004 (0.0216)  
7799.6139 -6.0293e-005 -1.5825e-004 1.7772e-004 (0.0133)

GCES to XVVA701 (1) -1280.3556 1.4092e-004 (0.0119)  
21513.1993 1.6332e-004 5.5948e-004 (0.0237)  
27260.4974 -8.6503e-005 -4.6589e-005 2.4750e-004 (0.0157)

HG07 to SIGNAL\_HILL (1) 3906.7068 2.7794e-005 (0.0053)  
605.1733 2.2602e-005 7.0362e-005 (0.0084)  
3037.4940 -1.7410e-005 -3.4757e-005 5.0160e-005 (0.0071)

HG101 to WHITMORE (1) 9077.5827 9.3623e-005 (0.0097)  
5002.0314 9.1382e-005 2.3448e-004 (0.0153)  
12002.4406 -7.6309e-005 -1.3287e-004 2.2188e-004 (0.0149)

HG103 to SHIVWITS (1) -11619.6027 1.2675e-004 (0.0113)  
5021.4871 1.1894e-004 3.7709e-004 (0.0194)  
2275.6265 -5.3298e-005 -1.3404e-004 1.6317e-004 (0.0128)

KGMN to FERN (6) 131956.1853 8.9308e-006 (0.0030)

-49572.5883 2.0670e-006 1.1479e-005 (0.0034)  
10473.0105 -2.3007e-006 -5.2303e-006 6.2461e-006 (0.0025)

KGMN to BE101 (1) 68545.0273 2.4386e-004 (0.0156)  
9331.1632 -3.0158e-004 7.1102e-004 (0.0267)  
49773.2621 -8.8633e-006 -7.2979e-005 8.6673e-005 (0.0093)

KGMN to BE102 (1) 73166.4825 7.5950e-004 (0.0276)  
12064.6439 -2.9831e-004 6.3628e-004 (0.0252)  
55673.3513 -4.0278e-005 -1.5989e-004 2.1419e-004 (0.0146)

KGMN to BE103 (1) 74741.0441 1.8741e-004 (0.0137)  
23211.9998 -6.8910e-006 6.4256e-005 (0.0080)  
70546.9163 -6.2754e-006 -2.2068e-005 3.1583e-005 (0.0056)

KGMN to BE105 (1) 94921.1504 3.9577e-004 (0.0199)  
25320.2963 6.6538e-006 9.1214e-005 (0.0096)  
84667.3286 -1.9504e-005 -3.6081e-005 6.3915e-005 (0.0080)

KGMN to BE106 (1) 117754.3891 2.6601e-004 (0.0163)  
21393.5946 -2.2666e-004 5.3255e-004 (0.0231)  
92706.3042 -4.6944e-005 -1.9124e-005 8.3231e-005 (0.0091)

KGMN to BR101 (1) 70912.5145 1.4173e-004 (0.0119)  
13493.0237 -3.0578e-005 2.3127e-004 (0.0152)  
56903.1951 -3.6100e-005 -3.1959e-005 7.3797e-005 (0.0086)

KGMN to BR102 (1) 85078.6594 1.0241e-003 (0.0320)  
22852.8951 3.1319e-004 5.8911e-004 (0.0243)  
76778.8595 -2.2586e-004 -1.7503e-004 2.5089e-004 (0.0158)

KGMN to BR103 (1) 112024.2759 1.1807e-004 (0.0109)  
22681.8481 1.8484e-005 5.2305e-005 (0.0072)  
90092.0318 -9.6211e-006 -1.5571e-005 1.9238e-005 (0.0044)

KGMN to DAVIAN (1) 104871.4722 2.7718e-005 (0.0053)  
28576.6136 4.3282e-006 4.4530e-005 (0.0067)  
95238.3686 -9.3735e-006 -2.0517e-005 2.5821e-005 (0.0051)

KGMN to FERN (2) 131956.1823 7.9022e-006 (0.0028)  
-49572.5776 1.5667e-006 1.0776e-005 (0.0033)  
10473.0005 -1.9871e-006 -4.6918e-006 5.7118e-006 (0.0024)

KGMN to FERN (4) 131956.1767 3.7270e-006 (0.0019)  
-49572.5912 -3.3806e-007 3.0574e-006 (0.0017)  
10473.0110 -4.7039e-007 -1.1887e-006 1.2328e-006 (0.0011)

KGMN to FERN (5) 131956.1853 8.9326e-006 (0.0030)



-49572.5883 2.0677e-006 1.1478e-005 (0.0034)  
10473.0105 -2.3018e-006 -5.2283e-006 6.2451e-006 (0.0025)

KGMM to GCES (4) 176469.7605 1.5892e-005 (0.0040)  
-18702.2004 3.1278e-006 2.1765e-005 (0.0047)  
74321.0692 -4.1441e-006 -9.8693e-006 1.1874e-005 (0.0034)

KGMM to GCES (6) 176469.7709 7.4122e-006 (0.0027)  
-18702.1977 -2.4087e-007 5.5248e-006 (0.0024)  
74321.0730 -9.9266e-007 -2.2459e-006 2.3408e-006 (0.0015)

KGMM to GCES (7) 176469.7584 8.3489e-006 (0.0029)  
-18702.2074 -7.7318e-007 6.8102e-006 (0.0026)  
74321.0740 -1.0565e-006 -2.7147e-006 2.8619e-006 (0.0017)

KGMM to HG101 (1) 76835.5913 4.9571e-004 (0.0223)  
24050.3451 3.0089e-005 3.8759e-004 (0.0197)  
74032.8977 2.0856e-005 -1.2733e-004 1.2669e-004 (0.0113)

KGMM to HG102 (1) 97155.5427 5.0324e-004 (0.0224)  
24862.9494 -1.7353e-005 1.0552e-004 (0.0103)  
85694.3150 1.4787e-005 -4.4550e-005 8.2932e-005 (0.0091)

KGMM to HG103 (1) 71192.4116 8.3916e-004 (0.0290)  
10599.2664 -2.6591e-004 6.0676e-004 (0.0246)  
52715.8142 -4.5715e-005 -1.7792e-004 2.3703e-004 (0.0154)

KGMM to LCP101 (1) 68545.3324 1.3045e-004 (0.0114)  
9324.6473 -5.8318e-005 4.6203e-004 (0.0215)  
49765.2326 -1.7180e-005 -5.4917e-005 6.3909e-005 (0.0080)

KGMM to LCP102 (1) 73347.2788 3.7346e-004 (0.0193)  
16580.9916 -1.3049e-004 1.1288e-003 (0.0336)  
61365.0129 -6.9747e-005 -7.0639e-005 1.0509e-004 (0.0103)

KGMM to LCP105 (1) 94163.7740 2.0498e-004 (0.0143)  
26279.3429 -1.4192e-004 5.5528e-004 (0.0236)  
86539.3917 -2.0804e-005 -1.1225e-004 1.0127e-004 (0.0101)

KGMM to LCP107 (1) 104074.4340 1.7243e-004 (0.0131)  
24171.9805 3.6561e-005 5.9774e-005 (0.0077)  
87703.4331 -2.1873e-005 -2.2502e-005 2.9284e-005 (0.0054)

KGMM to LCP109 (1) 69204.0467 2.5428e-004 (0.0159)  
9208.9105 -1.9452e-004 4.8529e-004 (0.0220)  
49685.5114 -3.7088e-006 -8.0580e-005 6.6459e-005 (0.0082)

KGMM to LCP111 (1) 92684.0674 2.8128e-004 (0.0168)

24154.6096 -1.7873e-004 5.3038e-004 (0.0230)  
82970.0380 -1.0399e-005 -1.3513e-004 1.6153e-004 (0.0127)

KGMN to OT101 (1) 69186.2277 1.3242e-004 (0.0115)  
9207.6407 -2.0775e-005 3.6858e-004 (0.0192)  
49673.8352 -2.8313e-005 -6.0485e-005 5.5169e-005 (0.0074)

KGMN to OT105 (1) 91577.6125 3.5520e-004 (0.0188)  
26444.9165 -2.2855e-005 8.2860e-005 (0.0091)  
85068.3930 4.5762e-006 -2.5899e-005 4.7817e-005 (0.0069)

KGMN to OT106 (1) 109554.7156 5.9940e-004 (0.0245)  
23811.9896 -2.4813e-005 7.5866e-004 (0.0275)  
90191.1262 -1.4705e-004 -2.1097e-004 2.0773e-004 (0.0144)

KGMN to SHIVWITS (1) 59572.7376 1.1018e-005 (0.0033)  
15620.7360 -3.6895e-006 1.5689e-005 (0.0040)  
54991.4428 -1.6217e-006 -4.2330e-006 4.6919e-006 (0.0022)

KGMN to SHIVWITS (3) 59572.7341 1.2472e-005 (0.0035)  
15620.7183 -3.6351e-006 2.2205e-005 (0.0047)  
54991.4574 -2.7994e-006 -5.1224e-006 6.3102e-006 (0.0025)

KGMN to TR101 (1) 74140.5330 6.5323e-004 (0.0256)  
12799.1403 -3.0000e-004 1.0761e-003 (0.0328)  
57061.2986 -1.3800e-004 -4.9281e-005 2.5768e-004 (0.0161)

KGMN to TR103 (1) 101737.4437 1.4387e-003 (0.0379)  
21256.6316 -1.3565e-003 2.8182e-003 (0.0531)  
84339.6236 -3.6409e-004 2.3661e-004 4.6394e-004 (0.0215)

KGMN to UR101 (1) 71201.5409 4.4435e-004 (0.0211)  
11628.0935 -4.8921e-004 8.2513e-004 (0.0287)  
54198.8683 5.3899e-006 -5.8498e-005 8.0710e-005 (0.0090)

KGMN to UR103 (1) 60048.6999 1.9951e-004 (0.0141)  
11160.9739 -2.2806e-004 4.8368e-004 (0.0220)  
47585.1589 -2.5047e-005 -1.9729e-005 7.0000e-005 (0.0084)

KGMN to UR105 (1) 101938.9533 1.2969e-004 (0.0114)  
24476.0287 -7.7657e-006 2.4225e-004 (0.0156)  
87369.9553 -2.2881e-005 -5.2893e-005 6.6018e-005 (0.0081)

KGMN to UR106 (1) 115174.9151 7.4527e-005 (0.0086)  
23196.6495 -5.5370e-005 2.0463e-004 (0.0143)  
93693.6232 -8.4793e-006 -1.1205e-005 3.0408e-005 (0.0055)

KGMN to UR107 (1) 75998.5926 1.6767e-004 (0.0129)

19196.9320 -2.8451e-005 1.4005e-004 (0.0118)  
66174.6400 -3.6847e-005 -2.4323e-005 6.0518e-005 (0.0078)

LCP101 to SHIVWITS (1) -8972.6180 2.5500e-004 (0.0160)  
6296.0914 3.6809e-004 9.3208e-004 (0.0305)  
5226.2171 -2.3159e-004 -7.0659e-004 8.0764e-004 (0.0284)

LCP102 to SHIVWITS (1) -13774.5544 2.5831e-004 (0.0161)  
-960.2426 4.1392e-004 1.0904e-003 (0.0330)  
-6373.5947 -2.6040e-004 -6.2606e-004 5.4368e-004 (0.0233)

LCP103A to SIGNAL\_HILL (1) 2048.1188 3.8569e-005 (0.0062)  
-580.5297 3.0407e-005 5.8276e-005 (0.0076)  
474.6151 -1.1706e-005 -2.1722e-005 4.3144e-005 (0.0066)

LCP104 to WHITMORE (1) 839.1706 1.0524e-004 (0.0103)  
6199.1719 1.1968e-004 3.8439e-004 (0.0196)  
9258.7912 -7.3245e-005 -2.1900e-004 2.7548e-004 (0.0166)

LCP105 to WHITMORE (1) -8250.5663 1.0594e-004 (0.0103)  
2773.0158 1.0522e-004 2.9655e-004 (0.0172)  
-503.9669 -6.9934e-005 -1.2440e-004 2.4815e-004 (0.0158)

LCP106 to WHITMORE (1) -1486.8980 1.3398e-004 (0.0116)  
4966.4095 1.2156e-004 2.5835e-004 (0.0161)  
6453.6800 -6.2113e-005 -8.6384e-005 1.7026e-004 (0.0130)

LCP107 to WHITMORE (1) -18161.2731 1.2995e-004 (0.0114)  
4880.3527 1.0058e-004 5.8295e-004 (0.0241)  
-1668.0262 -1.5114e-004 -9.9059e-005 5.1248e-004 (0.0226)

LCP108 to SHIVWITS (1) -14568.8757 3.4711e-004 (0.0186)  
2826.3555 3.3016e-004 5.1923e-004 (0.0228)  
-2064.0531 -1.4734e-004 -1.8764e-004 2.0145e-004 (0.0142)

LCP109 to SHIVWITS (1) -9631.2914 1.4694e-004 (0.0121)  
6411.8177 1.9107e-004 7.2898e-004 (0.0270)  
5305.8975 -1.1967e-004 -3.4005e-004 3.3388e-004 (0.0183)

LCP110 to WHITMORE (1) 4577.0388 9.0990e-005 (0.0095)  
12791.7159 7.2572e-005 2.0076e-004 (0.0142)  
19398.0958 -6.9799e-005 -1.0222e-004 2.1972e-004 (0.0148)

LCP111 to WHITMORE (1) -6770.9130 9.8750e-005 (0.0099)  
4897.8157 1.0625e-004 3.3610e-004 (0.0183)  
3065.3933 -6.6770e-005 -1.7683e-004 2.5384e-004 (0.0159)

LCP552 to WHITMORE (1) -17902.1064 1.6330e-004 (0.0128)

5046.4419 1.7515e-004 4.1679e-004 (0.0204)  
-2776.9335 -1.0819e-004 -3.7314e-004 6.0105e-004 (0.0245)

OT03 to SIGNAL\_HILL (1) 1266.9652 2.7114e-005 (0.0052)  
-1499.4553 2.7660e-005 9.3243e-005 (0.0097)  
-1170.4331 -2.2752e-005 -4.1554e-005 5.8542e-005 (0.0077)

OT101 to SHIVWITS (1) -9613.4773 1.1622e-004 (0.0108)  
6413.1055 1.5647e-004 5.9460e-004 (0.0244)  
5317.5910 -6.0493e-005 -1.3138e-004 2.3103e-004 (0.0152)

OT102 to WHITMORE (1) 10804.0748 1.5219e-004 (0.0123)  
3986.9296 2.2355e-004 1.0031e-003 (0.0317)  
12911.5258 -1.4678e-004 -4.1689e-004 3.7692e-004 (0.0194)

OT103 to WHITMORE (1) 4546.7766 9.5154e-005 (0.0098)  
12784.0931 9.5456e-005 2.6426e-004 (0.0163)  
19372.6426 -6.5229e-005 -1.2428e-004 1.8055e-004 (0.0134)

OT104 to WHITMORE (1) 5448.0999 1.2102e-004 (0.0110)  
5386.8981 1.0783e-004 3.2910e-004 (0.0181)  
10355.2808 -5.1319e-005 -1.0830e-004 1.6169e-004 (0.0127)

P008 to ABYSS\_PIN (1) -90313.4307 8.4885e-006 (0.0029)  
29483.4013 -2.6536e-006 9.6848e-006 (0.0031)  
-7226.9242 -9.7291e-007 -3.3336e-006 3.5733e-006 (0.0019)

P008 to ABYSS\_PIN (3) -90313.4446 9.2579e-005 (0.0096)  
29483.4429 -5.5380e-005 1.3346e-004 (0.0116)  
-7226.9549 -1.0994e-005 -2.6262e-005 3.6920e-005 (0.0061)

P008 to ABYSS\_PIN (5) -90313.4276 7.6251e-006 (0.0028)  
29483.3729 -3.2858e-006 2.1832e-005 (0.0047)  
-7226.9356 -1.0358e-007 -5.7353e-006 4.0530e-006 (0.0020)

P008 to AZPG (10) -9323.9922 8.4110e-006 (0.0029)  
58124.8204 -1.9301e-006 6.3120e-006 (0.0025)  
68176.8806 -6.0645e-007 -2.3861e-006 2.7496e-006 (0.0017)

P008 to AZPG (12) -9323.9909 6.6729e-006 (0.0026)  
58124.8322 -1.8652e-006 6.9021e-006 (0.0026)  
68176.8747 -2.5413e-008 -2.5263e-006 2.3779e-006 (0.0015)

P008 to AZPG (14) -9323.9930 1.0833e-005 (0.0033)  
58124.8281 -3.5714e-006 1.2349e-005 (0.0035)  
68176.8793 1.0506e-007 -4.4235e-006 3.9571e-006 (0.0020)

P008 to AZPG (2) -9323.9925 6.4205e-006 (0.0025)

58124.8437 -1.8905e-006 6.3720e-006 (0.0025)  
68176.8699 -6.6654e-010 -2.3322e-006 2.2136e-006 (0.0015)

P008 to BE02 (1) -94680.2450 1.9396e-002 (0.1393)  
29868.3247 -1.6224e-002 3.4879e-002 (0.1868)  
-9225.7208 1.2365e-004 -3.5717e-003 4.5669e-003 (0.0676)

P008 to BE204 (1) -55372.9514 2.5406e-004 (0.0159)  
24038.3528 -2.4497e-004 5.9588e-004 (0.0244)  
3434.0818 2.7536e-005 -1.3489e-004 1.1565e-004 (0.0108)

P008 to BE208 (1) -80041.6356 4.3013e-004 (0.0207)  
32730.7648 -2.2205e-004 6.8432e-004 (0.0262)  
2065.4124 -6.9263e-006 3.2367e-005 1.3459e-004 (0.0116)

P008 to BE209 (1) -80620.7195 2.7987e-004 (0.0167)  
29656.2391 -1.1121e-004 2.3057e-004 (0.0152)  
-4258.7462 -3.4168e-005 -5.8439e-005 8.4967e-005 (0.0092)

P008 to BE210 (1) -74867.8927 1.4049e-004 (0.0119)  
23429.1533 -3.3679e-005 5.5418e-004 (0.0235)  
-8523.8725 -1.5764e-005 -1.1087e-004 9.3815e-005 (0.0097)

P008 to BKUP\_B (2) -77332.9344 6.1960e-006 (0.0025)  
49001.8604 -3.4263e-007 1.0378e-005 (0.0032)  
25115.1116 -7.6164e-007 -3.2563e-006 2.8487e-006 (0.0017)

P008 to BKUP\_B (3) -77332.9218 8.0328e-006 (0.0028)  
49001.8434 -3.6041e-006 1.7360e-005 (0.0042)  
25115.1330 5.7735e-008 -4.9504e-006 3.8547e-006 (0.0020)

P008 to BKUP\_B (4) -77332.9147 2.9186e-005 (0.0054)  
49001.8364 2.7764e-006 7.1663e-005 (0.0085)  
25115.1253 -4.7683e-006 -1.7964e-005 1.8099e-005 (0.0043)

P008 to CAPE (2) -69365.6667 1.3877e-005 (0.0037)  
25275.8377 5.0916e-006 5.8253e-005 (0.0076)  
-1220.6680 -2.0381e-006 -1.2494e-005 7.2755e-006 (0.0027)

P008 to DESERT\_VIEW (1) -61360.6551 6.6046e-006 (0.0026)  
16332.9603 -8.5277e-007 1.1742e-005 (0.0034)  
-8716.3886 -8.2043e-007 -3.7829e-006 3.3983e-006 (0.0018)

P008 to DESERT\_VIEW (2) -61360.6177 7.9565e-006 (0.0028)  
16332.9504 1.6837e-006 1.3439e-005 (0.0037)  
-8716.3954 -1.6300e-006 -4.1220e-006 3.6518e-006 (0.0019)

P008 to FERN (11) -130635.9255 3.9149e-006 (0.0020)

-3901.9667 -3.1915e-008 3.1407e-006 (0.0018)  
-72004.8987 -4.6028e-007 -1.2714e-006 1.3059e-006 (0.0011)

P008 to FERN (2) -130635.9353 4.3588e-006 (0.0021)  
-3901.9787 -3.6293e-007 3.5621e-006 (0.0019)  
-72004.8881 -5.2118e-007 -1.4544e-006 1.4683e-006 (0.0012)

P008 to FERN (5) -130635.9276 6.6774e-006 (0.0026)  
-3901.9651 -6.2081e-007 5.5958e-006 (0.0024)  
-72004.8999 -7.8845e-007 -2.3021e-006 2.2813e-006 (0.0015)

P008 to FERN (6) -130635.9606 4.9181e-003 (0.0701)  
-3901.9460 4.5021e-003 1.4256e-002 (0.1194)  
-72004.8911 -2.6041e-003 -6.5666e-003 9.0342e-003 (0.0950)

P008 to FERN (7) -130635.9359 4.4330e-006 (0.0021)  
-3901.9789 -4.0265e-007 3.6498e-006 (0.0019)  
-72004.8880 -5.2958e-007 -1.4827e-006 1.4873e-006 (0.0012)

P008 to FRED (1) -93034.4580 9.1441e-006 (0.0030)  
97449.1247 1.7241e-006 1.2469e-005 (0.0035)  
75380.6671 -2.2224e-006 -5.7574e-006 7.0218e-006 (0.0026)

P008 to FRED (2) -93034.4680 6.1151e-006 (0.0025)  
97449.1081 1.1503e-006 8.3289e-006 (0.0029)  
75380.6795 -1.4886e-006 -3.8439e-006 4.6894e-006 (0.0022)

P008 to GCES (1) -86122.3492 2.6996e-006 (0.0016)  
26968.4181 -2.2741e-007 2.1732e-006 (0.0015)  
-8156.8330 -3.1534e-007 -8.9249e-007 9.0979e-007 (0.0010)

P008 to GCES (2) -86122.3515 5.4352e-006 (0.0023)  
26968.4164 1.0335e-006 7.5175e-006 (0.0027)  
-8156.8292 -1.2948e-006 -3.4189e-006 4.0954e-006 (0.0020)

P008 to GCES (3) -86122.3486 4.5343e-006 (0.0021)  
26968.4185 4.6264e-008 3.2574e-006 (0.0018)  
-8156.8400 -2.9848e-007 -1.3192e-006 1.3457e-006 (0.0012)

P008 to GCES (4) -86122.3503 2.6998e-006 (0.0016)  
26968.4179 -2.2742e-007 2.1732e-006 (0.0015)  
-8156.8337 -3.1532e-007 -8.9249e-007 9.0979e-007 (0.0010)

P008 to GCES (5) -86122.3432 3.5551e-006 (0.0019)  
26968.4236 -8.9403e-008 2.1830e-006 (0.0015)  
-8156.8494 -2.1491e-007 -9.4935e-007 1.0312e-006 (0.0010)

P008 to GCES (6) -86122.3432 3.5551e-006 (0.0019)

26968.4236 -8.9403e-008 2.1830e-006 (0.0015)  
-8156.8494 -2.1491e-007 -9.4935e-007 1.0312e-006 (0.0010)

P008 to HG01A (1) -88613.3901 4.3751e-003 (0.0661)  
29614.4626 -4.6488e-003 7.8076e-003 (0.0884)  
-6095.5190 1.1522e-004 -5.7109e-004 6.4469e-004 (0.0254)

P008 to LCP106A (1) -78939.2664 8.4116e-003 (0.0917)  
38705.3782 1.0950e-003 1.2758e-002 (0.1130)  
11027.8802 -1.1392e-003 -1.7506e-003 1.8229e-003 (0.0427)

P008 to LCP108A (1) -68028.7476 4.9672e-003 (0.0705)  
35488.0123 -4.1523e-003 8.5499e-003 (0.0925)  
12888.4865 1.1268e-003 -2.9812e-003 3.1273e-003 (0.0559)

P008 to LCP209 (1) -54581.4295 1.0352e-004 (0.0102)  
20784.6410 -3.1701e-005 4.4900e-004 (0.0212)  
-337.2709 -4.3745e-006 -8.1507e-005 6.4859e-005 (0.0081)

P008 to LCP211 (1) -80092.6919 1.4087e-004 (0.0119)  
32771.9288 2.5601e-005 3.3787e-004 (0.0184)  
2091.5326 -3.0182e-005 -8.5593e-005 8.8458e-005 (0.0094)

P008 to LCP551 (1) -53094.2641 1.1448e-004 (0.0107)  
22599.9442 3.7349e-005 3.2312e-004 (0.0180)  
2655.1652 -2.2904e-005 -6.9194e-005 6.2624e-005 (0.0079)

P008 to LCP701 (1) -65085.9212 1.8514e-003 (0.0430)  
15933.9683 7.6737e-004 3.8353e-003 (0.0619)  
-11295.1579 -2.0821e-004 -6.3403e-004 5.8691e-004 (0.0242)

P008 to LCP703 (1) -97512.0362 3.5186e-003 (0.0593)  
53322.4305 -1.0631e-003 3.9718e-003 (0.0630)  
19566.2291 -1.1745e-003 -8.9592e-004 2.5033e-003 (0.0500)

P008 to OT06 (1) -97420.1379 5.8285e-003 (0.0763)  
51820.6748 -6.0004e-003 1.0087e-002 (0.1004)  
17706.5009 1.0859e-004 -7.0855e-004 9.0129e-004 (0.0300)

P008 to OT07 (1) -77424.6203 1.8367e-003 (0.0429)  
36498.7830 1.0256e-003 3.2432e-003 (0.0569)  
9071.7450 -1.3550e-004 -4.4521e-004 4.1651e-004 (0.0204)

P008 to OT202 (1) -53076.9086 1.0715e-004 (0.0104)  
22530.4046 7.1818e-006 3.7745e-004 (0.0194)  
2576.3862 -1.2337e-005 -7.0817e-005 6.3972e-005 (0.0080)

P008 to OT210 (1) -74399.6089 2.5261e-004 (0.0159)

32532.6187 -2.5979e-004 3.4105e-003 (0.0584)  
3673.5981 -9.1920e-006 -5.2410e-004 2.1862e-004 (0.0148)

P008 to SIGNAL\_HILL (1) -102097.6742 1.8936e-005 (0.0044)  
42213.9711 1.3335e-006 3.0566e-005 (0.0055)  
2779.7714 -4.5115e-006 -8.2067e-006 8.7292e-006 (0.0030)

P008 to TR01 (1) -69403.0345 1.3059e-003 (0.0361)  
25243.0582 -3.2693e-004 1.0555e-003 (0.0325)  
-1277.8156 -1.4696e-004 -3.0588e-004 6.1463e-004 (0.0248)

P008 to TR03 (1) -96607.1108 6.4436e-003 (0.0803)  
51350.1540 -1.1702e-002 3.0977e-002 (0.1760)  
17575.2938 1.9975e-004 -3.7034e-003 2.2069e-003 (0.0470)

P008 to TR201 (1) -54600.7047 2.2083e-004 (0.0149)  
20777.7334 -7.9307e-005 2.0910e-004 (0.0145)  
-354.6908 -3.6946e-006 -6.6270e-005 1.1784e-004 (0.0109)

P008 to UR07 (1) -78132.3979 2.1568e-003 (0.0464)  
42720.5372 8.2083e-004 5.1795e-003 (0.0720)  
16823.3714 -2.1943e-004 -8.4762e-004 7.7773e-004 (0.0279)

P008 to VVA551 (1) -81172.0840 1.2792e-003 (0.0358)  
31150.3988 -3.7669e-004 3.1182e-004 (0.0177)  
-1901.4958 -2.4647e-004 1.1347e-005 1.4865e-004 (0.0122)

SGU1 to ABYSS\_PIN (1) 86949.3538 2.4950e-005 (0.0050)  
-113403.3649 2.6550e-006 3.9609e-005 (0.0063)  
-93286.3902 -7.7733e-006 -1.7775e-005 2.2690e-005 (0.0048)

SGU1 to AZPG (2) 167938.7978 1.4120e-005 (0.0038)  
-84761.9066 -4.2936e-006 1.4501e-005 (0.0038)  
-17882.6060 -1.0620e-007 -5.3481e-006 5.1008e-006 (0.0023)

SGU1 to AZPG (3) 167938.7892 1.8088e-005 (0.0043)  
-84761.9300 -7.3550e-006 1.8548e-005 (0.0043)  
-17882.5873 2.3127e-007 -6.4195e-006 5.9871e-006 (0.0024)

SGU1 to AZPG (5) 167938.8067 1.7402e-002 (0.1319)  
-84761.9230 -1.0073e-003 1.7939e-002 (0.1339)  
-17882.6116 -2.2014e-003 -4.0523e-003 1.1483e-002 (0.1072)

SGU1 to AZPG (6) 167938.7868 1.6600e-005 (0.0041)  
-84761.9337 2.0239e-006 2.3932e-005 (0.0049)  
-17882.5869 -3.7379e-006 -1.0366e-005 1.3803e-005 (0.0037)

SGU1 to BE06 (1) 79753.8396 1.3457e-003 (0.0367)



-89580.9810 -6.9595e-004 1.6351e-003 (0.0404)  
-66510.9151 -1.0641e-004 -3.0576e-004 3.9220e-004 (0.0198)

SGU1 to BE103 (1) -10588.2608 2.1790e-004 (0.0148)  
-74004.1661 -7.5009e-006 7.4165e-005 (0.0086)  
-97990.4482 -8.0291e-006 -2.5820e-005 3.7171e-005 (0.0061)

SGU1 to BE105 (1) 9591.8316 3.4369e-004 (0.0185)  
-71895.8301 4.4603e-006 7.7190e-005 (0.0088)  
-83870.0596 -1.5275e-005 -3.0796e-005 5.4896e-005 (0.0074)

SGU1 to BE106 (1) 32425.0930 1.8941e-004 (0.0138)  
-75822.5140 -1.6022e-004 3.7803e-004 (0.0194)  
-75831.1030 -3.3108e-005 -1.5377e-005 6.0701e-005 (0.0078)

SGU1 to BE107 (1) 42868.4313 7.9522e-005 (0.0089)  
-78690.0592 -5.0782e-005 1.8248e-004 (0.0135)  
-73947.3670 -8.5393e-006 -3.5025e-005 3.8083e-005 (0.0062)

SGU1 to BE701 (1) -9297.8810 1.0013e-004 (0.0100)  
-78342.4970 -1.0687e-005 4.7553e-005 (0.0069)  
-102783.2419 4.4045e-006 -1.5653e-005 2.3827e-005 (0.0049)

SGU1 to BKUP\_B (1) 99929.8716 7.2678e-006 (0.0027)  
-93884.9055 -1.5468e-006 1.2505e-005 (0.0035)  
-60944.3550 -1.2212e-006 -3.8060e-006 4.0190e-006 (0.0020)

SGU1 to BKUP\_B (2) 99929.8541 6.4328e-006 (0.0025)  
-93884.8848 -5.0858e-007 1.0248e-005 (0.0032)  
-60944.3663 -1.0170e-006 -3.2412e-006 3.1420e-006 (0.0018)

SGU1 to BKUP\_B (3) 99929.8546 7.4578e-006 (0.0027)  
-93884.9058 -2.6328e-006 1.5490e-005 (0.0039)  
-60944.3373 -6.1054e-007 -4.3035e-006 4.0386e-006 (0.0020)

SGU1 to BR101 (1) -14416.7983 2.0800e-004 (0.0144)  
-83723.0776 -4.4449e-005 3.4274e-004 (0.0185)  
-111634.2045 -5.3232e-005 -4.7839e-005 1.1020e-004 (0.0105)

SGU1 to BR103 (1) 26694.9665 8.9619e-005 (0.0095)  
-74534.2807 1.4196e-005 3.9266e-005 (0.0063)  
-78445.3495 -7.4310e-006 -1.1814e-005 1.4673e-005 (0.0038)

SGU1 to CAPE (2) 107897.1189 2.4021e-005 (0.0049)  
-117610.9028 -6.3632e-006 6.2477e-005 (0.0079)  
-87280.1582 -3.3357e-006 -1.1971e-005 1.0922e-005 (0.0033)

SGU1 to DAVIAN (1) 19542.1669 9.2784e-006 (0.0030)

-68639.5187 -2.4231e-006 1.0528e-005 (0.0032)  
-73299.0234 -1.7777e-006 -3.8009e-006 4.9035e-006 (0.0022)

SGU1 to DESERT\_VIEW (1) 115902.1452 1.3613e-005 (0.0037)  
-126553.7913 -3.3281e-006 1.8602e-005 (0.0043)  
-94775.8676 -2.1857e-006 -5.3776e-006 6.2152e-006 (0.0025)

SGU1 to FERN (4) 46626.8524 1.5687e-005 (0.0040)  
-146788.7253 3.0993e-006 2.1205e-005 (0.0046)  
-158064.3712 -4.1457e-006 -9.7311e-006 1.1961e-005 (0.0035)

SGU1 to FERN (5) 46626.8586 1.4060e-005 (0.0037)  
-146788.7094 2.7293e-006 1.9018e-005 (0.0044)  
-158064.3838 -3.5547e-006 -8.5354e-006 1.0685e-005 (0.0033)

SGU1 to FERN (6) 46626.8545 1.5433e-005 (0.0039)  
-146788.7472 3.0729e-006 1.9314e-005 (0.0044)  
-158064.3539 -3.7794e-006 -9.0139e-006 1.1217e-005 (0.0033)

SGU1 to FERN (7) 46626.8612 1.4952e-005 (0.0039)  
-146788.7269 3.3464e-006 1.8368e-005 (0.0043)  
-158064.3724 -3.8382e-006 -8.3786e-006 1.0851e-005 (0.0033)

SGU1 to FERN (8) 46626.8683 1.5903e-005 (0.0040)  
-146788.7251 3.1824e-006 1.9573e-005 (0.0044)  
-158064.3727 -4.0559e-006 -8.9692e-006 1.1498e-005 (0.0034)

SGU1 to FRED (1) 84228.3276 7.9335e-006 (0.0028)  
-45437.6243 -4.1857e-006 8.4647e-006 (0.0029)  
-10678.8129 -2.9025e-007 -1.8665e-006 1.9894e-006 (0.0014)

SGU1 to FRED (2) 84228.3267 1.3825e-006 (0.0012)  
-45437.6299 -4.2634e-008 1.0847e-006 (0.0010)  
-10678.8042 -1.8921e-007 -4.5084e-007 4.8108e-007 (0.0007)

SGU1 to GCES (1) 91140.4402 7.8109e-006 (0.0028)  
-115918.3345 -6.4689e-007 6.1197e-006 (0.0025)  
-94216.3111 -1.0831e-006 -2.5333e-006 2.7588e-006 (0.0017)

SGU1 to GCES (10) 91140.4365 4.9979e-006 (0.0022)  
-115918.3263 -4.7084e-007 3.9427e-006 (0.0020)  
-94216.3131 -6.6197e-007 -1.5868e-006 1.7250e-006 (0.0013)

SGU1 to GCES (13) 91140.4487 5.5219e-006 (0.0023)  
-115918.3327 5.3687e-008 3.9580e-006 (0.0020)  
-94216.3051 -7.6280e-007 -1.6767e-006 1.7753e-006 (0.0013)

SGU1 to GCES (2) 91140.4431 1.5013e-005 (0.0039)

-115918.3243 2.9499e-006 1.8601e-005 (0.0043)  
-94216.3130 -3.6416e-006 -8.6066e-006 1.0850e-005 (0.0033)

SGU1 to GCES (3) 91140.4392 1.1256e-005 (0.0034)  
-115918.3227 2.0113e-006 1.4578e-005 (0.0038)  
-94216.3159 -2.8287e-006 -6.5739e-006 8.3325e-006 (0.0029)

SGU1 to GCES (4) 91140.4403 1.0956e-005 (0.0033)  
-115918.3220 2.1209e-006 1.4653e-005 (0.0038)  
-94216.3194 -2.7970e-006 -6.8174e-006 8.4390e-006 (0.0029)

SGU1 to GCES (6) 91140.4434 1.0320e-005 (0.0032)  
-115918.3211 1.9433e-006 1.3939e-005 (0.0037)  
-94216.3217 -2.6872e-006 -6.3819e-006 7.9372e-006 (0.0028)

SGU1 to GCES (7) 91140.4365 4.9979e-006 (0.0022)  
-115918.3263 -4.7084e-007 3.9427e-006 (0.0020)  
-94216.3131 -6.6197e-007 -1.5868e-006 1.7250e-006 (0.0013)

SGU1 to HG101 (1) -8493.7033 5.6037e-004 (0.0237)  
-73165.8089 5.6497e-005 4.4370e-004 (0.0211)  
-94504.4293 8.5272e-006 -1.5244e-004 1.4647e-004 (0.0121)

SGU1 to KGMN (4) -85329.3213 1.8727e-005 (0.0043)  
-97216.1283 4.4471e-006 2.3507e-005 (0.0048)  
-168537.3895 -5.1000e-006 -1.1053e-005 1.3707e-005 (0.0037)

SGU1 to KGMN (6) -85329.3268 6.5735e-006 (0.0026)  
-97216.1410 -3.4455e-007 5.0044e-006 (0.0022)  
-168537.3759 -9.3527e-007 -2.0596e-006 2.2314e-006 (0.0015)

SGU1 to KGMN (7) -85329.3191 1.2027e-005 (0.0035)  
-97216.1278 2.7440e-006 1.4932e-005 (0.0039)  
-168537.3931 -3.1354e-006 -6.8782e-006 8.7871e-006 (0.0030)

SGU1 to LCP101 (1) -16783.9642 2.1722e-004 (0.0147)  
-87891.5332 -9.9651e-005 7.9892e-004 (0.0283)  
-118772.1567 -2.6406e-005 -1.1079e-004 1.1972e-004 (0.0109)

SGU1 to LCP102 (1) -11982.0220 5.1236e-004 (0.0226)  
-80635.2140 -1.8804e-004 1.5414e-003 (0.0393)  
-107172.3549 -9.2141e-005 -1.0649e-004 1.4841e-004 (0.0122)

SGU1 to LCP107 (1) 18745.1933 1.3717e-004 (0.0117)  
-73044.1168 2.8746e-005 4.6434e-005 (0.0068)  
-80833.9664 -1.7181e-005 -1.7473e-005 2.3286e-005 (0.0048)

SGU1 to LCP108 (1) -11187.7329 1.5315e-003 (0.0391)

-84421.7209 -1.7243e-003 3.5112e-003 (0.0593)  
-111481.8802 -1.4937e-004 -3.4683e-004 7.0084e-004 (0.0265)

SGU1 to LCP109 (1) -16125.2660 4.3290e-004 (0.0208)  
-88007.2285 -3.3419e-004 8.2510e-004 (0.0287)  
-118851.8547 -5.3497e-006 -1.4000e-004 1.1444e-004 (0.0107)

SGU1 to LCP704 (1) 89864.1406 3.1734e-003 (0.0563)  
-94401.1879 -2.1011e-003 7.8408e-003 (0.0885)  
-66948.2867 -4.8693e-004 -1.1951e-003 1.0451e-003 (0.0323)

SGU1 to OT06 (1) 79842.6751 6.3502e-004 (0.0252)  
-91066.0528 -3.0284e-004 1.4527e-003 (0.0381)  
-68352.9963 -7.0569e-005 -1.5229e-004 2.7369e-004 (0.0165)

SGU1 to OT103 (1) -3962.9245 3.7228e-004 (0.0193)  
-80947.8598 -2.5556e-006 2.8448e-004 (0.0169)  
-101874.5715 2.3654e-005 -9.3839e-005 1.0046e-004 (0.0100)

SGU1 to OT107 (1) 39497.0856 8.0122e-005 (0.0090)  
-76704.9736 -6.3064e-005 2.2134e-004 (0.0149)  
-73659.7268 -7.9839e-006 -3.7800e-005 3.5206e-005 (0.0059)

SGU1 to P008 (2) 177262.7924 8.9450e-006 (0.0030)  
-142886.7377 -8.2728e-007 7.2559e-006 (0.0027)  
-86059.4894 -1.1855e-006 -3.0197e-006 3.1698e-006 (0.0018)

SGU1 to P008 (3) 177262.7930 7.8167e-006 (0.0028)  
-142886.7465 -1.3652e-007 6.3195e-006 (0.0025)  
-86059.4783 -9.4196e-007 -2.6014e-006 2.7526e-006 (0.0017)

SGU1 to P008 (5) 177262.7849 7.7436e-006 (0.0028)  
-142886.7554 -1.8636e-007 6.3112e-006 (0.0025)  
-86059.4705 -9.3507e-007 -2.5967e-006 2.7654e-006 (0.0017)

SGU1 to P008 (6) 177262.7919 7.7808e-006 (0.0028)  
-142886.7421 -1.3855e-007 6.3305e-006 (0.0025)  
-86059.4790 -9.5492e-007 -2.6130e-006 2.7704e-006 (0.0017)

SGU1 to P008 (7) 177262.7924 8.9450e-006 (0.0030)  
-142886.7377 -8.2728e-007 7.2559e-006 (0.0027)  
-86059.4894 -1.1855e-006 -3.0197e-006 3.1698e-006 (0.0018)

SGU1 to SHIVWITS (1) -25756.5713 2.3894e-005 (0.0049)  
-81595.4258 -6.5303e-006 2.5242e-005 (0.0050)  
-113545.9346 -5.0856e-006 -8.2598e-006 1.1860e-005 (0.0034)

SGU1 to SHIVWITS (2) -25756.5842 6.2212e-005 (0.0079)

-81595.4395 -6.1386e-005 1.5549e-004 (0.0125)  
-113545.9234 -6.2723e-006 -1.7726e-005 2.0918e-005 (0.0046)

SGU1 to SHIVWITS (3) -25756.5699 1.8564e-005 (0.0043)  
-81595.4261 -5.1848e-006 1.9437e-005 (0.0044)  
-113545.9350 -3.8268e-006 -6.1893e-006 9.0175e-006 (0.0030)

SGU1 to TR01 (1) 107859.7722 1.7615e-003 (0.0420)  
-117643.6978 -9.6206e-005 1.8016e-003 (0.0424)  
-87337.3036 -1.2410e-004 -3.0500e-004 6.4081e-004 (0.0253)

SGU1 to UR102 (1) -7467.7979 4.8787e-004 (0.0221)  
-75122.3004 4.3646e-005 3.1564e-004 (0.0178)  
-96034.9534 -3.2599e-005 -8.6306e-005 1.0038e-004 (0.0100)

SGU1 to UR105 (1) 16609.6675 1.0412e-004 (0.0102)  
-72740.0852 -5.1373e-006 1.9745e-004 (0.0141)  
-81167.4545 -1.9357e-005 -4.4780e-005 5.5069e-005 (0.0074)

SGU1 to UR106 (1) 29845.6401 5.2848e-005 (0.0073)  
-74019.4609 -4.0175e-005 1.4747e-004 (0.0121)  
-74843.7951 -5.8802e-006 -8.0997e-006 2.1765e-005 (0.0047)

SGU1 to UR107 (1) -9330.7150 2.0584e-004 (0.0143)  
-78019.1752 -3.4871e-005 1.7385e-004 (0.0132)  
-102362.7607 -4.5232e-005 -3.0794e-005 7.5806e-005 (0.0087)

SGU1 to WHITMORE (1) 583.8742 4.1610e-005 (0.0065)  
-68163.7293 7.1568e-006 1.8507e-005 (0.0043)  
-82501.9776 -4.3624e-006 -7.6762e-006 9.2767e-006 (0.0030)

SHIVWITS to TR101 (1) 14567.7529 9.2751e-005 (0.0096)  
-2821.5882 8.1820e-005 2.6116e-004 (0.0162)  
2069.8911 -6.1177e-005 -1.0191e-004 2.4350e-004 (0.0156)

SHIVWITS to UR101 (1) 11628.8272 2.7904e-004 (0.0167)  
-3992.6143 3.1923e-004 5.8110e-004 (0.0241)  
-792.6057 -1.6465e-004 -2.7733e-004 2.8097e-004 (0.0168)

SHIVWITS to UR103 (1) 475.9668 1.9345e-004 (0.0139)  
-4459.7651 1.8109e-004 3.1410e-004 (0.0177)  
-7406.2809 -9.5498e-005 -1.2274e-004 1.9645e-004 (0.0140)

SHIVWITS to UR107 (1) 16425.8676 1.0849e-004 (0.0104)  
3576.2419 1.2130e-004 3.6383e-004 (0.0191)  
11183.1785 -5.1795e-005 -1.8754e-004 2.7966e-004 (0.0167)

SIGNAL\_HILL to TR02 (1) -2047.4205 3.9279e-005 (0.0063)

585.3969 3.4133e-005 8.4467e-005 (0.0092)  
-467.5363 -9.9698e-006 -2.3653e-005 4.4228e-005 (0.0067)

TR102 to WHITMORE (1) -3641.5768 3.4167e-005 (0.0058)  
2259.6083 3.4296e-005 1.1289e-004 (0.0106)  
2114.6619 -1.9430e-005 -5.5415e-005 7.3017e-005 (0.0085)

TR103 to WHITMORE (1) -15824.2912 2.7956e-004 (0.0167)  
7795.7325 2.7983e-004 4.5970e-004 (0.0214)  
1695.8109 -1.1557e-004 -1.6597e-004 2.5547e-004 (0.0160)

UR0104 to WHITMORE (1) -6788.7248 1.1414e-004 (0.0107)  
4902.9226 1.1271e-004 2.9538e-004 (0.0172)  
3062.1132 -5.8993e-005 -8.3927e-005 1.9027e-004 (0.0138)

UR102 to WHITMORE (1) 8051.6963 8.3232e-005 (0.0091)  
6958.5649 7.5279e-005 2.0021e-004 (0.0141)  
13533.0028 -8.2577e-005 -1.2814e-004 2.6801e-004 (0.0164)

UR106B to WHITMORE (1) -17879.9414 9.8624e-005 (0.0099)  
5025.8981 8.9086e-005 2.7024e-004 (0.0164)  
-2792.0253 -6.5482e-005 -9.9897e-005 2.2833e-004 (0.0151)

VVA552 to WHITMORE (1) -17878.2100 1.9762e-004 (0.0141)  
5038.6033 1.9595e-004 3.4416e-004 (0.0186)  
-2775.3584 -9.3312e-005 -1.5025e-004 1.9288e-004 (0.0139)

\*\*\*\*\*  
OUTPUT VECTOR RESIDUALS (East, North, Height - Local Level)  
\*\*\*\*\*

SESSION NAME	-- RE --	-- RN --	-- RH --	- PPM -	DIST -	STD -
(m)	(m)	(m)	(km)	(m)		
ABYSS_PIN to BE208 (1)	-0.0090	0.0001	0.0001	0.630	14.2	0.0488
ABYSS_PIN to BE209 (1)	-0.0062	-0.0064	-0.0333	3.398	10.1	0.0840
ABYSS_PIN to BE210 (1)	-0.0072	-0.0074	0.0026	0.641	16.6	0.0552
ABYSS_PIN to BR701 (1)	-0.0022	0.0003	0.0103	1.033	10.2	0.0816
ABYSS_PIN to HG01 (1)	-0.0047	-0.0062	-0.0099	6.191	2.0	0.0303
ABYSS_PIN to HG01A (1)	-0.0011	-0.0086	0.0058	5.115	2.0	0.0250
ABYSS_PIN to HG02 (1)	-0.0065	-0.0111	-0.0255	2.498	11.4	0.0458
ABYSS_PIN to HG06 (1)	0.0080	-0.0074	-0.0052	3.569	3.4	0.0301
ABYSS_PIN to LCP101A (1)	-0.0009	-0.0075	-0.0035	95.601	0.1	0.0265
ABYSS_PIN to LCP102A (1)	-0.0145	-0.0329	0.0003	7.581	4.7	0.0365
ABYSS_PIN to LCP210 (1)	-0.0089	0.0066	0.0015	0.676	16.6	0.0520
ABYSS_PIN to LCP211 (1)	-0.0178	0.0235	-0.0107	2.205	14.2	0.0497

ABYSS_PIN to OT01 (1)	0.0015	-0.0038	-0.0091	2.397	4.1	0.0351
ABYSS_PIN to OT208 (1)	0.0016	0.0055	-0.0206	1.081	19.8	0.0722
ABYSS_PIN to OT209 (1)	-0.0059	0.0012	-0.0069	0.509	18.0	0.0575
ABYSS_PIN to OT210 (1)	0.0030	-0.0076	0.0238	1.286	19.5	0.0842
ABYSS_PIN to TR05 (1)	0.0093	-0.0253	0.0259	5.037	7.4	0.0578
ABYSS_PIN to UR01 (1)	-0.0014	-0.0061	-0.0036	2.939	2.5	0.0284
ABYSS_PIN to UR01A (1)	0.0099	-0.0090	-0.0109	6.898	2.5	0.0305
ABYSS_PIN to UR02 (1)	-0.0073	-0.0133	-0.0075	1.932	8.8	0.0569
ABYSS_PIN to UR03 (1)	0.0058	-0.0069	0.0037	1.470	6.6	0.0276
ABYSS_PIN to UR10 (1)	0.0070	-0.0131	-0.0063	1.239	13.0	0.0518
ABYSS_PIN to UR208 (1)	0.0014	0.0252	0.0405	4.455	10.7	0.0666
ABYSS_PIN to UR209 (1)	0.0007	0.0040	-0.0042	0.489	11.9	0.0528
ABYSS_PIN to VVA551 (1)	-0.0025	-0.0077	-0.0017	0.776	10.7	0.0532
AZPG to ABYSS_PIN (1)	0.0144	-0.0051	0.0278	0.278	114.3	0.0154
AZPG to ABYSS_PIN (4)	0.0043	-0.0087	-0.0319	0.291	114.3	0.1342
AZPG to BKUP_B (2)	0.0319	0.0345	-0.0015	0.580	81.0	0.0538
AZPG to BKUP_B (4)	-0.0123	-0.0189	-0.0160	0.341	81.0	0.0287
AZPG to CAPE (2)	0.0404	0.0148	0.0235	0.503	97.5	0.0405
AZPG to DESERT_VIEW (1)	-0.0166	-0.0054	-0.0037	0.175	101.8	0.0380
AZPG to HG03 (1)	0.0002	0.0379	-0.0169	0.450	92.2	0.5895
AZPG to SIGNAL_HILL (1)	-0.0003	-0.0017	0.0260	0.227	114.6	0.0195
AZPG to TR01 (1)	-0.0154	-0.0181	-0.0128	0.276	97.5	0.1325
BE01 to SIGNAL_HILL (1)	-0.0070	0.0054	-0.0068	2.793	4.0	0.0303
BE03 to DESERT_VIEW (1)	-0.0045	0.0017	0.0071	1.881	4.6	0.0290
BE04 to BKUP_B (1)	0.0033	0.0165	-0.0130	1.036	20.5	0.1426
BE05 to BKUP_B (1)	0.0026	0.0009	0.0208	1.330	15.8	0.0612
BE07 to BKUP_B (1)	0.0067	-0.0018	0.0233	1.158	21.0	0.0554
BE09 to BKUP_B (1)	0.0003	-0.0004	0.0050	0.506	9.9	0.0729
BE101 to SHIVWITS (1)	0.0080	0.0077	-0.0303	2.656	12.1	0.0797
BE102 to SHIVWITS (1)	-0.0019	-0.0062	0.0274	2.003	14.1	0.0592
BE103 to SHIVWITS (1)	-0.0028	0.0159	-0.0007	0.702	23.0	0.0606
BE104 to WHITMORE (1)	0.0002	-0.0045	-0.0064	0.943	8.3	0.0500
BE105 to DAVIAN (1)	-0.0030	0.0130	-0.0137	1.285	14.9	0.0590
BE106 to DAVIAN (1)	0.0145	-0.0126	-0.0146	1.609	15.0	0.0500
BE107 to DAVIAN (1)	0.0051	-0.0053	0.0009	0.294	25.4	0.0278
BE204 to DESERT_VIEW (1)	0.0016	-0.0062	-0.0075	0.634	15.6	0.0507
BE701 to WHITMORE (1)	0.0131	-0.0088	0.0046	0.664	24.8	0.0516
BKUP_B to BR04 (1)	-0.0437	0.0145	-0.0397	2.522	24.1	0.1833
BKUP_B to BR03 (1)	0.0000	-0.0000	-0.0000	0.000	20.1	0.0816
BKUP_B to BR06 (1)	-0.0045	0.0021	0.0068	0.231	36.4	0.0508
BKUP_B to BR07 (1)	-0.0166	0.0008	-0.0360	3.311	12.0	0.0540
BKUP_B to HG04 (1)	0.0020	0.0072	-0.0112	0.403	33.3	0.0659
BKUP_B to LCP104A (1)	0.0165	-0.0151	-0.0210	1.160	26.5	0.0287
BKUP_B to LCP107A (1)	-0.0037	-0.0011	-0.0030	0.498	9.8	0.0823
BKUP_B to LCP108A (1)	-0.0167	-0.0157	-0.0045	1.142	20.5	0.1580
BKUP_B to LCP702 (1)	0.0000	-0.0000	0.0000	0.000	21.0	0.0573
BKUP_B to LCP704 (1)	0.0080	-0.0148	-0.0121	1.766	11.7	0.0855
BKUP_B to OT02 (1)	0.0000	-0.0000	-0.0000	0.000	20.3	0.0854

BKUP_B to OT05 (1)	0.0140	0.0341	-0.0422	1.540	36.4	0.0933
BKUP_B to TR01 (1)	-0.0027	0.0049	0.0079	0.267	36.4	0.0507
BKUP_B to TR04 (1)	0.0134	-0.0124	-0.0142	0.839	27.6	0.0554
BKUP_B to TR06 (1)	-0.0069	0.0068	-0.0242	1.805	14.4	0.0686
BKUP_B to TR07 (1)	0.0000	-0.0000	0.0000	0.000	18.8	0.2619
BKUP_B to TR07B (1)	0.0000	-0.0000	0.0000	0.000	16.5	0.2060
BKUP_B to TR07C (1)	-0.0000	-0.0000	-0.0000	0.000	16.5	0.1141
BKUP_B to UR05 (1)	-0.0182	0.0269	-0.0342	2.122	22.2	0.1008
BKUP_B to UR06 (1)	-0.0136	0.0195	-0.0419	2.708	17.8	0.0582
BKUP_B to UR07 (1)	0.0004	0.0005	-0.0026	0.260	10.4	0.0533
BKUP_B to XLCP701 (1)	0.0001	-0.0091	0.0249	0.742	35.7	0.0718
BKUP_B to XNVA701 (1)	-0.0020	-0.0064	0.0022	0.198	35.7	0.0605
BKUP_B to XVVA701 (1)	-0.0007	0.0256	-0.0304	3.383	11.7	0.0545
BR01 to SIGNAL_HILL (1)	-0.0017	0.0076	-0.0060	3.398	2.9	0.0260
DESERT_VIEW to BR02 (1)	-0.0000	-0.0000	-0.0000	0.000	2.0	0.0284
BR04 to CAPE (1)	-0.0417	0.0096	-0.0425	2.152	28.0	0.1714
BR05 to DESERT_VIEW (1)	-0.0076	-0.0020	-0.0018	0.537	15.1	0.0464
BR101 to SHIVWITS (1)	-0.0049	-0.0251	-0.0443	4.379	11.7	0.0829
BR102 to WHITMORE (1)	0.0010	-0.0053	-0.0191	1.777	11.2	0.0501
BR103 to WHITMORE (1)	-0.0100	0.0279	0.0038	1.098	27.2	0.0901
BR206 to DESERT_VIEW (1)	0.0025	0.0054	-0.0022	0.787	8.0	0.0738
DAVIAN to HG102 (1)	-0.0033	-0.0100	0.0268	2.242	12.8	0.0611
DAVIAN to OT105 (1)	0.0026	-0.0054	0.0333	2.006	16.9	0.0559
DAVIAN to OT106 (1)	-0.0086	-0.0115	0.0113	2.184	8.4	0.1201
DAVIAN to OT107 (1)	-0.0151	0.0051	-0.0185	1.133	21.5	0.0582
DAVIAN to UR105 (1)	-0.0073	0.0076	0.0109	1.622	9.3	0.0938
DAVIAN to UR106 (1)	-0.0145	0.0164	0.0157	2.293	11.7	0.0751
DESERT_VIEW to LCP209 (1)	-0.0005	-0.0066	-0.0123	1.198	11.7	0.0539
DESERT_VIEW to HG05 (1)	-0.0002	0.0017	-0.0035	1.252	3.1	0.0286
DESERT_VIEW to LCP551 (1)	-0.0100	0.0082	-0.0263	1.904	15.4	0.0502
DESERT_VIEW to LCP701 (1)	-0.0006	0.0032	0.0053	1.355	4.5	0.0296
DESERT_VIEW to OT04 (1)	-0.0041	0.0120	-0.0229	1.688	15.5	0.0558
DESERT_VIEW to OT202 (1)	-0.0157	0.0168	-0.0123	1.706	15.3	0.0577
DESERT_VIEW to TR201 (1)	-0.0022	-0.0007	-0.0059	0.543	11.6	0.0586
DESERT_VIEW to UR04 (1)	-0.0001	0.0039	0.0061	16.291	0.4	0.0285
FERN to BE204 (1)	-0.0170	-0.0011	0.0023	0.156	110.2	0.0803
FERN to ABYSS_PIN (1)	-0.0022	-0.0022	0.0027	0.049	83.3	0.0090
FERN to ABYSS_PIN (2)	0.0425	0.0039	0.0033	0.514	83.3	0.0327
FERN to ABYSS_PIN (3)	0.0147	-0.0015	0.0005	0.177	83.3	0.0102
FERN to ABYSS_PIN (5)	0.0403	-0.0294	-0.0017	0.600	83.3	0.1951
FERN to AZPG (1)	-0.0064	0.0031	0.0025	0.039	195.5	0.0077
FERN to AZPG (2)	-0.0151	0.0032	-0.0020	0.080	195.5	0.0112
FERN to AZPG (7)	-0.0064	0.0031	0.0025	0.039	195.5	0.0077
FERN to AZPG (8)	-0.0151	0.0032	-0.0019	0.080	195.5	0.0112
FERN to BE02 (1)	0.0187	0.0216	-0.0206	0.441	79.8	0.4957
FERN to BE104 (1)	0.0013	-0.0042	-0.0033	0.050	110.4	0.0719
FERN to BE106 (1)	0.0129	-0.0020	0.0218	0.232	109.5	0.0684
FERN to BE107 (1)	0.0042	-0.0211	0.0099	0.219	108.3	0.0559



FERN to BE208 (1)	0.0211	0.0165	0.0118	0.302	96.9	0.0783
FERN to BE209 (1)	0.0082	0.0015	0.0204	0.243	90.6	0.0531
FERN to BE210 (1)	0.0095	0.0011	-0.0033	0.114	88.8	0.0618
FERN to BE701 (1)	0.0211	-0.0085	0.0185	0.281	104.3	0.0310
FERN to BKUP_B (1)	-0.0082	0.0046	0.0029	0.080	122.8	0.0121
FERN to BKUP_B (3)	-0.0033	-0.0034	-0.0307	0.253	122.8	0.0128
FERN to BKUP_B (4)	-0.0125	-0.0034	-0.0352	0.306	122.8	0.0264
FERN to BR101 (1)	-0.0007	-0.0165	0.0019	0.167	99.3	0.0692
FERN to BR103 (1)	0.0061	-0.0186	0.0204	0.259	109.3	0.0598
FERN to CAPE (1)	0.0052	0.0177	-0.0072	0.202	98.1	0.0129
FERN to DAVIAN (1)	-0.0212	0.0010	-0.0362	0.355	118.4	0.0172
FERN to DESERT_VIEW (1)	0.0057	-0.0008	0.0077	0.100	96.0	0.0107
FERN to HG02 (1)	-0.0153	-0.0217	-0.0025	0.322	82.9	0.1874
FERN to HG05 (1)	0.0223	-0.0251	0.0435	0.591	93.0	0.1466
FERN to LCP103 (1)	0.0069	0.0049	-0.0015	0.077	112.8	0.1942
FERN to LCP104 (1)	0.0061	-0.0003	-0.0185	0.179	108.8	0.1317
FERN to LCP105A (1)	-0.0025	0.1360	-0.2292	2.503	106.5	0.3534
FERN to LCP209 (1)	-0.0002	0.0006	0.0060	0.056	107.4	0.0635
FERN to LCP211 (1)	0.0278	0.0001	-0.0018	0.288	96.9	0.0530
FERN to LCP551 (1)	0.0272	-0.0150	0.0399	0.456	110.9	0.0585
FERN to LCP552 (1)	0.0125	-0.0341	0.0253	0.398	111.1	0.2031
FERN to LCP701 (1)	-0.0141	-0.0413	0.0286	0.571	91.5	0.1844
FERN to LCP703 (1)	0.0285	0.0010	0.0056	0.257	112.9	0.2070
FERN to OT04 (1)	-0.0123	0.0171	-0.0383	0.531	82.3	0.1959
FERN to OT06 (1)	-0.0128	-0.0090	-0.0442	0.423	110.7	0.2695
FERN to OT07 (1)	-0.0120	-0.0326	-0.0076	0.339	105.1	0.2331
FERN to OT101 (1)	0.0294	-0.0115	0.0378	0.522	94.5	0.0898
FERN to OT107 (1)	0.0137	-0.0161	0.0144	0.233	109.9	0.0607
FERN to OT202 (1)	0.0279	-0.0080	0.0224	0.331	110.8	0.0613
FERN to SHIVWITS (1)	0.0024	-0.0043	0.0189	0.182	107.1	0.0199
FERN to SHIVWITS (2)	0.0021	-0.0043	0.0185	0.178	107.1	0.0162
FERN to SHIVWITS (3)	-0.0130	0.0028	-0.0107	0.160	107.1	0.0187
FERN to SIGNAL_HILL (1)	0.0093	-0.0008	-0.0141	0.183	92.4	0.0151
FERN to SIGNAL_HILL (2)	0.0093	-0.0008	-0.0141	0.183	92.4	0.0151
FERN to TR01 (1)	-0.0002	0.0286	-0.0131	0.321	98.0	0.1347
FERN to TR03 (1)	0.0150	-0.0007	0.0272	0.281	110.6	0.4226
FERN to TR102 (1)	-0.0267	0.0302	-0.0384	0.488	114.1	0.0778
FERN to TR201 (1)	0.0097	-0.0023	0.0128	0.151	107.4	0.0602
FERN to UR01 (1)	0.0007	0.0042	-0.0290	0.353	83.0	0.1471
FERN to UR07 (1)	-0.0028	-0.0144	-0.0063	0.141	113.2	0.2100
FERN to UR101 (1)	0.0109	0.0025	0.0067	0.135	96.7	0.1088
FERN to UR103 (1)	0.0359	0.0008	0.0368	0.508	101.2	0.0812
FERN to UR105 (1)	0.0120	-0.0213	-0.0133	0.251	110.9	0.0677
FERN to UR106B (1)	-0.0028	-0.0131	0.0190	0.209	111.1	0.0686
FERN to UR107 (1)	-0.0210	-0.0046	0.0201	0.281	104.7	0.0541
FERN to VVA551 (1)	-0.0306	0.0111	0.0269	0.455	92.7	0.0900
FERN to VVA552 (1)	0.0466	0.0048	0.0203	0.460	111.1	0.1676
FERN to WHITMORE (1)	0.0077	-0.0154	0.0120	0.178	118.4	0.0240

FERN to WHITMORE (3)	-0.0004	-0.0084	0.0394	0.340	118.4	0.0211
FRED to BE209 (1)	0.0163	-0.0016	-0.0318	0.340	105.3	0.0560
FRED to ABYSS_PIN (1)	-0.0010	-0.0079	-0.0184	0.187	107.0	0.0113
FRED to BE204 (1)	-0.0173	-0.0042	0.0084	0.180	109.5	0.0805
FRED to BE208 (1)	-0.0093	0.0014	-0.0192	0.217	98.7	0.0789
FRED to BE210 (1)	0.0026	-0.0056	0.0126	0.124	113.4	0.0677
FRED to DESERT_VIEW (1)	0.0109	-0.0022	0.0114	0.131	121.1	0.0126
FRED to FERN (1)	0.0017	-0.0008	0.0026	0.018	182.8	0.0130
FRED to FERN (2)	-0.0004	0.0035	0.0026	0.024	182.8	0.0050
FRED to LCP209 (1)	0.0028	-0.0062	0.0168	0.158	114.4	0.0649
FRED to LCP211 (1)	0.0129	-0.0142	0.0181	0.268	98.6	0.0533
FRED to LCP551 (1)	0.0150	-0.0120	0.0306	0.324	111.7	0.0586
FRED to OT202 (1)	0.0147	-0.0091	0.0180	0.223	111.8	0.0614
FRED to TR201 (1)	-0.0045	-0.0082	0.0200	0.193	114.4	0.0619
FRED to UR208 (1)	0.0422	-0.0188	-0.0073	0.456	102.5	0.0763
FRED to VVA551 (1)	0.0245	-0.0042	-0.0382	0.445	102.5	0.0933
GCES to ABYSS_PIN (1)	-0.0087	-0.0002	-0.0070	2.251	5.0	0.0300
GCES to ABYSS_PIN (2)	-0.0090	0.0154	-0.0129	4.415	5.0	0.0279
GCES to ABYSS_PIN (3)	-0.0079	0.0162	0.0105	4.196	5.0	0.0287
GCES to ABYSS_PIN (4)	0.0019	0.0152	-0.0014	3.089	5.0	0.0268
GCES to ABYSS_PIN (5)	0.0018	0.0037	0.0173	3.569	5.0	0.0320
GCES to ABYSS_PIN (6)	0.0047	0.0096	0.0016	2.179	5.0	0.0276
GCES to ABYSS_PIN (7)	-0.0100	0.0188	-0.0087	4.625	5.0	0.0279
GCES to ABYSS_PIN (8)	-0.0038	0.0208	-0.0040	4.329	5.0	0.0281
GCES to AZPG (10)	0.0136	-0.0011	0.0163	0.188	112.7	0.0096
GCES to AZPG (11)	0.0071	0.0006	0.0097	0.107	112.7	0.0089
GCES to AZPG (12)	-0.0002	-0.0057	-0.0129	0.126	112.7	0.0099
GCES to AZPG (15)	0.0191	-0.0047	0.0127	0.208	112.7	0.0104
GCES to AZPG (2)	0.0162	-0.0063	0.0403	0.389	112.7	0.0165
GCES to AZPG (3)	0.0205	-0.0072	0.0158	0.238	112.7	0.0134
GCES to AZPG (4)	0.0158	-0.0028	-0.0104	0.169	112.7	0.0120
GCES to AZPG (6)	0.0177	-0.0053	0.0133	0.202	112.7	0.0088
GCES to BE01 (1)	-0.0319	0.0243	-0.0415	2.214	26.1	0.0588
GCES to BE03 (1)	-0.0154	0.0046	0.0257	1.266	23.9	0.0524
GCES to BE04 (1)	0.0248	0.0221	-0.0047	1.155	29.0	0.2801
GCES to BE05 (1)	0.0028	-0.0023	0.0317	0.877	36.3	0.0747
GCES to BE06 (1)	0.0000	0.0057	0.0172	0.455	39.9	0.0549
GCES to BE07 (1)	0.0067	-0.0019	0.0220	0.890	25.9	0.0540
GCES to BE08 (1)	0.0000	0.0000	-0.0000	0.000	24.5	0.3001
GCES to BE09 (1)	-0.0077	-0.0024	0.0296	0.984	31.1	0.1629
GCES to BE10 (1)	0.0000	-0.0000	-0.0000	0.000	24.5	0.2088
GCES to BE103 (1)	-0.0258	0.0050	0.0192	0.296	110.1	0.0733
GCES to BE105 (1)	-0.0302	0.0078	0.0259	0.435	93.2	0.0956
GCES to BE106 (1)	0.0091	-0.0087	0.0082	0.204	73.4	0.0597
GCES to BE107 (1)	0.0002	-0.0087	0.0139	0.255	64.2	0.0467
GCES to BE204 (1)	0.0091	0.0155	-0.0100	0.624	33.0	0.0525
GCES to BE208 (1)	0.0049	-0.0115	0.0080	1.121	13.2	0.0487
GCES to BE210 (1)	0.0040	-0.0016	-0.0163	1.431	11.8	0.0543

GCES to BE701 (1)	0.0335	0.0085	-0.0092	0.333	107.6	0.0315
GCES to BKUP_B (4)	-0.0018	-0.0016	0.0213	0.526	40.9	0.0504
GCES to BR01 (1)	-0.0078	0.0304	-0.0269	1.583	26.1	0.0481
GCES to BR05 (1)	-0.0076	-0.0010	-0.0032	0.598	14.0	0.0460
GCES to BR06 (1)	0.0041	-0.0018	-0.0059	0.409	18.2	0.0482
GCES to BR07 (1)	0.0177	-0.0000	0.0420	1.349	33.8	0.0536
GCES to BR101 (1)	-0.0012	-0.0135	0.0006	0.122	111.7	0.0731
GCES to BR103 (1)	0.0298	0.0046	-0.0111	0.412	78.2	0.0532
GCES to BR206 (1)	0.0034	0.0033	-0.0039	0.189	32.5	0.0525
GCES to BR701 (1)	0.0021	-0.0003	-0.0102	1.436	7.3	0.0814
GCES to DAVIAN (1)	-0.0029	-0.0017	0.0169	0.195	88.3	0.0149
GCES to DESERT_VIEW (1)	0.0074	0.0013	-0.0071	0.383	27.0	0.0558
GCES to DESERT_VIEW (2)	-0.0187	0.0106	0.0137	0.948	27.0	0.0501
GCES to DESERT_VIEW (3)	-0.0079	0.0044	-0.0287	1.116	27.0	0.0495
GCES to FERN (4)	-0.0005	0.0016	0.0056	0.069	83.7	0.0081
GCES to FERN (5)	-0.0005	0.0016	0.0056	0.069	83.7	0.0081
GCES to FERN (7)	-0.0016	0.0028	-0.0036	0.057	83.7	0.0082
GCES to FRED (1)	-0.0031	0.0027	0.0218	0.202	109.5	0.0092
GCES to FRED (2)	-0.0016	0.0050	-0.0095	0.099	109.5	0.0095
GCES to HG01 (1)	0.0048	0.0064	0.0100	3.057	4.2	0.0304
GCES to HG01A (1)	0.0013	0.0079	-0.0071	2.563	4.2	0.0255
GCES to HG02 (1)	0.0023	0.0045	0.0091	1.584	6.6	0.0262
GCES to HG03 (1)	-0.0008	-0.0036	0.0016	0.170	23.8	0.1966
GCES to HG04 (1)	-0.0036	-0.0069	0.0140	0.757	21.1	0.0601
GCES to HG06 (1)	-0.0080	0.0092	0.0026	1.794	7.0	0.0297
GCES to HG07 (1)	0.0123	0.0127	-0.0192	1.006	25.9	0.0468
GCES to LCP101A (1)	0.0108	0.0157	0.0040	3.857	5.1	0.0456
GCES to LCP102A (1)	-0.0315	0.0359	-0.0248	5.987	9.0	0.0911
GCES to LCP103 (1)	-0.0145	-0.0065	-0.0019	0.145	110.4	0.2753
GCES to LCP103A (1)	-0.0327	-0.0056	-0.0292	1.690	26.2	0.1527
GCES to LCP104A (1)	-0.0799	0.0393	-0.0102	4.490	20.0	0.0591
GCES to LCP105A (1)	0.0004	-0.0156	0.0258	1.229	24.5	0.1196
GCES to LCP106 (1)	0.0338	-0.0062	-0.0012	0.348	99.0	0.0748
GCES to LCP106A (1)	0.0280	0.0454	0.0060	2.274	23.6	0.2910
GCES to LCP107 (1)	-0.0032	-0.0103	0.0319	0.395	85.2	0.0538
GCES to LCP107A (1)	0.0104	0.0042	0.0110	0.505	31.2	0.1986
GCES to LCP110 (1)	-0.0297	-0.0010	0.0302	0.417	101.6	0.0766
GCES to LCP209 (1)	-0.0020	-0.0102	-0.0032	0.330	33.1	0.0662
GCES to LCP210 (1)	0.0089	-0.0066	-0.0015	0.946	11.8	0.0517
GCES to LCP211 (1)	-0.0021	-0.0070	0.0202	1.622	13.2	0.0496
GCES to LCP551 (1)	-0.0048	0.0099	-0.0257	0.797	35.0	0.0521
GCES to LCP552 (1)	-0.0105	-0.0051	0.0155	0.226	85.5	0.1875
GCES to LCP703 (1)	-0.0149	-0.0030	-0.0052	0.403	39.9	0.1618
GCES to OT01 (1)	-0.0014	0.0038	0.0086	11.300	0.8	0.0345
GCES to OT03 (1)	-0.0146	0.0258	-0.0199	1.326	26.9	0.0524
GCES to OT04 (1)	0.0031	-0.0117	0.0291	2.032	15.5	0.0546
GCES to OT05 (1)	-0.0031	-0.0117	0.0154	1.077	18.2	0.0517
GCES to OT08 (1)	0.0000	-0.0000	0.0000	0.000	21.6	0.1363

GCES to OT09 (1)	0.0000	0.0000	0.0000	0.000	21.6	0.1507
GCES to OT10 (1)	0.0000	0.0000	0.0000	0.000	20.4	0.1025
GCES to OT102 (1)	-0.0108	-0.0027	-0.0115	0.145	110.4	0.1256
GCES to OT104 (1)	-0.0288	0.0306	-0.0377	0.538	104.9	0.0739
GCES to OT105 (1)	0.0306	-0.0049	0.0390	0.515	96.7	0.0844
GCES to OT107 (1)	0.0069	0.0023	-0.0125	0.213	68.0	0.0518
GCES to OT208 (1)	-0.0016	-0.0054	0.0205	1.379	15.4	0.0719
GCES to OT209 (1)	0.0058	-0.0012	0.0071	0.621	14.8	0.0574
GCES to OT210 (1)	-0.0003	0.0092	0.0068	0.651	17.6	0.0845
GCES to SHIVWITS (1)	0.0039	-0.0009	0.0009	0.033	123.4	0.0162
GCES to SHIVWITS (3)	0.0040	-0.0009	0.0009	0.034	123.4	0.0162
GCES to SIGNAL_HILL (2)	-0.0048	0.0250	-0.0331	1.697	24.6	0.0510
GCES to TR01 (1)	0.0027	-0.0034	0.0055	0.387	18.2	0.0493
GCES to TR02 (1)	-0.0010	0.0216	-0.0256	1.281	26.2	0.0475
GCES to TR04 (1)	-0.0134	0.0126	0.0108	0.887	24.1	0.0542
GCES to TR05 (1)	-0.0042	0.0099	-0.0115	4.257	3.7	0.0334
GCES to TR06 (1)	0.0071	-0.0074	0.0259	1.017	27.4	0.0714
GCES to TR201 (1)	0.0009	0.0233	-0.0152	0.843	33.1	0.0642
GCES to UR01 (1)	0.0041	0.0241	0.0303	5.236	7.4	0.0526
GCES to UR0104 (1)	0.0364	0.0134	0.0076	0.419	94.5	0.1021
GCES to UR01A (1)	-0.0106	0.0097	0.0123	2.532	7.5	0.0319
GCES to UR02 (1)	0.0023	0.0039	0.0032	0.970	5.7	0.0281
GCES to UR03 (1)	-0.0056	0.0067	-0.0038	4.310	2.2	0.0276
GCES to UR04 (1)	-0.0360	-0.0322	0.0118	1.817	27.4	0.1027
GCES to UR05 (1)	0.0188	-0.0298	0.0319	2.310	20.6	0.1045
GCES to UR06 (1)	0.0095	-0.0135	0.0317	1.409	25.4	0.0660
GCES to UR08 (1)	-0.0000	0.0000	0.0000	0.000	19.9	0.2434
GCES to UR09 (1)	0.0000	0.0000	0.0000	0.000	19.4	0.1220
GCES to UR10 (1)	-0.0077	0.0136	0.0086	2.180	8.2	0.0523
GCES to UR105 (1)	0.0028	-0.0161	0.0181	0.280	87.1	0.0621
GCES to UR107 (1)	0.0009	-0.0013	0.0073	0.070	107.7	0.0551
GCES to UR208 (1)	0.0018	0.0084	0.0239	2.826	9.0	0.0667
GCES to UR209 (1)	-0.0007	-0.0039	0.0040	0.749	7.5	0.0525
GCES to VVA551 (1)	0.0012	-0.0141	0.0008	1.570	9.0	0.0532
GCES to WHITMORE (1)	-0.0025	0.0105	-0.0144	0.175	103.0	0.0154
GCES to WHITMORE (2)	-0.0040	-0.0037	-0.0080	0.094	103.0	0.0205
GCES to WHITMORE (3)	0.0147	0.0001	0.0040	0.148	103.0	0.0252
GCES to WHITMORE (4)	0.0205	0.0046	-0.0026	0.206	103.0	0.0254
GCES to XLCP701 (1)	0.0005	0.0080	-0.0224	1.237	19.3	0.0677
GCES to XNVA701 (1)	0.0019	0.0062	-0.0019	0.348	19.3	0.0586
GCES to XVVA701 (1)	0.0019	-0.0384	0.0421	1.641	34.8	0.0656
HG07 to SIGNAL_HILL (1)	0.0037	0.0038	-0.0059	1.594	5.0	0.0260
HG101 to WHITMORE (1)	-0.0089	0.0344	0.0129	2.386	15.9	0.0500
HG103 to SHIVWITS (1)	-0.0035	-0.0138	0.0254	2.267	12.9	0.0550
KGMN to FERN (6)	-0.0048	-0.0004	-0.0042	0.045	141.3	0.0110
KGMN to BE101 (1)	0.0234	-0.0084	0.0082	0.307	85.2	0.0688
KGMN to BE102 (1)	-0.0085	-0.0049	0.0234	0.273	92.7	0.0855
KGMN to BE103 (1)	0.0108	0.0014	0.0058	0.117	105.4	0.0359

KGMN to BE105 (1)	-0.0008	0.0001	-0.0174	0.135	129.7	0.0500
KGMN to BE106 (1)	0.0404	-0.0122	-0.0232	0.318	151.4	0.0633
KGMN to BR101 (1)	-0.0044	0.0128	-0.0241	0.301	91.9	0.0450
KGMN to BR102 (1)	0.0081	-0.0004	-0.0319	0.282	116.9	0.0920
KGMN to BR103 (1)	-0.0103	0.0061	-0.0078	0.098	145.5	0.0293
KGMN to DAVIAN (1)	0.0087	0.0009	-0.0113	0.099	144.5	0.0211
KGMN to FERN (2)	0.0022	0.0027	0.0087	0.066	141.3	0.0105
KGMN to FERN (4)	0.0020	0.0026	-0.0094	0.070	141.3	0.0060
KGMN to FERN (5)	-0.0048	-0.0004	-0.0042	0.045	141.3	0.0110
KGMN to GCES (4)	0.0019	0.0031	-0.0109	0.060	192.4	0.0150
KGMN to GCES (6)	-0.0066	-0.0038	-0.0078	0.057	192.4	0.0083
KGMN to GCES (7)	0.0011	0.0034	-0.0196	0.104	192.4	0.0090
KGMN to HG101 (1)	0.0026	0.0360	-0.0031	0.331	109.4	0.0677
KGMN to HG102 (1)	0.0459	0.0129	-0.0152	0.379	131.9	0.0560
KGMN to HG103 (1)	-0.0452	-0.0128	0.0210	0.577	89.2	0.0874
KGMN to LCP101 (1)	0.0244	-0.0111	0.0093	0.333	85.2	0.0546
KGMN to LCP102 (1)	0.0229	-0.0001	0.0123	0.268	97.1	0.0854
KGMN to LCP105 (1)	-0.0390	0.0096	-0.0287	0.378	130.6	0.0625
KGMN to LCP107 (1)	0.0198	0.0120	-0.0380	0.322	138.2	0.0345
KGMN to LCP109 (1)	-0.0071	0.0104	-0.0010	0.148	85.7	0.0605
KGMN to LCP111 (1)	0.0283	-0.0143	0.0025	0.251	126.7	0.0665
KGMN to OT101 (1)	-0.0052	0.0011	0.0007	0.063	85.7	0.0503
KGMN to OT105 (1)	-0.0068	0.0024	-0.0330	0.264	127.8	0.0470
KGMN to OT106 (1)	0.0208	0.0031	-0.0184	0.194	143.9	0.0843
KGMN to SHIVWITS (1)	0.0096	-0.0023	0.0090	0.162	82.6	0.0119
KGMN to SHIVWITS (3)	0.0057	-0.0040	-0.0139	0.188	82.6	0.0136
KGMN to TR101 (1)	-0.0297	0.0129	0.0181	0.393	94.4	0.0950
KGMN to TR103 (1)	0.0026	0.0010	-0.0331	0.248	133.8	0.1464
KGMN to UR101 (1)	0.0140	-0.0089	-0.0010	0.184	90.2	0.0783
KGMN to UR103 (1)	0.0129	-0.0073	-0.0040	0.198	77.4	0.0585
KGMN to UR105 (1)	0.0179	0.0097	-0.0335	0.287	136.5	0.0446
KGMN to UR106 (1)	0.0392	-0.0129	-0.0230	0.314	150.3	0.0375
KGMN to UR107 (1)	0.0034	0.0066	-0.0318	0.318	102.6	0.0409
LCP101 to SHIVWITS (1)	0.0075	0.0071	-0.0098	1.173	12.1	0.0952
LCP102 to SHIVWITS (1)	0.0040	0.0139	0.0165	1.440	15.2	0.0927
LCP103A to SIGNAL_HILL (1)	-0.0002	-0.0025	-0.0031	1.834	2.2	0.0252
LCP104 to WHITMORE (1)	0.0005	-0.0026	-0.0230	2.072	11.2	0.0589
LCP105 to WHITMORE (1)	-0.0053	-0.0075	-0.0146	1.972	8.7	0.0544
LCP106 to WHITMORE (1)	0.0052	0.0002	-0.0159	2.017	8.3	0.0505
LCP107 to WHITMORE (1)	-0.0311	0.0295	-0.0288	2.736	18.9	0.0746
LCP108 to SHIVWITS (1)	0.0003	-0.0014	0.0025	0.196	15.0	0.0696
LCP109 to SHIVWITS (1)	-0.0027	0.0147	0.0296	2.607	12.7	0.0741
LCP110 to WHITMORE (1)	-0.0050	0.0102	0.0188	0.928	23.7	0.0482
LCP111 to WHITMORE (1)	0.0029	-0.0120	-0.0172	2.383	8.9	0.0559
LCP552 to WHITMORE (1)	-0.0043	-0.0098	0.0056	0.643	18.8	0.0732
OT03 to SIGNAL_HILL (1)	-0.0040	0.0066	-0.0064	4.389	2.3	0.0285
OT101 to SHIVWITS (1)	0.0070	0.0015	0.0298	2.409	12.7	0.0654
OT102 to WHITMORE (1)	-0.0036	-0.0042	-0.0261	1.543	17.3	0.0834

OT103 to WHITMORE (1)	0.0017	-0.0112	-0.0377	1.665	23.7	0.0495
OT104 to WHITMORE (1)	-0.0046	0.0276	-0.0450	4.115	12.9	0.0527
P008 to ABYSS_PIN (1)	-0.0014	-0.0065	-0.0028	0.076	95.3	0.0099
P008 to ABYSS_PIN (3)	0.0268	-0.0014	0.0424	0.527	95.3	0.0346
P008 to ABYSS_PIN (5)	-0.0147	0.0176	-0.0165	0.296	95.3	0.0123
P008 to AZPG (10)	-0.0076	0.0042	-0.0223	0.266	90.1	0.0089
P008 to AZPG (12)	-0.0045	0.0022	-0.0096	0.120	90.1	0.0085
P008 to AZPG (14)	-0.0041	0.0012	-0.0160	0.184	90.1	0.0111
P008 to AZPG (2)	0.0011	0.0000	0.0014	0.020	90.1	0.0083
P008 to BE02 (1)	-0.0226	-0.0262	0.0241	0.423	99.7	0.5169
P008 to BE204 (1)	-0.0094	-0.0014	-0.0273	0.479	60.5	0.0662
P008 to BE208 (1)	0.0041	0.0032	-0.0034	0.072	86.5	0.0753
P008 to BE209 (1)	0.0090	-0.0042	0.0175	0.234	86.0	0.0520
P008 to BE210 (1)	-0.0045	0.0062	-0.0004	0.097	78.9	0.0598
P008 to BKUP_B (2)	0.0097	0.0050	0.0143	0.190	94.9	0.0094
P008 to BKUP_B (3)	-0.0082	-0.0057	-0.0074	0.131	94.9	0.0115
P008 to BKUP_B (4)	-0.0174	0.0028	-0.0061	0.196	94.9	0.0232
P008 to CAPE (2)	-0.0059	-0.0254	0.0113	0.385	73.8	0.0190
P008 to DESERT_VIEW (1)	0.0143	-0.0011	-0.0063	0.244	64.1	0.0099
P008 to DESERT_VIEW (2)	-0.0242	0.0018	0.0014	0.379	64.1	0.0107
P008 to FERN (11)	-0.0019	-0.0022	0.0108	0.075	149.2	0.0062
P008 to FERN (2)	0.0027	-0.0022	-0.0075	0.055	149.2	0.0065
P008 to FERN (5)	0.0007	-0.0016	0.0120	0.081	149.2	0.0081
P008 to FERN (6)	0.0384	-0.0119	0.0113	0.280	149.2	0.3579
P008 to FERN (7)	0.0033	-0.0020	-0.0078	0.058	149.2	0.0066
P008 to FRED (1)	-0.0003	-0.0008	0.0084	0.055	154.4	0.0114
P008 to FRED (2)	0.0028	0.0006	-0.0144	0.095	154.4	0.0093
P008 to GCES (1)	0.0028	-0.0030	-0.0019	0.049	90.6	0.0051
P008 to GCES (2)	0.0043	-0.0046	-0.0061	0.097	90.6	0.0088
P008 to GCES (3)	0.0024	0.0024	0.0027	0.047	90.6	0.0064
P008 to GCES (4)	0.0037	-0.0020	-0.0020	0.052	90.6	0.0051
P008 to GCES (5)	-0.0008	0.0060	0.0136	0.165	90.6	0.0055
P008 to GCES (6)	-0.0008	0.0060	0.0136	0.165	90.6	0.0055
P008 to HG01A (1)	-0.0213	0.0221	0.0048	0.332	93.6	0.2413
P008 to LCP106A (1)	-0.0029	-0.0510	-0.0365	0.708	88.6	0.3231
P008 to LCP108A (1)	0.0440	0.0400	0.0253	0.830	77.8	0.2749
P008 to LCP209 (1)	-0.0025	0.0129	-0.0198	0.407	58.4	0.0529
P008 to LCP211 (1)	0.0208	-0.0056	0.0044	0.254	86.6	0.0508
P008 to LCP551 (1)	0.0114	-0.0149	0.0200	0.474	57.8	0.0477
P008 to LCP701 (1)	-0.0068	-0.0339	-0.0014	0.510	68.0	0.1688
P008 to LCP703 (1)	-0.0034	0.0050	0.0049	0.069	112.8	0.2130
P008 to OT06 (1)	0.0136	0.0008	-0.0124	0.164	111.8	0.2763
P008 to OT07 (1)	0.0054	0.0139	0.0043	0.180	86.1	0.1580
P008 to OT202 (1)	0.0194	-0.0176	0.0201	0.572	57.7	0.0499
P008 to OT210 (1)	-0.0168	0.0110	-0.0348	0.495	81.3	0.1328
P008 to SIGNAL_HILL (1)	-0.0046	-0.0080	0.0358	0.335	110.5	0.0163
P008 to TR01 (1)	0.0060	-0.0130	-0.0132	0.264	73.9	0.1163
P008 to TR03 (1)	-0.0148	0.0009	-0.0273	0.280	110.8	0.4242

P008 to TR201 (1)	0.0059	-0.0016	-0.0155	0.286	58.4	0.0499
P008 to UR07 (1)	-0.0118	-0.0068	0.0384	0.450	90.6	0.1920
P008 to VVA551 (1)	-0.0131	0.0089	0.0165	0.263	87.0	0.0889
SGU1 to ABYSS_PIN (1)	-0.0047	-0.0039	-0.0251	0.151	170.7	0.0199
SGU1 to AZPG (2)	-0.0014	0.0006	-0.0015	0.011	189.0	0.0124
SGU1 to AZPG (3)	-0.0025	0.0006	-0.0326	0.173	189.0	0.0139
SGU1 to AZPG (5)	-0.0159	0.0121	-0.0075	0.113	189.0	0.4611
SGU1 to AZPG (6)	-0.0017	0.0028	-0.0363	0.193	189.0	0.0157
SGU1 to BE06 (1)	0.0325	-0.0157	-0.0328	0.356	137.1	0.1238
SGU1 to BE103 (1)	-0.0178	-0.0001	-0.0166	0.197	123.3	0.0387
SGU1 to BE105 (1)	-0.0009	-0.0004	-0.0012	0.014	110.9	0.0465
SGU1 to BE106 (1)	0.0264	-0.0126	0.0246	0.341	112.0	0.0534
SGU1 to BE107 (1)	-0.0008	0.0047	-0.0022	0.045	116.2	0.0369
SGU1 to BE701 (1)	-0.0254	-0.0050	0.0011	0.200	129.6	0.0279
SGU1 to BKUP_B (1)	-0.0132	0.0030	-0.0009	0.090	150.0	0.0104
SGU1 to BKUP_B (2)	0.0110	0.0047	0.0157	0.132	150.0	0.0095
SGU1 to BKUP_B (3)	0.0024	-0.0071	-0.0170	0.124	150.0	0.0111
SGU1 to BR101 (1)	0.0001	0.0065	0.0195	0.147	140.3	0.0548
SGU1 to BR103 (1)	-0.0200	-0.0009	0.0056	0.186	111.5	0.0255
SGU1 to CAPE (2)	0.0002	-0.0179	0.0227	0.159	181.9	0.0210
SGU1 to DAVIAN (1)	-0.0061	0.0035	0.0072	0.098	102.3	0.0106
SGU1 to DESERT_VIEW (1)	0.0018	0.0006	-0.0052	0.028	196.0	0.0132
SGU1 to FERN (4)	0.0039	0.0027	-0.0041	0.029	220.7	0.0149
SGU1 to FERN (5)	0.0044	0.0028	0.0171	0.081	220.7	0.0141
SGU1 to FERN (6)	-0.0066	0.0003	-0.0299	0.139	220.7	0.0144
SGU1 to FERN (7)	-0.0048	0.0026	-0.0018	0.026	220.7	0.0142
SGU1 to FERN (8)	-0.0107	0.0002	0.0019	0.049	220.7	0.0146
SGU1 to FRED (1)	0.0020	0.0033	0.0075	0.088	96.3	0.0091
SGU1 to FRED (2)	0.0007	-0.0003	-0.0021	0.024	96.3	0.0037
SGU1 to GCES (1)	0.0001	0.0008	-0.0055	0.032	175.0	0.0087
SGU1 to GCES (10)	0.0066	-0.0012	0.0006	0.039	175.0	0.0070
SGU1 to GCES (13)	-0.0071	-0.0069	-0.0051	0.064	175.0	0.0071
SGU1 to GCES (2)	0.0014	-0.0039	0.0041	0.033	175.0	0.0142
SGU1 to GCES (3)	0.0055	-0.0016	0.0058	0.047	175.0	0.0125
SGU1 to GCES (4)	0.0048	0.0006	0.0087	0.057	175.0	0.0124
SGU1 to GCES (6)	0.0023	0.0012	0.0117	0.069	175.0	0.0121
SGU1 to GCES (7)	0.0066	-0.0012	0.0006	0.039	175.0	0.0070
SGU1 to HG101 (1)	-0.0306	-0.0044	-0.0353	0.392	119.8	0.0723
SGU1 to KGMN (4)	0.0014	0.0020	0.0148	0.071	212.5	0.0159
SGU1 to KGMN (6)	0.0014	-0.0008	-0.0045	0.022	212.5	0.0079
SGU1 to KGMN (7)	-0.0004	0.0042	0.0180	0.087	212.5	0.0127
SGU1 to LCP101 (1)	-0.0176	0.0131	-0.0068	0.154	148.7	0.0718
SGU1 to LCP102 (1)	-0.0253	0.0215	-0.0362	0.365	134.7	0.1000
SGU1 to LCP107 (1)	-0.0404	-0.0135	0.0315	0.479	110.5	0.0307
SGU1 to LCP108 (1)	0.0442	-0.0186	0.0252	0.386	140.3	0.1615
SGU1 to LCP109 (1)	-0.0178	-0.0026	-0.0051	0.125	148.8	0.0789
SGU1 to LCP704 (1)	-0.0245	0.0252	-0.0062	0.244	146.5	0.2340
SGU1 to OT06 (1)	-0.0013	0.0008	0.0212	0.153	139.1	0.1036

SGU1 to OT103 (1)	-0.0117	-0.0066	-0.0207	0.190	130.2	0.0586
SGU1 to OT107 (1)	0.0169	-0.0023	0.0197	0.229	113.4	0.0391
SGU1 to P008 (2)	0.0003	0.0039	0.0152	0.065	243.4	0.0094
SGU1 to P008 (3)	-0.0036	-0.0002	0.0022	0.018	243.4	0.0088
SGU1 to P008 (5)	0.0005	0.0002	-0.0115	0.047	243.4	0.0087
SGU1 to P008 (6)	-0.0009	-0.0019	0.0056	0.024	243.4	0.0088
SGU1 to P008 (7)	0.0003	0.0039	0.0152	0.065	243.4	0.0094
SGU1 to SHIVWITS (1)	-0.0138	0.0050	-0.0042	0.107	142.2	0.0166
SGU1 to SHIVWITS (2)	-0.0074	0.0066	-0.0250	0.189	142.2	0.0329
SGU1 to SHIVWITS (3)	-0.0151	0.0052	-0.0037	0.115	142.2	0.0146
SGU1 to TR01 (1)	-0.0141	-0.0033	-0.0082	0.091	181.9	0.1382
SGU1 to UR102 (1)	-0.0388	-0.0146	0.0079	0.345	122.2	0.0641
SGU1 to UR105 (1)	-0.0075	0.0121	0.0155	0.191	110.3	0.0402
SGU1 to UR106 (1)	0.0051	-0.0082	0.0367	0.347	109.4	0.0318
SGU1 to UR107 (1)	0.0008	0.0032	0.0096	0.079	129.0	0.0455
SGU1 to WHITMORE (1)	-0.0156	-0.0041	0.0051	0.158	107.0	0.0178
SHIVWITS to TR101 (1)	0.0027	-0.0075	-0.0197	1.420	15.0	0.0521
SHIVWITS to UR101 (1)	-0.0064	-0.0019	0.0370	3.050	12.3	0.0720
SHIVWITS to UR103 (1)	-0.0020	-0.0069	-0.0155	1.971	8.7	0.0565
SHIVWITS to UR107 (1)	0.0006	-0.0034	0.0083	0.445	20.2	0.0584
SIGNAL_HILL to TR02 (1)	0.0016	-0.0088	0.0114	6.622	2.2	0.0276
TR102 to WHITMORE (1)	0.0008	0.0068	-0.0070	2.049	4.8	0.0316
TR103 to WHITMORE (1)	0.0061	0.0034	-0.0296	1.717	17.7	0.0672
UR0104 to WHITMORE (1)	0.0018	0.0163	0.0039	1.885	8.9	0.0522
UR102 to WHITMORE (1)	-0.0014	-0.0137	-0.0157	1.212	17.2	0.0500
UR106B to WHITMORE (1)	0.0005	-0.0155	0.0003	0.826	18.8	0.0521
VVA552 to WHITMORE (1)	0.0007	0.0041	0.0050	0.348	18.8	0.0578

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RMS            0.0147   0.0138   0.0213

§ - This session is flagged as a 3-sigma outlier

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CHECK POINT RESIDUALS (East, North, Height - Local Level)

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STA. NAME	-- RE --	-- RN --	-- RH --
	(m)	(m)	(m)
ABYSS_PIN	-0.0030	-0.0052	-0.0041
BKUP_B	-0.0118	-0.0079	0.1226
CAPE	0.0072	0.0135	0.0901
DAVIAN	-0.0012	-0.0006	0.0091
DESERT_VIEW	0.0084	-0.0011	0.0032
SHIVWITS	0.0037	-0.0016	-0.0011
SIGNAL_HILL	0.0010	-0.0038	-0.0137
WHITMORE	-0.0016	0.0000	-0.0053



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RMS      0.0060  0.0060  0.0542

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*****
CONTROL POINT RESIDUALS (ADJUSTMENT MADE)
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STA. NAME  -- RE --  -- RN --  -- RH --
           (m)   (m)   (m)
AZPG      -0.0045  0.0032  0.0301
  FERN         0.0008 -0.0000
  FRED         0.0002 -0.0011
GCES       0.0012 -0.0028  0.0009
KGMN       0.0025  0.0005 -0.0000
P008      -0.0019  0.0008  0.0060
SGU1      -0.0001 -0.0017 -0.0000
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RMS       0.0021  0.0018  0.0137

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*****
OUTPUT STATION COORDINATES (LAT/LONG/HT)
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STA_ID  -- LATITUDE --  -- LONGITUDE --  - ELLHGT -
ABYSS_PIN  36 03 31.47287 -112 10 57.82538  2053.7681
AZPG       36 54 31.19190 -111 27 45.63671  1302.7654
BE01       36 08 49.68895 -112 23 28.80515  1919.0599
BE02       36 02 14.35872 -112 13 45.10790  1923.8127
BE03       36 00 45.83645 -111 52 02.78938  2166.6228
BE04       36 16 44.28435 -111 58 41.48016  2670.8005
BE05       36 20 58.56192 -112 17 11.35660  2414.2715
BE06       36 21 22.26847 -112 21 25.59371  2282.4839
BE07       36 15 28.50728 -112 00 11.73579  2479.7141
BE08       36 16 05.61427 -112 09 02.50179  2468.3330
BE09       36 19 41.81661 -112 06 52.64011  2660.3074
BE10       36 16 05.57780 -112 09 03.24200  2468.5198
BE101      35 47 06.00934 -113 21 06.29828   561.1795
BE102      35 51 03.63106 -113 19 00.39822   494.4230
BE103      36 01 01.08660 -113 20 58.85209   430.2603
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BE701	35 57 49.07708 -113 19 02.95763	423.3928
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BR01	36 09 27.55236 -112 23 07.76769	1939.1788
BR02	36 02 13.26540 -111 48 31.43380	2175.9963
BR03	36 21 23.27407 -112 20 30.70551	2323.1599
BR04	36 13 02.90735 -112 14 20.38032	2251.9390
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BR07	36 20 29.76070 -112 13 38.06685	2433.9827
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HG01	36 04 15.31013 -112 09 57.14408	2102.6150
HG01A	36 04 15.70508 -112 09 56.91318	2103.0591
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 OT06 36 20 08.40142 -112 20 59.65902 2269.8696  
 OT07 36 14 15.52718 -112 04 46.08186 2499.6089  
 OT08 36 14 18.58417 -112 04 49.43043 2498.0525  
 OT09 36 14 17.30249 -112 04 47.81693 2498.1880  
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TR103 36 09 51.58949 -113 03 56.38546 1410.5516
TR201 36 08 12.74336 -111 46 44.09750 1824.7566
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UR0104 36 08 58.82927 -113 10 14.20046 1320.6553
UR01A 36 03 43.98551 -112 12 36.41816 2008.6173
UR02 35 59 49.96651 -112 07 17.45772 2048.2554
UR03 36 03 36.09132 -112 06 34.10019 2143.9277
UR04 36 02 30.47204 -111 49 31.77857 2257.1501
UR05 36 13 28.17746 -112 03 34.88780 2440.9063
UR06 36 16 05.75100 -112 03 14.64177 2503.1970
UR07 36 19 23.69101 -112 06 46.09029 2654.0264
UR08 36 13 03.44502 -112 03 21.74716 2495.9402
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UR102 36 01 56.38073 -113 18 46.74560 1411.2252
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UR106 36 16 11.22912 -112 56 11.60299 1260.4246
UR106B 36 12 53.30556 -113 03 24.11756 1353.7279
UR107 35 58 05.52785 -113 19 09.26739 440.5597
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VVA551 36 07 26.38291 -112 05 44.54633 1159.2887
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WHITMORE 36 10 54.03882 -113 15 41.08564 1650.4542
XLCP701 36 07 58.64845 -111 56 34.07527 2408.7375
XNVA701 36 07 58.80045 -111 56 33.65473 2409.2734
XVVA701 36 20 58.54689 -112 13 57.33340 2525.8096

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OUTPUT VARIANCE/COVARIANCE

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2

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(m) (ECEF, XYZ cartesian)
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0.00656 -2.6851e-007 -7.8975e-007 4.9067e-006

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0.00483 -9.1555e-007 3.4952e-006

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BE02 0.66193 4.2661e-002  
0.30673 -3.6705e-002 7.5880e-002  
0.48334 -5.0336e-005 -6.8844e-003 9.2720e-003

BE03 0.02115 1.2867e-004  
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0.05431 -8.1852e-005 -1.5939e-004 2.0609e-004

BE04 0.22413 4.0199e-003  
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0.18070 2.6647e-004 -1.2340e-003 1.0525e-003

BE05 0.03317 4.5618e-004  
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BE06 0.04536 3.8304e-004  
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BE07 0.03262 2.3123e-004  
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BE08 0.37927 1.1589e-002  
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BE102 0.04819 4.6304e-004  
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BE103 0.03203 1.8542e-004  
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BE104 0.03505 2.6567e-004  
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GCES 0.00501 3.8353e-006  
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0.07496 -1.0031e-004 -3.0640e-004 4.4665e-004

LCP209 0.02423 9.4585e-005  
0.02422 4.5087e-005 3.4477e-004  
0.04559 -2.0523e-005 -9.1559e-005 1.0341e-004

LCP210 0.02917 2.3077e-004  
0.04487 2.1104e-004 6.4272e-004  
0.07248 -1.3612e-004 -2.0789e-004 4.8122e-004

LCP211 0.02229 9.7444e-005  
0.02256 5.4249e-005 2.6222e-004  
0.04255 -3.3505e-005 -8.0838e-005 1.1039e-004

LCP551 0.02234 9.9932e-005  
0.02330 6.1603e-005 2.8724e-004  
0.04325 -3.0758e-005 -7.7756e-005 9.8835e-005

LCP552 0.04337 5.1744e-004  
0.05350 3.8854e-004 1.0158e-003  
0.10438 -1.7987e-004 -6.6312e-004 1.0768e-003

LCP701 0.02291 1.2890e-004  
0.02832 1.1671e-004 4.1255e-004  
0.05899 -9.7990e-005 -1.8006e-004 2.6069e-004

LCP702 0.04877 5.3840e-004  
0.05626 4.3484e-004 1.6827e-003  
0.11950 -3.1745e-004 -7.9525e-004 1.0871e-003

LCP703 0.17703 4.1842e-003  
0.10445 -1.3513e-003 4.8443e-003  
0.17134 -1.3264e-003 -1.0501e-003 2.9217e-003

LCP704 0.07186 1.2557e-003  
0.08410 6.9088e-004 1.8841e-003  
0.13305 -1.0647e-003 -4.9748e-004 1.8568e-003

OT01 0.01953 1.4633e-004  
0.02641 1.3780e-004 2.4167e-004  
0.05109 -6.2765e-005 -1.3871e-004 2.2773e-004

OT02 0.14257 3.1476e-003  
0.07633 -4.5376e-004 2.6441e-003  
0.13290 -3.2002e-004 -8.3841e-004 1.5206e-003

OT03 0.02107 1.0744e-004  
0.02609 9.5989e-005 3.4365e-004

0.05356 -8.1173e-005 -1.4591e-004 2.1532e-004

OT04 0.03062 2.5586e-004  
0.03396 2.3165e-004 6.9413e-004  
0.07415 -1.3881e-004 -2.7129e-004 3.1650e-004

OT05 0.03480 3.4791e-004  
0.04844 3.4630e-004 1.0227e-003  
0.08682 -1.1814e-004 -3.2409e-004 4.8106e-004

OT06 0.14886 2.2504e-003  
0.08475 -1.5688e-003 4.6323e-003  
0.12832 -1.4315e-004 -4.1004e-004 7.6239e-004

OT07 0.15813 5.6724e-003  
0.14636 3.0546e-003 1.0120e-002  
0.23666 -3.8402e-004 -1.3521e-003 1.3020e-003

OT08 0.27114 6.5668e-003  
0.10366 -7.2498e-003 1.1178e-002  
0.16488 3.6400e-004 -9.1278e-004 8.5459e-004

OT09 0.29100 7.1153e-003  
0.12285 -8.5931e-003 1.4412e-002  
0.19062 2.2676e-004 -1.0407e-003 1.1882e-003

OT10 0.18545 3.7283e-003  
0.08968 -2.5484e-003 5.4056e-003  
0.14363 -8.2693e-005 -8.1316e-004 1.3903e-003

OT101 0.03534 2.1278e-004  
0.03336 1.2965e-004 7.8556e-004  
0.06735 -7.4342e-005 -1.8014e-004 1.5273e-004

OT102 0.05393 4.5573e-004  
0.06272 4.6568e-004 2.8017e-003  
0.12737 -2.5034e-004 -6.8210e-004 5.9193e-004

OT103 0.03607 2.9241e-004  
0.03432 1.6884e-004 5.9559e-004  
0.06708 -8.0027e-005 -2.1295e-004 2.7661e-004

OT104 0.04383 4.0210e-004  
0.04347 1.8827e-004 7.5570e-004  
0.07602 -1.2077e-004 -2.5013e-004 4.4268e-004

OT105 0.03739 2.5569e-004  
0.02340 1.8669e-005 1.9856e-004

0.03801 -2.2370e-005 -5.6931e-005 1.1148e-004

OT106 0.04776 6.4526e-004  
0.04571 4.9155e-004 1.2280e-003  
0.10557 -2.1319e-004 -6.3702e-004 7.1587e-004

OT107 0.02818 1.0850e-004  
0.02082 8.7528e-006 3.0950e-004  
0.04148 -3.0980e-005 -7.3073e-005 7.3932e-005

OT202 0.02854 1.3906e-004  
0.02756 6.4658e-005 4.4002e-004  
0.05078 -2.7936e-005 -1.0392e-004 1.1393e-004

OT208 0.03814 6.3987e-004  
0.04707 6.9330e-004 1.2394e-003  
0.10934 -3.2456e-004 -6.3217e-004 7.2847e-004

OT209 0.03407 4.5657e-004  
0.04061 4.4269e-004 7.7533e-004  
0.08449 -2.0915e-004 -3.2910e-004 4.2835e-004

OT210 0.03279 2.2783e-004  
0.04139 3.2625e-004 1.4962e-003  
0.10115 -1.5134e-004 -5.5546e-004 4.4884e-004

P008 0.00511 4.0357e-006  
0.00472 -7.4135e-007 2.6270e-006  
0.00289 4.7385e-007 1.0454e-006 2.8020e-006

SGU1 0.00514 3.9526e-006  
0.00474 -1.0597e-006 1.9757e-006  
0.00116 6.8211e-007 1.5566e-006 2.4620e-006

SHIVWITS 0.00949 1.2235e-005  
0.00586 -3.8805e-006 1.1948e-005  
0.00757 -8.6182e-007 -1.2780e-006 6.1225e-006

SIGNAL\_HILL 0.01095 2.0243e-005  
0.00803 2.4203e-006 3.0497e-005  
0.01381 -3.9617e-006 -7.0870e-006 1.1898e-005

TR01 0.02492 1.5881e-004  
0.03460 1.3100e-004 4.1435e-004  
0.05630 -5.4414e-005 -1.2809e-004 2.5923e-004

TR02 0.02289 1.5063e-004  
0.02908 1.1781e-004 2.8699e-004

0.04731 -3.5707e-005 -8.5227e-005 1.6454e-004

TR03 0.49673 1.4565e-002  
0.25956 -2.6449e-002 7.0057e-002  
0.47223 4.5648e-004 -8.4133e-003 5.0179e-003

TR04 0.02892 2.3295e-004  
0.04021 2.4689e-004 7.8989e-004  
0.08115 -1.8584e-004 -3.2610e-004 4.8563e-004

TR05 0.02169 1.4342e-004  
0.02721 1.5136e-004 4.3050e-004  
0.06188 -1.2140e-004 -2.0323e-004 2.6730e-004

TR06 0.03545 5.0031e-004  
0.04258 5.9811e-004 1.3930e-003  
0.10787 -3.2857e-004 -6.0368e-004 5.6087e-004

TR07 0.41248 1.8261e-002  
0.27385 -9.7519e-003 4.1446e-002  
0.40746 -6.0865e-003 -2.3055e-003 8.9097e-003

TR07B 0.31821 1.1055e-002  
0.20816 -4.6736e-003 2.9160e-002  
0.33155 -5.0750e-004 -2.5081e-003 2.2603e-003

TR07C 0.16847 3.4997e-003  
0.11069 -8.2866e-004 8.1298e-003  
0.19352 -6.6340e-004 -1.1772e-003 1.4017e-003

TR101 0.03999 3.3319e-004  
0.05032 2.0293e-004 8.5189e-004  
0.07963 -1.5475e-004 -2.3395e-004 5.6266e-004

TR102 0.02582 1.2623e-004  
0.02738 7.3497e-005 3.7281e-004  
0.05245 -4.0844e-005 -1.4012e-004 1.9652e-004

TR103 0.04818 7.1453e-004  
0.05892 5.5347e-004 1.1826e-003  
0.09890 -2.5416e-004 -3.5254e-004 7.0209e-004

TR201 0.02857 1.3955e-004  
0.02566 2.0265e-005 2.1707e-004  
0.04093 -3.8465e-005 -7.1744e-005 1.6914e-004

UR01 0.02203 1.0932e-004  
0.02750 9.5175e-005 3.7727e-004

0.04893 -2.2409e-005 -9.6275e-005 1.2019e-004

UR0104 0.04046 4.2656e-004

0.04931 3.4128e-004 1.0308e-003

0.08771 -1.9517e-004 -2.9996e-004 5.0556e-004

UR01A 0.01642 8.2078e-005

0.01979 8.4550e-005 2.3671e-004

0.04813 -7.3889e-005 -1.3543e-004 1.7816e-004

UR02 0.02286 1.4891e-004

0.03058 1.3171e-004 3.6190e-004

0.04891 -5.0845e-005 -6.6124e-005 1.3174e-004

UR03 0.01470 6.9229e-005

0.02397 7.6247e-005 2.1036e-004

0.03942 -2.6670e-005 -5.8943e-005 1.1171e-004

UR04 0.02249 1.1490e-004

0.02812 9.7718e-005 3.8222e-004

0.05498 -7.9995e-005 -1.4592e-004 2.2376e-004

UR05 0.05581 3.1191e-004

0.10592 4.8731e-004 4.1904e-003

0.12905 -1.9097e-004 1.2955e-004 6.6915e-004

UR06 0.03355 2.4293e-004

0.05183 2.2453e-004 9.6099e-004

0.08117 -7.7926e-005 -2.5457e-004 5.3182e-004

UR07 0.03816 3.6987e-004

0.04629 3.4455e-004 1.1709e-003

0.09791 -2.5890e-004 -4.8954e-004 6.5966e-004

UR08 0.45967 3.0219e-002

0.20574 -9.7354e-003 1.7937e-002

0.31859 -4.7378e-003 -3.3639e-003 1.1111e-002

UR09 0.26299 1.0274e-002

0.07922 -3.3096e-003 2.9359e-003

0.11717 -8.3142e-004 -3.6776e-004 1.6715e-003

UR10 0.03262 2.7210e-004

0.04084 2.4645e-004 8.1829e-004

0.07383 -7.2236e-005 -2.1714e-004 2.7523e-004

UR101 0.04153 2.2836e-004

0.02971 -4.3592e-005 4.0519e-004

0.04688 -1.9703e-005 -8.5390e-005 1.6836e-004

UR102 0.03464 2.7709e-004  
0.03531 1.6009e-004 5.2983e-004  
0.06587 -1.0900e-004 -1.9883e-004 3.2563e-004

UR103 0.03617 1.8272e-004  
0.02857 -1.7354e-005 3.2777e-004  
0.04352 -4.6978e-005 -5.8984e-005 1.6021e-004

UR105 0.02987 1.3396e-004  
0.02010 -1.4609e-006 2.2406e-004  
0.03736 -2.6606e-005 -6.2721e-005 9.1195e-005

UR106 0.02713 9.2568e-005  
0.02102 -1.8324e-005 2.0552e-004  
0.03099 -1.2756e-005 -2.4017e-005 5.8812e-005

UR106B 0.03806 3.3277e-004  
0.03976 2.3431e-004 8.4033e-004  
0.07714 -1.3823e-004 -2.5257e-004 3.2555e-004

UR107 0.02962 1.4419e-004  
0.01837 -1.9757e-006 1.4923e-004  
0.03210 -3.2357e-005 -4.0600e-005 8.1308e-005

UR208 0.02924 2.1217e-004  
0.03370 1.4865e-004 4.5374e-004  
0.06592 -7.7247e-005 -2.4937e-004 3.9154e-004

UR209 0.02785 2.1752e-004  
0.04091 2.4167e-004 7.8602e-004  
0.07693 -7.8889e-005 -2.8595e-004 3.9291e-004

VVA551 0.02646 1.2934e-004  
0.02180 3.4672e-005 2.1206e-004  
0.03956 -3.4567e-005 -7.0273e-005 1.1598e-004

VVA552 0.04404 5.7020e-004  
0.05087 4.2018e-004 9.3691e-004  
0.08574 -1.3824e-004 -2.7252e-004 4.7536e-004

WHITMORE 0.01121 2.0022e-005  
0.00703 -1.3161e-006 2.0031e-005  
0.01093 -1.1127e-006 -4.4766e-006 9.1136e-006

XLCP701 0.03117 2.4448e-004  
0.05176 3.8977e-004 1.5896e-003



0.10454 -1.6288e-004 -5.2868e-004 5.9925e-004

XNVA701 0.02621 2.6207e-004  
0.04422 3.8239e-004 1.1045e-003  
0.08965 -1.4317e-004 -3.7255e-004 4.1574e-004

XVVA701 0.03167 2.5920e-004  
0.05631 2.9947e-004 1.0834e-003  
0.07967 -1.2974e-004 -1.1873e-004 4.1328e-004

\*\*\*\*\*

VARIANCE FACTOR = 0.7424

Note: Values < 1.0 indicate statistics are pessimistic, while  
values > 1.0 indicate optimistic statistics. Entering this  
value as the network adjustment scale factor will bring  
variance factor to one.

## Section 2. Custody Transference Assurance

### 2.1 Intentionally Left Blank Page

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