The BSC Group

VOLUME II :
OUTPUT FROM THE
GEODETIC NETWORK ANALYSIS

APPENDIX II A

Horizontal Adjustment:

Epoch 1

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 08:36:05 DATE: 7-JAN-87

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*  BOSTON SURVEY CONSULTANTS - BALL MOUNTAIN DAM - PROJECT CODE 1-1654.00   *
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PROJECT INFORMATION:

EPOCH 1 HORIZONTAL ANALYSIS
DATABASE 11654001.DBS
1165400H

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

O P T I O N S I N E F F E C T

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.000100
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.30000 CM
VARIABLE PART OF EDM MEASUREMENT	4.60000 PPM
ZENITH DISTANCE	0.60000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	0.00000 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6378.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... -0.10000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT 0.130

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166 P6	10000.0377		9999.9561		1000.0000	

P6 elevation assumed

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11 Crest	9977.1193		10173.6770		1000.3702	FIXED
12	9979.0468		10174.9254		1000.4113	FIXED
13	9980.7114		10173.6609		1000.1971	FIXED
14	9995.5502		10177.1426		992.6488	FIXED
15 Line C on slope	10022.2471		10176.3891		977.7838	FIXED
16	10026.6272		10176.3827		975.2242	FIXED
161 — P_1	9884.6212		9926.4521		1000.9704	FIXED
162 — P_2	10087.6876		9917.4350		1014.7672	FIXED
163 — P_3	10203.6859		10080.8547		925.0641	FIXED
164 — P_4	10000.0377		10273.8078		1006.1799	FIXED
165 — P_5	9843.3689		10241.7486		1009.5622	FIXED
17	10039.5997		10175.6051		966.8988	FIXED
18 — line C on slope	10050.7142		10174.8436		960.4771	FIXED
19	10076.4307		10173.1716		946.8237	FIXED
21	9977.1006		10124.0788		1000.2713	FIXED
22 — Crest Line B	9979.5690		10123.5301		1000.3987	FIXED
23	9981.5818		10124.0294		1000.2412	FIXED
24	9996.6703		10128.3884		991.8373	FIXED
25	10020.8888		10129.7545		978.2093	FIXED
26	10028.1530		10129.6698		974.0470	FIXED
27 — Line B, slope	10040.6820		10130.6480		965.8831	FIXED
28	10050.4778		10130.9381		960.6518	FIXED
29	10075.9142		10132.3594		946.7466	FIXED
31	9981.3282		10075.7313		1000.4710	FIXED
32 — Crest	9983.6880		10076.4452		1000.4770	FIXED
33	9986.1737		10076.5776		1000.0984	FIXED
34	10000.9421		10074.1677		992.1012	FIXED
35	10025.8938		10077.3704		977.7904	FIXED
36 — line A slope	10032.7420		10077.9091		973.9514	FIXED
37	10046.3974		10079.8488		965.3917	FIXED
38	10055.2803		10081.0757		960.6633	FIXED
39	10080.0090		10084.1931		946.9470	FIXED

Crest — Crest — Crest

21 points + 5 reference points.

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
161 P1	165 - P5	0- 0- 0.000	0.600	0.000
161 "	164 - P4	25-50- 3.800	0.600	0.566
161 "	11 - Cross	27-58- 2.300	0.600	0.548
161 "	12 - Cross	28-15-43.800	0.600	0.640
161 "	13 - Cross	28-41-43.300	0.600	0.680
161 "	21 - Cross	32-31-53.600	0.600	0.990
161 "	22 - Cross	33-10-40.600	0.600	0.614
161 "	23 - Cross	33-35-37.100	0.600	0.758
161 "	31 - Cross	40-23-25.700	0.600	0.727
161 "	32 - Cross	40-53-52.700	0.600	0.500
161 "	33 - Cross	41-31-50.100	0.600	0.466
161 "	166 - P6	64-57-46.600	0.600	1.010
162 - P2	166 - P6	0- 0- 0.000	0.600	0.000
162	31 - Cross	12-49-46.100	0.600	1.203
162	32 - Cross	13-32-23.300	0.600	-0.288
162	33 - Cross	14-11-36.900	0.600	0.923
162	34	17-45-48.800	0.600	0.253
162	21 - Cross	18-34-21.300	0.600	0.231
162	22 - Cross	19- 2-40.800	0.600	0.331
162	23 - Cross	19-32-29.200	0.600	-0.294
162	11 - C	23-23-10.900	0.600	0.775
162	24 - C	23-23-18.400	0.600	0.864
162	12 - C	23-51- 2.300	0.600	0.927
162	13 - C	24- 3-55.700	0.600	0.171
162	35	25-36- 6.100	0.600	0.983
162	14	27-11-35.600	0.600	0.876
162	36	27-49-31.700	0.600	0.439
162	25	29-15-44.400	0.600	1.245
162	26	31- 3-25.100	0.600	0.524
162	37	32-27-44.000	0.600	-0.232
162	15	32-32-39.100	0.600	0.740
162	164 - P4	32-54-31.600	0.600	0.349
162	16 - Slope	33-27-29.700	0.600	0.081
162	27 - Slope	34-17-38.300	0.600	1.357
162	38 - Slope	35-31-28.600	0.600	0.601
162	17 - Slope	36-10-31.100	0.600	0.846
162	28	36-50-23.600	0.600	-0.335
162	18	38-33-10.000	0.600	1.239
162	29	43-35-28.000	0.600	0.999
162	19	44-12-21.300	0.600	-0.038
162	163	82- 5-40.100	0.600	1.154
162	166	0- 0- 0.000	0.600	0.000
162	165	9-44- 2.800	0.600	0.002
163 - P3	162	0- 0- 0.000	0.600	0.000
163	34	52-44-35.700	0.600	0.559
163	33	53-30-20.600	0.600	0.204

46 nos

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
163	35	53-30-34.200	0.600	0.172
163	36	53-38-42.400	0.600	0.469
163	37	54-15-57.600	0.600	0.890
163	38	54-43- 3.100	0.600	0.131
163	39	56-10-42.000	0.600	-0.144
163	23	65-37-58.200	0.600	0.570
163	24	67-33-50.400	0.600	0.246
163	25	69-36-31.300	0.600	0.289
163	26	70-10-24.000	0.600	0.350
163	27	71-37- 7.600	0.600	0.392
163	28	72-44- 5.200	0.600	0.545
163	29	76-35-11.300	0.600	-0.116
163	13	77-13-49.100	0.600	0.488
163	14	79-27-30.500	0.600	0.222
163	15	82-24- 2.800	0.600	0.378
163	16	82-58-49.300	0.600	0.432
163	17	84-38-10.400	0.600	0.274
163	18	86-11-59.200	0.600	0.734
163	19	90-35-28.300	0.600	0.471
163	164	98- 5-15.500	0.600	0.663
163	166	0- 0- 0.000	0.600	0.000
164 R4	163	0- 0- 0.000	0.600	0.000
164	162	32-43-38.100	0.600	0.632
164	162	0- 0- 0.000	0.600	0.000
164	166	13-49- 4.300	0.600	0.797
164	33	17-50-20.100	0.600	1.333
164	32	18-33-11.800	0.600	0.058
164	31	19-12-49.500	0.600	0.697
164	23	20-50-32.500	0.600	0.241
164	22	21-34-26.900	0.600	0.754
164	21	22-31-37.400	0.600	-0.216
164	13	24-44-25.000	0.600	-0.015
164	12	25-48- 9.700	0.600	0.492
164	11	26-42-34.700	0.600	-0.197
164	161	32-11-52.600	0.600	0.407
164	162	0- 0- 0.000	0.600	0.000
164	37	0-22-30.500	0.600	0.082
164	15	0-58-30.000	0.600	0.322
164	26	2-46-49.100	0.600	0.316
164	36	4-20-23.600	0.600	0.305
164	25	5-34-54.100	0.600	0.622
164	35	6-19- 9.800	0.600	0.750
164	34	13-33-28.600	0.600	-0.498
164	24	15- 8-39.400	0.600	0.386
164	14	16-28-32.300	0.600	0.212
164	19	336-36-56.100	0.600	0.356
164	29	345-36-26.500	0.600	-0.159

47 wi

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
164	18	346-42- 8.100	0.600	0.682
164	39	350-56-58.400	0.600	-0.596
164	17	351-52-30.400	0.600	0.128
164	28	354-22-19.400	0.600	-0.079
164	38	357-49-25.700	0.600	0.005
164	27	357-58- 5.400	0.600	0.821
164	16	358-33- 7.600	0.600	0.000
164	162	0- 0- 0.000	0.600	0.000
164	165	92-15-11.000	0.600	0.786
165 P-5	162	0- 0- 0.000	0.600	0.000
165	164	295-25-38.200	0.600	-0.466
165	161	0- 0- 0.000	0.600	0.000
165	12	303-40-29.300	0.600	-0.375
165	13	303-49-25.700	0.600	-0.725
165	11	304-25-38.800	0.600	-0.676
165	23	317-52-32.400	0.600	-0.707
165	22	318-24-40.100	0.600	-0.423
165	21	318-47-53.100	0.600	-1.189
165	33	326-36-28.200	0.600	0.289
165	32	327- 7-37.900	0.600	-1.151
165	31	327-43-39.700	0.600	0.057
165	162	330-27-42.000	0.600	0.000
165	166	334-30-46.400	0.600	0.445
166 P6	165	0- 0- 0.000	0.600	0.000
166	32	20-52-31.400	0.600	-0.735
166	21	22-28-15.200	0.600	-1.550
166	33	22-41- 5.600	0.600	-0.046
166	22	23-32- 9.500	0.600	-0.375
166	23	24-28-49.000	0.600	-0.454
166	11	25-25-30.700	0.600	-1.737
166	12	26- 5-59.800	0.600	-0.510
166	13	26-35-31.900	0.600	-1.187
166	24	31-26-20.400	0.600	-0.729
166	14	31-29-24.600	0.600	-0.568
166	34	33-38-20.900	0.600	-0.679
166	15	40- 6-56.200	0.600	-0.577
166	16	41-30-41.800	0.600	-0.450
166	25	42- 4- 1.600	0.600	-0.541
166	26	45-10-14.000	0.600	-0.641
166	17	45-38- 2.300	0.600	-0.877
166	18	49- 6- 2.700	0.600	-0.602
166	27	50-12-58.500	0.600	-0.731
166	35	51-24-36.100	0.600	-0.788
166	28	54- 0- 8.200	0.600	-0.439
166	36	55-42- 3.100	0.600	-0.665
166	19	56-44-23.500	0.600	-0.375

46

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
166	29	62-45-23.600	0.600	-1.187
166	37	63- 3-59.700	0.600	-0.109
166	38	67-11-44.800	0.600	-0.973
166	39	76-27- 9.700	0.600	-1.288
166	163	101-16-31.800	0.600	-1.146
166	162	166-12-53.300	0.600	0.053
166	163	0- 0- 0.000	0.600	0.000
166	162	64-56-19.600	0.600	-0.701
166	161	169-10-24.900	0.600	-1.200
166	164	291-39-54.000	0.600	-1.055
166	16	300-14- 8.400	0.600	-0.904

11

46+47+46+11 = 150 secs

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
166	164	0- 0- 0.000	0.001	0.000

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
166 P6	161 P1	136.8337	0.3629	-0.03
166 "	162 P2	120.3850	0.3554	0.23
166 "	163 P3	219.1256	0.4008	-0.16
166 "	164 P4	273.8510	0.4260	0.03
166 "	165 P5	288.1155	0.4325	0.42

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO ZENITH DISTANCE OBSERVATIONS

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HEIGHT DIFFERENCE OBSERVATIONS

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED

ALL STATIONS ARE INVOLVED IN AT LEAST TWO OBSERVATIONS

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	156
POINTS	1000	33
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	14
MATRIX ELEMENTS	99998	2145

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
161 P1	165 P3 —	O:	0- 0- 0.00	0.60		49.12	COM:	-1.3 SEC	-0.1 CM	317.9851
		C:	0- 0- 0.63	0.43			BND:	3.5 SEC	0.2 CM	
		V=C-O:	0- 0- 0.63	0.42	1.49					
161	164	O:	25-50- 3.80	0.60		79.06	COM:	0.0 SEC	0.0 CM	366.0303
		C:	25-50- 3.83	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.03	0.53	0.05					
161	11	O:	27-58- 2.30	0.60		77.38	COM:	-0.1 SEC	0.0 CM	263.9634
		C:	27-58- 2.39	0.29			BND:	2.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.09	0.53	0.18					
161	12 Cross	O:	28-15-43.80	0.60		77.60	COM:	0.0 SEC	0.0 CM	265.8116
		C:	28-15-43.79	0.28			BND:	2.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.01	0.53	-0.03					
161	13	O:	28-41-43.30	0.60		77.86	COM:	0.1 SEC	0.0 CM	265.2285
		C:	28-41-43.24	0.28			BND:	2.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.06	0.53	-0.11					
161	21	O:	32-31-53.60	0.60		57.83	COM:	0.6 SEC	0.0 CM	218.1953
		C:	32-31-53.26	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.34	0.46	-0.74					
161	22 Cross	O:	33-10-40.60	0.60		57.47	COM:	0.1 SEC	0.0 CM	218.7585
		C:	33-10-40.56	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.04	0.45	-0.09					
161	23	O:	33-35-37.10	0.60		65.86	COM:	0.2 SEC	0.0 CM	220.0877
		C:	33-35-37.00	0.35			BND:	3.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.10	0.49	-0.21					
161	31	O:	40-23-25.70	0.60		23.75	COM:	0.6 SEC	0.0 CM	177.8674
		C:	40-23-25.57	0.52			BND:	5.1 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.13	0.29	-0.45					
161	32 Cross	O:	40-53-52.70	0.60		31.13	COM:	-0.4 SEC	0.0 CM	179.7566
		C:	40-53-52.83	0.50			BND:	4.4 SEC	0.3 CM	
		V=C-O:	0- 0- 0.13	0.33	0.40					
161	33	O:	41-31-50.10	0.60		52.78	COM:	-0.4 SEC	0.0 CM	181.2481
		C:	41-31-50.29	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.19	0.44	0.45					
161	166 P6	O:	64-57-46.60	0.60		40.33	COM:	1.0 SEC	0.0 CM	136.8356
		C:	64-57-46.21	0.46			BND:	3.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.39	0.38	-1.03					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
162 P2	166 P6.	O:	0- 0- 0.00	0.60		66.28	COM:	-0.9 SEC	0.0 CM	120.3843
		C:	0- 0- 0.57	0.35			BND:	3.0 SEC	0.0 CM	
		V=C-O:	0- 0- 0.57	0.49	1.17					
162	31	O:	12-49-46.10	0.60		44.81	COM:	1.5 SEC	0.1 CM	190.7103
		C:	12-49-45.45	0.45			BND:	3.7 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.65	0.40	-1.62					
162	32 Cross	O:	13-32-23.30	0.60		69.06	COM:	-1.2 SEC	0.0 CM	190.0013
		C:	13-32-24.11	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.81	0.50	1.63					
162	33	O:	14-11-36.90	0.60		77.15	COM:	0.4 SEC	0.0 CM	188.7638
		C:	14-11-36.56	0.29			BND:	2.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.34	0.53	-0.65					
162	34	O:	17-45-48.80	0.60		65.79	COM:	-0.5 SEC	0.0 CM	179.1374
		C:	17-45-49.14	0.35			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.34	0.49	0.70					
162	21	O:	18-34-21.30	0.60		76.24	COM:	-0.4 SEC	0.0 CM	234.3750
		C:	18-34-21.61	0.29			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.31	0.52	0.59					
162	22 Cross	O:	19- 2-40.80	0.60		76.06	COM:	-0.3 SEC	0.0 CM	232.7345
		C:	19- 2-41.00	0.29			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.20	0.52	0.39					
162	23	O:	19-32-29.20	0.60		81.25	COM:	-1.1 SEC	0.0 CM	232.2503
		C:	19-32-30.07	0.26			BND:	2.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.87	0.54	1.60					
162	11	O:	23-23-10.90	0.60		82.81	COM:	0.3 SEC	0.0 CM	279.0806
		C:	23-23-10.67	0.25			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.23	0.55	-0.42					
162	24	O:	23-23-18.40	0.60		75.84	COM:	0.4 SEC	0.0 CM	229.7520
		C:	23-23-18.08	0.29			BND:	2.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.32	0.52	-0.62					
162	12	O:	23-51- 2.30	0.60		83.01	COM:	0.4 SEC	0.0 CM	279.4725
		C:	23-51- 1.94	0.25			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.36	0.55	-0.65					
162	13	O:	24- 3-55.70	0.60		85.25	COM:	-0.5 SEC	0.0 CM	277.6623
		C:	24- 3-56.10	0.23			BND:	2.7 SEC	0.0 CM	
	Cross	V=C-O:	0- 0- 0.40	0.55	0.72					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	35	O: 25-36- 6.10	0.60		59.81	COM:	0.9 SEC	0.0 CM	171.4587
		C: 25-36- 5.59	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.51	0.46	-1.11					
162	14	O: 27-11-35.60	0.60		80.82	COM:	0.4 SEC	0.0 CM	275.5685
		C: 27-11-35.30	0.26			BND:	2.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.30	0.54	-0.56					
162	36	O: 27-49-31.70	0.60		58.53	COM:	-0.1 SEC	0.0 CM	169.6208
		C: 27-49-31.77	0.39			BND:	3.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.07	0.46	0.16					
162	25	O: 29-15-44.40	0.60		78.30	COM:	0.8 SEC	0.0 CM	222.5806
		C: 29-15-43.74	0.28			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.66	0.53	-1.25					
162	26	O: 31- 3-25.10	0.60		78.41	COM:	0.0 SEC	0.0 CM	220.4278
		C: 31- 3-25.10	0.28			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.00	0.53	-0.01					
162	37	O: 32-27-44.00	0.60		56.52	COM:	-1.4 SEC	-0.1 CM	167.5810
		C: 32-27-44.81	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.81	0.45	1.79					
162	15	O: 32-32-39.10	0.60		86.20	COM:	0.2 SEC	0.0 CM	267.0961
		C: 32-32-38.91	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.19	0.56	-0.33					
162	164	O: 32-54-31.60	0.60		87.08	COM:	-0.2 SEC	0.0 CM	366.9950
		C: 32-54-31.81	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.21	0.56	0.37					
162	16	O: 33-27-29.70	0.60		87.23	COM:	-0.6 SEC	0.0 CM	266.0507
		C: 33-27-30.20	0.21			BND:	2.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.50	0.56	0.88					
162	27	O: 34-17-38.30	0.60		77.88	COM:	1.1 SEC	0.0 CM	218.3341
		C: 34-17-37.46	0.28			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.84	0.53	-1.58					
162	38	O: 35-31-28.60	0.60		54.98	COM:	0.2 SEC	0.0 CM	166.8196
		C: 35-31-28.48	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.12	0.44	-0.26					
162	17	O: 36-10-31.10	0.60		83.77	COM:	0.3 SEC	0.0 CM	262.6117
		C: 36-10-30.82	0.24			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.28	0.55	-0.52					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	28	O:	36-50-23.60	0.60		76.52	COM:	-1.1 SEC	0.0 CM	216.7224
		C:	36-50-24.47	0.29			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.87	0.52	1.66					
162	18	O:	38-33-10.00	0.60		80.69	COM:	0.8 SEC	0.0 CM	260.0516
		C:	38-33- 9.32	0.26			BND:	2.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.68	0.54	-1.26					
162	29	O:	43-35-28.00	0.60		70.57	COM:	0.6 SEC	0.0 CM	215.2476
		C:	43-35-27.55	0.33			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.45	0.50	-0.90					
162	19	O:	44-12-21.30	0.60		72.79	COM:	-0.7 SEC	0.0 CM	255.9854
		C:	44-12-21.84	0.31			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.54	0.51	1.06					
162	163	O:	82- 5-40.10	0.60		57.83	COM:	1.0 SEC	0.0 CM	200.4046
		C:	82- 5-39.53	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.57	0.46	-1.24					
162	166	O:	0- 0- 0.00	0.60		41.09	COM:	0.0 SEC	0.0 CM	120.3843
		C:	- 0- 0- 0.00	0.46			BND:	3.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.00	0.38	0.00					
162	165	O:	9-44- 2.80	0.60		41.09	COM:	0.0 SEC	0.0 CM	406.0449
		C:	9-44- 2.80	0.46			BND:	3.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.00	0.38	0.00					
163 — P3	162 P2	O:	0- 0- 0.00	0.60		30.84	COM:	-1.3 SEC	0.0 CM	200.4046
		C:	0- 0- 0.40	0.50			BND:	4.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.40	0.33	1.19					
163	34	O:	52-44-35.70	0.60		20.57	COM:	0.9 SEC	0.1 CM	202.8550
		C:	52-44-35.52	0.53			BND:	5.5 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.18	0.27	-0.67					
163	33	O:	53-30-20.60	0.60		47.22	COM:	-0.4 SEC	0.0 CM	217.5553
		C:	53-30-20.77	0.44			BND:	3.6 SEC	0.2 CM	
		V=C-O:	0- 0- 0.17	0.41	0.42					
163	35	O:	53-30-34.20	0.60		28.97	COM:	-0.5 SEC	0.0 CM	177.8272
		C:	53-30-34.35	0.51			BND:	4.6 SEC	0.3 CM	
		V=C-O:	0- 0- 0.15	0.32	0.47					
163	36	O:	53-38-42.40	0.60		30.83	COM:	0.3 SEC	0.0 CM	170.9702
		C:	53-38-42.31	0.50			BND:	4.5 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.09	0.33	-0.28					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	37	O: 54-15-57.60	0.60		32.37	COM:	1.7 SEC	0.1 CM	157.2925
		C: 54-15-57.04	0.49			BND:	4.4 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.56	0.34	-1.64					
163	38	O: 54-43- 3.10	0.60		32.18	COM:	-0.8 SEC	0.0 CM	148.4066
		C: 54-43- 3.35	0.49			BND:	4.4 SEC	0.2 CM	
		V=C-O: 0- 0- 0.25	0.34	0.74					
163	39	O: 56-10-42.00	0.60		24.13	COM:	-2.4 SEC	-0.1 CM	123.7226
		C: 56-10-42.58	0.52			BND:	5.0 SEC	0.2 CM	
		V=C-O: 0- 0- 0.58	0.29	1.98					
163	23	O: 65-37-58.20	0.60		48.78	COM:	0.4 SEC	0.0 CM	226.2626
		C: 65-37-57.98	0.43			BND:	3.5 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.22	0.42	-0.51					
163	24	O: 67-33-50.40	0.60		10.64	COM:	-1.2 SEC	-0.1 CM	212.4038
		C: 67-33-50.53	0.57			BND:	7.6 SEC	0.7 CM	
		V=C-O: 0- 0- 0.13	0.20	0.65					
163	25	O: 69-36-31.30	0.60		13.23	COM:	-0.5 SEC	0.0 CM	189.2255
		C: 69-36-31.36	0.56			BND:	6.8 SEC	0.5 CM	
		V=C-O: 0- 0- 0.06	0.22	0.29					
163	26	O: 70-10-24.00	0.60		16.21	COM:	0.2 SEC	0.0 CM	182.1951
		C: 70-10-23.96	0.55			BND:	6.2 SEC	0.4 CM	
		V=C-O: - 0- 0- 0.04	0.24	-0.16					
163	27	O: 71-37- 7.60	0.60		21.14	COM:	0.2 SEC	0.0 CM	170.4404
		C: 71-37- 7.56	0.53			BND:	5.4 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.04	0.28	-0.16					
163	28	O: 72-44- 5.20	0.60		24.04	COM:	0.6 SEC	0.0 CM	161.1873
		C: 72-44- 5.06	0.52			BND:	5.1 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.14	0.29	-0.48					
163	29	O: 76-35-11.30	0.60		26.05	COM:	-1.6 SEC	-0.1 CM	137.7626
		C: 76-35-11.73	0.52			BND:	4.9 SEC	0.3 CM	
		V=C-O: 0- 0- 0.43	0.31	1.40					
163	13	O: 77-13-49.10	0.60		58.33	COM:	0.2 SEC	0.0 CM	241.5185
		C: 77-13-48.98	0.39			BND:	3.2 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.12	0.46	-0.27					
163	14	O: 79-27-30.50	0.60		9.08	COM:	-1.2 SEC	-0.1 CM	229.3301
		C: 79-27-30.61	0.57			BND:	8.2 SEC	0.8 CM	
		V=C-O: 0- 0- 0.11	0.18	0.61					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	15	O: 82-24- 2.80	0.60		15.11	COM:	0.3 SEC	0.0 CM	205.0543
		C: 82-24- 2.75	0.55			BND:	6.4 SEC	0.5 CM	
		V=C-O: - 0- 0- 0.05	0.23	-0.20					
163	16	O: 82-58-49.30	0.60		25.04	COM:	0.2 SEC	0.0 CM	201.1859
		C: 82-58-49.26	0.52			BND:	5.0 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.04	0.30	-0.13					
163	17	O: 84-38-10.40	0.60		30.92	COM:	-0.4 SEC	0.0 CM	189.4790
		C: 84-38-10.51	0.50			BND:	4.5 SEC	0.3 CM	
		V=C-O: 0- 0- 0.11	0.33	0.34					
163	18	O: 86-11-59.20	0.60		37.78	COM:	1.0 SEC	0.1 CM	179.5399
		C: 86-11-58.82	0.47			BND:	4.0 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.38	0.37	-1.04					
163	19	O: 90-35-28.30	0.60		40.54	COM:	0.5 SEC	0.0 CM	157.2150
		C: 90-35-28.08	0.46			BND:	3.9 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.22	0.38	-0.57					
163	164	O: 98- 5-15.50	0.60		70.36	COM:	0.4 SEC	0.0 CM	280.5428
		C: 98- 5-15.19	0.33			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.31	0.50	-0.62					
163	166	O: 0- 0- 0.00	0.60		0.00	COM:	NOT		219.1293
		C: 0- 0- 0.00	0.60			BND:	CONTROLLED		
		V=C-O: 0- 0- 0.00	0.00	0.00					
164	163	O: 0- 0- 0.00	0.60		40.46	COM:	-0.8 SEC	0.0 CM	280.5428
		C: 0- 0- 0.31	0.46			BND:	3.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.31	0.38	0.81					
164	162	O: 32-43-38.10	0.60		40.46	COM:	0.8 SEC	0.0 CM	366.9950
		C: 32-43-37.79	0.46			BND:	3.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.31	0.38	-0.81					
164	162	O: 0- 0- 0.00	0.60		71.26	COM:	-0.5 SEC	0.0 CM	366.9950
		C: 0- 0- 0.37	0.32			BND:	2.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.37	0.51	0.72					
164	166	O: 13-49- 4.30	0.60		80.19	COM:	0.5 SEC	0.0 CM	273.8530
		C: 13-49- 3.88	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.42	0.54	-0.78					
164	33	O: 17-50-20.10	0.60		76.40	COM:	1.3 SEC	0.0 CM	197.7178
		C: 17-50-19.11	0.29			BND:	2.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.99	0.52	-1.89					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	32	O:	18-33-11.80	0.60		73.95	COM:	-0.4 SEC	0.0 CM	198.0396
		C:	18-33-12.13	0.31			BND:	2.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.33	0.52	0.64					
164	31	O:	19-12-49.50	0.60		58.28	COM:	0.5 SEC	0.0 CM	198.9591
		C:	19-12-49.20	0.39			BND:	3.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.30	0.46	-0.65					
164	23	O:	20-50-32.50	0.60		57.51	COM:	-0.1 SEC	0.0 CM	150.9119
		C:	20-50-32.58	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.08	0.45	0.18					
164	22	O:	21-34-26.90	0.60		54.27	COM:	0.6 SEC	0.0 CM	151.6660
		C:	21-34-26.58	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.32	0.44	-0.73					
164	21	O:	22-31-37.40	0.60		52.55	COM:	-1.1 SEC	0.0 CM	151.4765
		C:	22-31-37.97	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.57	0.43	1.30					
164	13	O:	24-44-25.00	0.60		27.85	COM:	-1.2 SEC	0.0 CM	101.9951
		C:	24-44-25.34	0.51			BND:	4.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.34	0.32	1.09					
164	12	O:	25-48- 9.70	0.60		26.35	COM:	0.6 SEC	0.0 CM	101.0863
		C:	25-48- 9.53	0.51			BND:	4.8 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.17	0.31	-0.55					
164	11	O:	26-42-34.70	0.60		26.48	COM:	-1.9 SEC	-0.1 CM	102.7207
		C:	26-42-35.20	0.51			BND:	4.8 SEC	0.2 CM	
		V=C-O:	0- 0- 0.50	0.31	1.63					
164	161	O:	32-11-52.60	0.60		63.44	COM:	0.0 SEC	0.0 CM	366.0303
		C:	32-11-52.60	0.36			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.00	0.48	0.01					
164	162	O:	0- 0- 0.00	0.60		72.74	COM:	-0.2 SEC	0.0 CM	366.9950
		C:	0- 0- 0.18	0.31			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.18	0.51	0.35					
164	37	O:	0-22-30.50	0.60		68.55	COM:	-0.1 SEC	0.0 CM	199.4234
		C:	0-22-30.58	0.34			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.08	0.50	0.17					
164	15	O:	0-58-30.00	0.60		30.97	COM:	0.4 SEC	0.0 CM	99.9188
		C:	0-58-29.86	0.50			BND:	4.5 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.14	0.33	-0.41					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	26	O: 2-46-49.10	0.60		57.35	COM:	0.1 SEC	0.0 CM	146.8552
		C: 2-46-49.02	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.08	0.45	-0.18					
164	36	O: 4-20-23.60	0.60		71.86	COM:	0.1 SEC	0.0 CM	198.6108
		C: 4-20-23.52	0.32			BND:	2.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.08	0.51	-0.16					
164	25	O: 5-34-54.10	0.60		57.44	COM:	0.8 SEC	0.0 CM	145.5552
		C: 5-34-53.61	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.49	0.45	-1.07					
164	35	O: 6-19- 9.80	0.60		73.49	COM:	0.7 SEC	0.0 CM	198.1327
		C: 6-19- 9.30	0.31			BND:	2.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.50	0.51	-0.97					
164	34	O: 13-33-28.60	0.60		75.50	COM:	-0.9 SEC	0.0 CM	199.6431
		C: 13-33-29.24	0.30			BND:	2.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.64	0.52	1.24					
164	24	O: 15- 8-39.40	0.60		52.01	COM:	0.3 SEC	0.0 CM	145.4590
		C: 15- 8-39.23	0.42			BND:	3.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.17	0.43	-0.38					
164	14	O: 16-28-32.30	0.60		21.63	COM:	0.6 SEC	0.0 CM	96.7698
		C: 16-28-32.18	0.53			BND:	5.3 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.12	0.28	-0.44					
164	19	O: 336-36-56.10	0.60		35.47	COM:	0.2 SEC	0.0 CM	126.3475
		C: 336-36-56.04	0.48			BND:	4.2 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.06	0.36	-0.16					
164	29	O: 345-36-26.50	0.60		53.90	COM:	-0.7 SEC	0.0 CM	160.5152
		C: 345-36-26.87	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.37	0.44	0.83					
164	18	O: 346-42- 8.10	0.60		33.74	COM:	1.5 SEC	0.1 CM	111.1852
		C: 346-42- 7.59	0.49			BND:	4.3 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.51	0.35	-1.46					
164	39	O: 350-56-58.40	0.60		43.96	COM:	-1.8 SEC	-0.1 CM	205.7900
		C: 350-56-59.19	0.45			BND:	3.7 SEC	0.2 CM	
		V=C-O: 0- 0- 0.79	0.40	1.98					
164	17	O: 351-52-30.40	0.60		32.95	COM:	-0.1 SEC	0.0 CM	105.8727
		C: 351-52-30.43	0.49			BND:	4.3 SEC	0.2 CM	
		V=C-O: 0- 0- 0.03	0.34	0.08					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	28	O:	354-22-19.40	0.60		55.15	COM:	-0.5 SEC	0.0 CM	151.5129
		C:	354-22-19.68	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.28	0.45	0.62					
164	38	O:	357-49-25.70	0.60		66.61	COM:	-0.4 SEC	0.0 CM	200.4938
		C:	357-49-25.93	0.35			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.23	0.49	0.48					
164	27	O:	357-58- 5.40	0.60		56.00	COM:	1.1 SEC	0.0 CM	148.8183
		C:	357-58- 4.81	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.59	0.45	-1.31					
164	16	O:	358-33- 7.60	0.60		37.48	COM:	-0.3 SEC	0.0 CM	100.9888
		C:	358-33- 7.73	0.47			BND:	4.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.13	0.37	0.35					
164	162	O:	0- 0- 0.00	0.60		25.84	COM:	-1.6 SEC	0.0 CM	366.9950
		C:	0- 0- 0.42	0.52			BND:	4.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.42	0.30	1.38					
164	165	O:	92-15-11.00	0.60		25.84	COM:	1.6 SEC	0.1 CM	159.9160
		C:	92-15-10.58	0.52			BND:	4.9 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.42	0.30	-1.38					
165	162	O:	0- 0- 0.00	0.60		27.17	COM:	0.7 SEC	0.0 CM	406.0449
		C:	- 0- 0- 0.20	0.51			BND:	4.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.20	0.31	-0.63					
165	164	O:	295-25-38.20	0.60		27.17	COM:	-0.7 SEC	0.0 CM	159.9160
		C:	295-25-38.40	0.51			BND:	4.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.20	0.31	0.63					
165	161	O:	0- 0- 0.00	0.60		29.94	COM:	1.5 SEC	0.1 CM	317.9851
		C:	- 0- 0- 0.45	0.50			BND:	4.5 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.45	0.33	-1.36					
165	12	O:	303-40-29.30	0.60		12.96	COM:	1.2 SEC	0.1 CM	151.2416
		C:	303-40-29.14	0.56			BND:	6.9 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.16	0.22	-0.73					
165	13	O:	303-49-25.70	0.60		30.10	COM:	-0.6 SEC	0.0 CM	153.2942
		C:	303-49-25.89	0.50			BND:	4.5 SEC	0.2 CM	
		V=C-O:	0- 0- 0.19	0.33	0.58					
165	11	O:	304-25-38.80	0.60		13.75	COM:	-1.7 SEC	-0.1 CM	150.0770
		C:	304-25-39.04	0.56			BND:	6.7 SEC	0.4 CM	
		V=C-O:	0- 0- 0.24	0.22	1.08					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
165	23	O: 317-52-32.40	0.60		50.81	COM:	-0.4 SEC	0.0 CM	181.5514
		C: 317-52-32.60	0.42			BND:	3.5 SEC	0.1 CM	
		V=C-O: 0- 0- 0.20	0.43	0.46					
165	22	O: 318-24-40.10	0.60		32.76	COM:	0.2 SEC	0.0 CM	180.3506
		C: 318-24-40.03	0.49			BND:	4.3 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.07	0.34	-0.21					
165	21	O: 318-47-53.10	0.60		33.31	COM:	-2.2 SEC	-0.1 CM	178.1310
		C: 318-47-53.83	0.49			BND:	4.3 SEC	0.2 CM	
		V=C-O: 0- 0- 0.73	0.35	2.11					
165	33	O: 326-36-28.20	0.60		66.52	COM:	1.2 SEC	0.0 CM	218.3463
		C: 326-36-27.39	0.35			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.81	0.49	-1.65					
165	32	O: 327- 7-37.90	0.60		60.57	COM:	-1.1 SEC	0.0 CM	216.8296
		C: 327- 7-38.58	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.68	0.47	1.46					
165	31	O: 327-43-39.70	0.60		48.83	COM:	1.1 SEC	0.0 CM	215.8585
		C: 327-43-39.15	0.43			BND:	3.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.55	0.42	-1.32					
165	162	O: 330-27-42.00	0.60		47.98	COM:	-0.5 SEC	0.0 CM	406.0449
		C: 330-27-42.22	0.43			BND:	3.6 SEC	0.0 CM	
		V=C-O: 0- 0- 0.22	0.42	0.52					
165	166	O: 334-30-46.40	0.60		47.98	COM:	0.5 SEC	0.0 CM	288.1136
		C: 334-30-46.18	0.43			BND:	3.6 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.22	0.42	-0.52					
166	165	O: 0- 0- 0.00	0.60		52.08	COM:	1.3 SEC	0.1 CM	288.1136
		C: - 0- 0- 0.68	0.42			BND:	3.4 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.68	0.43	-1.57					
166	32	O: 20-52-31.40	0.60		28.21	COM:	0.0 SEC	0.0 CM	78.2173
		C: 20-52-31.39	0.51			BND:	4.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.01	0.32	-0.04					
166	21	O: 22-28-15.20	0.60		53.13	COM:	-1.6 SEC	0.0 CM	126.2247
		C: 22-28-16.05	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.85	0.44	1.95					
166	33	O: 22-41- 5.60	0.60		28.31	COM:	2.0 SEC	0.1 CM	77.8660
		C: 22-41- 5.03	0.51			BND:	4.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.57	0.32	-1.77					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	22	O: 23-32- 9.50	0.60		52.87	COM:	0.7 SEC	0.0 CM	125.2583
		C: 23-32- 9.12	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.38	0.44	-0.87					
166	23	O: 24-28-49.00	0.60		53.18	COM:	0.4 SEC	0.0 CM	125.4390
		C: 24-28-48.81	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.19	0.44	-0.43					
166	11	O: 25-25-30.70	0.60		70.70	COM:	-1.5 SEC	0.0 CM	175.2269
		C: 25-25-31.75	0.32			BND:	2.9 SEC	0.1 CM	
		V=C-O: 0- 0- 1.05	0.50	2.08					
166	12	O: 26- 5-59.80	0.60		71.23	COM:	0.2 SEC	0.0 CM	176.2247
		C: 26- 5-59.64	0.32			BND:	2.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.16	0.51	-0.31					
166	13	O: 26-35-31.90	0.60		71.53	COM:	-0.7 SEC	0.0 CM	174.7774
		C: 26-35-32.42	0.32			BND:	2.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.52	0.51	1.02					
166	24	O: 31-26-20.40	0.60		45.50	COM:	0.0 SEC	0.0 CM	128.4770
		C: 31-26-20.40	0.44			BND:	3.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.00	0.40	0.01					
166	14	O: 31-29-24.60	0.60		70.19	COM:	0.1 SEC	0.0 CM	177.2441
		C: 31-29-24.52	0.33			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.08	0.50	-0.15					
166	34	O: 33-38-20.90	0.60		17.19	COM:	-0.7 SEC	0.0 CM	74.2174
		C: 33-38-21.01	0.55			BND:	6.0 SEC	0.2 CM	
		V=C-O: 0- 0- 0.11	0.25	0.46					
166	15	O: 40- 6-56.20	0.60		54.50	COM:	0.2 SEC	0.0 CM	177.8261
		C: 40- 6-56.10	0.40			BND:	3.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.10	0.44	-0.22					
166	16	O: 41-30-41.80	0.60		61.18	COM:	0.4 SEC	0.0 CM	178.4199
		C: 41-30-41.58	0.37			BND:	3.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.22	0.47	-0.47					
166	25	O: 42- 4- 1.60	0.60		40.15	COM:	0.2 SEC	0.0 CM	131.4631
		C: 42- 4- 1.53	0.46			BND:	3.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.07	0.38	-0.20					
166	26	O: 45-10-14.00	0.60		37.87	COM:	0.2 SEC	0.0 CM	132.7263
		C: 45-10-13.93	0.47			BND:	4.0 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.07	0.37	-0.18					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	17	O:	45-38- 2.30	0.60		38.40	COM:	-0.5 SEC	0.0 CM	180.0501
		C:	45-38- 2.48	0.47			BND:	4.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.18	0.37	0.50					
166	18	O:	49- 6- 2.70	0.60		31.49	COM:	0.2 SEC	0.0 CM	182.0825
		C:	49- 6- 2.63	0.50			BND:	4.4 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.07	0.34	-0.21					
166	27	O:	50-12-58.50	0.60		34.96	COM:	0.0 SEC	0.0 CM	136.8667
		C:	50-12-58.50	0.48			BND:	4.2 SEC	0.2 CM	
		V=C-O:	0- 0- 0.00	0.35	0.01					
166	35	O:	51-24-36.10	0.60		18.01	COM:	-0.2 SEC	0.0 CM	81.6184
		C:	51-24-36.13	0.54			BND:	5.8 SEC	0.2 CM	
		V=C-O:	0- 0- 0.03	0.25	0.11					
166	28	O:	54- 0- 8.20	0.60		33.32	COM:	0.9 SEC	0.0 CM	140.3591
		C:	54- 0- 7.90	0.49			BND:	4.3 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.30	0.35	-0.85					
166	36	O:	55-42- 3.10	0.60		18.83	COM:	0.4 SEC	0.0 CM	84.5358
		C:	55-42- 3.03	0.54			BND:	5.7 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.07	0.26	-0.29					
166	19	O:	56-44-23.50	0.60		24.83	COM:	1.4 SEC	0.1 CM	189.3140
		C:	56-44-23.15	0.52			BND:	5.0 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.35	0.30	-1.16					
166	29	O:	62-45-23.60	0.60		31.84	COM:	-1.6 SEC	-0.1 CM	152.6043
		C:	62-45-24.12	0.50			BND:	4.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.52	0.34	1.54					
166	37	O:	63- 3-59.70	0.60		21.83	COM:	2.1 SEC	0.1 CM	92.3696
		C:	63- 3-59.24	0.53			BND:	5.3 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.46	0.28	-1.63					
166	38	O:	67-11-44.80	0.60		24.48	COM:	-0.9 SEC	0.0 CM	98.1439
		C:	67-11-45.01	0.52			BND:	5.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.21	0.30	0.72					
166	39	O:	76-27- 9.70	0.60		21.00	COM:	-2.6 SEC	-0.1 CM	116.1525
		C:	76-27-10.25	0.53			BND:	5.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.55	0.27	1.98					
166	163	O:	101-16-31.80	0.60		63.26	COM:	-0.8 SEC	0.0 CM	219.1293
		C:	101-16-32.28	0.36			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.48	0.48	1.01					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	162	O: 166-12-53.30	0.60		55.60	COM:	1.3 SEC	0.0 CM	120.3843
		C: 166-12-52.55	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.75	0.45	-1.67					
166	163	O: 0- 0- 0.00	0.60		55.79	COM:	1.4 SEC	0.0 CM	219.1293
		C: - 0- 0- 0.76	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.76	0.45	-1.70					
166	162	O: 64-56-19.60	0.60		55.16	COM:	0.2 SEC	0.0 CM	120.3843
		C: 64-56-19.51	0.40			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.09	0.45	-0.20					
166	161	O: 169-10-24.90	0.60		29.32	COM:	-1.6 SEC	-0.1 CM	136.8356
		C: 169-10-25.36	0.50			BND:	4.6 SEC	0.2 CM	
		V=C-O: 0- 0- 0.46	0.32	1.42					
166	164	O: 291-39-54.00	0.60		66.43	COM:	-0.4 SEC	0.0 CM	273.8530
		C: 291-39-54.26	0.35			BND:	3.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.26	0.49	0.53					
166	16	O: 300-14- 8.40	0.60		52.10	COM:	-0.3 SEC	0.0 CM	178.4199
		C: 300-14- 8.53	0.42			BND:	3.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.13	0.43	0.31					

4.2 ANALYSIS OF AZIMUTH OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	164	O:	0- 0- 0.00	0.00		0.00	COM:	NOT		273.8530
		C:	0- 0- 0.00	0.00			BND:	CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00					

4.3 ANALYSIS OF HORIZONTAL DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	161	O:	136.83370	0.36		85.88	COM:	-0.1 CM	0.0 CM	136.8356
		C:	136.83463	0.14			BND:	1.6 CM	0.2 CM	
		V=C-O:	0.00093	0.34	0.28					
166	162	O:	120.38500	0.36		89.13	COM:	0.2 CM	0.0 CM	120.3843
		C:	120.38331	0.12			BND:	1.6 CM	0.2 CM	
		V=C-O:	-0.00169	0.34	-0.50					
166	163	O:	219.12560	0.40		77.11	COM:	-0.3 CM	-0.1 CM	219.1293
		C:	219.12828	0.19			BND:	1.9 CM	0.4 CM	
		V=C-O:	0.00268	0.35	0.76					
166	164	O:	273.85100	0.43		70.10	COM:	-0.1 CM	0.0 CM	273.8530
		C:	273.85196	0.23			BND:	2.1 CM	0.6 CM	
		V=C-O:	0.00096	0.36	0.27					
166	165	O:	288.11550	0.43		67.33	COM:	0.4 CM	0.1 CM	288.1136
		C:	288.11261	0.25			BND:	2.2 CM	0.7 CM	
		V=C-O:	-0.00289	0.35	-0.81					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1192	LTH: 0.15 CM	0.03 CM	0.36 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10173.6777 same as on page 3	AZI: 173-26- 3	263-26- 3			NORT.:	0.15 CM
		ELEV.:	1000.3702 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5217
Crest 12	FREE	EAST.:	9979.0467	LTH: 0.15 CM	0.03 CM	0.36 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10174.9262	AZI: 174- 3-14	264- 3-14			NORT.:	0.15 CM
		ELEV.:	1000.4113 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4930
13	FREE	EAST.:	9980.7113	LTH: 0.14 CM	0.03 CM	0.35 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10173.6617	AZI: 174- 2-58	264- 2-58			NORT.:	0.14 CM
		ELEV.:	1000.1971 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4975
14	FREE	EAST.:	9995.5502	LTH: 0.16 CM	0.03 CM	0.38 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10177.1434	AZI: 178-27-46	268-27-46			NORT.:	0.16 CM
		ELEV.:	992.6488 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1576
15	FREE	EAST.:	10022.2472	LTH: 0.15 CM	0.03 CM	0.38 CM	0.08 CM	EAST.:	0.03 CM
		NORT.:	10176.3899	AZI: 183-37-30	273-37-30			NORT.:	0.15 CM
		ELEV.:	977.7838 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2708
16	FREE	EAST.:	10026.6273	LTH: 0.15 CM	0.03 CM	0.37 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10176.3835	AZI: 185-43-17	275-43-17			NORT.:	0.15 CM
		ELEV.:	975.2242 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4297
161	FREE	EAST.:	9884.6206	LTH: 0.13 CM	0.03 CM	0.31 CM	0.08 CM	EAST.:	0.11 CM
		NORT.:	9926.4518	AZI: 238-22-24	328-22-24			NORT.:	0.07 CM
		ELEV.:	1000.9704 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.8432
162	FREE	EAST.:	10087.6880	LTH: 0.11 CM	0.02 CM	0.27 CM	0.05 CM	EAST.:	0.08 CM
		NORT.:	9917.4346	AZI: 132-50-28	222-50-28			NORT.:	0.08 CM
		ELEV.:	1014.7672 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.9256
163	FREE	EAST.:	10203.6869	LTH: 0.18 CM	0.04 CM	0.44 CM	0.09 CM	EAST.:	0.17 CM
		NORT.:	10080.8551	AZI: 247-39-30	337-39-30			NORT.:	0.08 CM
		ELEV.:	925.0641 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.8457
164	FREE	EAST.:	10000.0377	LTH: 0.22 CM	0.00 CM	0.53 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8091	AZI: 180- 0- 0	270- 0- 0			NORT.:	0.22 CM
		ELEV.:	1006.1799 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3682	LTH: 0.23 CM	0.06 CM	0.56 CM	0.14 CM	EAST.:	0.13 CM
		NORT.:	10241.7497	AZI: 146-39-12	236-39-12			NORT.:	0.19 CM
		ELEV.:	1009.5622 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.8640
166	FIXED	EAST.:	10000.0377 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9561 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)	STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
17	FREE	EAST.: 10039.5999 NORT.: 10175.6059 ELEV.: 966.8988 FIXED	LTH: 0.15 CM AZI: 188-29- 6 ELEV. STD. DEV.:	0.04 CM 278-29- 6 0.00 CM	0.37 CM	0.10 CM	EAST.: 0.05 CM NORT.: 0.15 CM CORR.: 0.4543
18	FREE	EAST.: 10050.7145 NORT.: 10174.8444 ELEV.: 960.4771 FIXED	LTH: 0.15 CM AZI: 192-12-20 ELEV. STD. DEV.:	0.04 CM 282-12-20 0.00 CM	0.37 CM	0.11 CM	EAST.: 0.05 CM NORT.: 0.15 CM CORR.: 0.5457
19	FREE	EAST.: 10076.4310 NORT.: 10173.1724 ELEV.: 946.8237 FIXED	LTH: 0.15 CM AZI: 201- 9- 0 ELEV. STD. DEV.:	0.05 CM 291- 9- 0 0.00 CM	0.38 CM	0.12 CM	EAST.: 0.07 CM NORT.: 0.14 CM CORR.: 0.6873
21	FREE	EAST.: 9977.1005 NORT.: 10124.0793 ELEV.: 1000.2713 FIXED	LTH: 0.12 CM AZI: 170-16- 0 ELEV. STD. DEV.:	0.03 CM 260-16- 0 0.00 CM	0.29 CM	0.06 CM	EAST.: 0.03 CM NORT.: 0.12 CM CORR.: -0.5801
22	FREE	EAST.: 9979.5689 NORT.: 10123.5307 ELEV.: 1000.3987 FIXED	LTH: 0.12 CM AZI: 171- 9-53 ELEV. STD. DEV.:	0.03 CM 261- 9-53 0.00 CM	0.29 CM	0.06 CM	EAST.: 0.03 CM NORT.: 0.12 CM CORR.: -0.5454
23	FREE	EAST.: 9981.5818 NORT.: 10124.0299 ELEV.: 1000.2412 FIXED	LTH: 0.11 CM AZI: 171-23-35 ELEV. STD. DEV.:	0.03 CM 261-23-35 0.00 CM	0.27 CM	0.06 CM	EAST.: 0.03 CM NORT.: 0.11 CM CORR.: -0.5145
24	FREE	EAST.: 9996.6703 NORT.: 10128.3890 ELEV.: 991.8373 FIXED	LTH: 0.12 CM AZI: 177-21- 4 ELEV. STD. DEV.:	0.03 CM 267-21- 4 0.00 CM	0.29 CM	0.07 CM	EAST.: 0.03 CM NORT.: 0.12 CM CORR.: -0.1786
25	FREE	EAST.: 10020.8889 NORT.: 10129.7551 ELEV.: 978.2093 FIXED	LTH: 0.12 CM AZI: 186-37- 3 ELEV. STD. DEV.:	0.03 CM 276-37- 3 0.00 CM	0.29 CM	0.07 CM	EAST.: 0.03 CM NORT.: 0.12 CM CORR.: 0.3774
26	FREE	EAST.: 10028.1531 NORT.: 10129.6703 ELEV.: 974.0470 FIXED	LTH: 0.12 CM AZI: 189-36-53 ELEV. STD. DEV.:	0.03 CM 279-36-53 0.00 CM	0.28 CM	0.08 CM	EAST.: 0.04 CM NORT.: 0.11 CM CORR.: 0.4905
27	FREE	EAST.: 10040.6822 NORT.: 10130.6486 ELEV.: 965.8831 FIXED	LTH: 0.12 CM AZI: 194-45- 3 ELEV. STD. DEV.:	0.03 CM 284-45- 3 0.00 CM	0.29 CM	0.08 CM	EAST.: 0.04 CM NORT.: 0.11 CM CORR.: 0.6212
28	FREE	EAST.: 10050.4780 NORT.: 10130.9387 ELEV.: 960.6518 FIXED	LTH: 0.12 CM AZI: 198-48-47 ELEV. STD. DEV.:	0.03 CM 288-48-47 0.00 CM	0.29 CM	0.08 CM	EAST.: 0.05 CM NORT.: 0.11 CM CORR.: 0.6872
29	FREE	EAST.: 10075.9146 NORT.: 10132.3600 ELEV.: 946.7466 FIXED	LTH: 0.12 CM AZI: 208-34-10 ELEV. STD. DEV.:	0.04 CM 298-34-10 0.00 CM	0.31 CM	0.09 CM	EAST.: 0.07 CM NORT.: 0.11 CM CORR.: 0.7758

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
31	FREE	EAST.:	9981.3281	LTH: 0.09 CM	0.03 CM	0.21 CM	0.08 CM	EAST.: 0.04 CM
		NORT.:	10075.7317	AZI: 169- 6-50	259- 6-50			NORT.: 0.09 CM
		ELEV.:	1000.4710 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.3636
32	FREE	EAST.:	9983.6879	LTH: 0.09 CM	0.02 CM	0.21 CM	0.05 CM	EAST.: 0.03 CM
		NORT.:	10076.4455	AZI: 168-32-13	258-32-13			NORT.: 0.08 CM
		ELEV.:	1000.4770 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.6203
33	FREE	EAST.:	9986.1737	LTH: 0.08 CM	0.02 CM	0.19 CM	0.05 CM	EAST.: 0.02 CM
		NORT.:	10076.5779	AZI: 169-43-10	259-43-10			NORT.: 0.08 CM
		ELEV.:	1000.0984 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.5370
34	FREE	EAST.:	10000.9422	LTH: 0.08 CM	0.02 CM	0.20 CM	0.05 CM	EAST.: 0.02 CM
		NORT.:	10074.1680	AZI: 179- 3-29	269- 3-29			NORT.: 0.08 CM
		ELEV.:	992.1012 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.0603
35	FREE	EAST.:	10025.8939	LTH: 0.08 CM	0.02 CM	0.19 CM	0.05 CM	EAST.: 0.03 CM
		NORT.:	10077.3707	AZI: 196-48-23	286-48-23			NORT.: 0.08 CM
		ELEV.:	977.7904 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.6641
36	FREE	EAST.:	10032.7421	LTH: 0.08 CM	0.02 CM	0.19 CM	0.06 CM	EAST.: 0.04 CM
		NORT.:	10077.9094	AZI: 201-16- 7	291-16- 7			NORT.: 0.07 CM
		ELEV.:	973.9514 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.7260
37	FREE	EAST.:	10046.3977	LTH: 0.08 CM	0.03 CM	0.20 CM	0.06 CM	EAST.: 0.05 CM
		NORT.:	10079.8491	AZI: 209- 6-14	299- 6-14			NORT.: 0.07 CM
		ELEV.:	965.3917 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.7882
38	FREE	EAST.:	10055.2805	LTH: 0.09 CM	0.03 CM	0.21 CM	0.06 CM	EAST.: 0.05 CM
		NORT.:	10081.0761	AZI: 213-35-48	303-35-48			NORT.: 0.07 CM
		ELEV.:	960.6633 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.8090
39	FREE	EAST.:	10080.0094	LTH: 0.10 CM	0.03 CM	0.25 CM	0.08 CM	EAST.: 0.08 CM
		NORT.:	10084.1935	AZI: 225-42-46	315-42-46			NORT.: 0.07 CM
		ELEV.:	946.9470 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.8237

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
164	14	LTH: 96.7698 M AZI: 267-20-31	0.10 CM 181- 7-36	0.03 CM 271- 7-36	0.26 CM	0.06 CM	-13.5311	0.00	HOR.: 1 / 148166 VER.:
164	12	LTH: 101.0863 M AZI: 258- 0-54	0.10 CM 189-33-26	0.03 CM 279-33-26	0.23 CM	0.06 CM	-5.7686	0.00	HOR.: 1 / 97225 VER.:
12	14	LTH: 16.6518 M AZI: 7-39- 5	0.08 CM 178-31-19	0.03 CM 268-31-19	0.21 CM	0.09 CM	-7.7625	0.00	HOR.: 1 / 8156 VER.:
164	15	LTH: 99.9188 M AZI: 282-50-33	0.11 CM 167-34-35	0.03 CM 257-34-35	0.26 CM	0.06 CM	-28.3961	0.00	HOR.: 1 / 78763 VER.:
14	15	LTH: 26.7076 M AZI: 358-23- 0	0.09 CM 170-51- 7	0.04 CM 260-51- 7	0.23 CM	0.09 CM	-14.8650	0.00	HOR.: 1 / 11790 VER.:
164	11	LTH: 102.7207 M AZI: 257- 6-28	0.10 CM 190-22-47	0.03 CM 280-22-47	0.23 CM	0.06 CM	-5.8097	0.00	HOR.: 1 / 93320 VER.:
11	12	LTH: 2.2965 M AZI: 32-55-54	0.06 CM 179-21-16	0.03 CM 269-21-16	0.14 CM	0.07 CM	0.0411	0.00	HOR.: 1 / 1843 VER.:
12	13	LTH: 2.0904 M AZI: 322-46-41	0.06 CM 178- 2-46	0.03 CM 268- 2-46	0.14 CM	0.07 CM	-0.2142	0.00	HOR.: 1 / 1760 VER.:
13	14	LTH: 15.2419 M AZI: 13-12-16	0.08 CM 177- 5-48	0.03 CM 267- 5-48	0.19 CM	0.08 CM	-7.5483	0.00	HOR.: 1 / 8158 VER.:
164	16	LTH: 100.9888 M AZI: 285-15-55	0.10 CM 166-46-11	0.02 CM 256-46-11	0.26 CM	0.06 CM	-30.9557	0.00	HOR.: 1 / 75868 VER.:
15	16	LTH: 4.3801 M AZI: 359-55- 1	0.09 CM 166-57-32	0.03 CM 256-57-32	0.21 CM	0.07 CM	-2.5596	0.00	HOR.: 1 / 2095 VER.:
14	25	LTH: 53.7373 M AZI: 298- 8- 0	0.09 CM 170-25-18	0.04 CM 260-25-18	0.23 CM	0.09 CM	-14.4395	0.00	HOR.: 1 / 34591 VER.:
15	25	LTH: 46.6546 M AZI: 268-19-54	0.09 CM 171-13- 2	0.03 CM 261-13- 2	0.22 CM	0.08 CM	0.4255	0.00	HOR.: 1 / 53818 VER.:
164	165	LTH: 159.9160 M AZI: 191-33-53	0.14 CM 257-18-24	0.04 CM 347-18-24	0.34 CM	0.11 CM	3.3823	0.00	HOR.: 1 / 93754 VER.:
165	11	LTH: 150.0770 M AZI: 333- 1-34	0.13 CM 114-34-57	0.06 CM 204-34-57	0.32 CM	0.14 CM	-9.1920	0.00	HOR.: 1 / 57357 VER.:
11	13	LTH: 3.5922 M AZI: 359-44-39	0.06 CM 177-56-52	0.03 CM 267-56-52	0.13 CM	0.07 CM	-0.1731	0.00	HOR.: 1 / 2664 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
13	24	LTH: 48.0032 M AZI: 289-25- 4	0.08 CM 170-19-56	0.03 CM 260-19-56	0.20 CM	0.08 CM	-8.3598	0.00	HOR.: 1 / 39857 VER.:
14	24	LTH: 48.7672 M AZI: 271-18-57	0.10 CM 175-58-54	0.03 CM 265-58-54	0.23 CM	0.08 CM	-0.8115	0.00	HOR.: 1 / 58982 VER.:
164	17	LTH: 105.8727 M AZI: 291-56-33	0.11 CM 159-25-12	0.03 CM 249-25-12	0.26 CM	0.07 CM	-39.2811	0.00	HOR.: 1 / 57094 VER.:
16	17	LTH: 12.9958 M AZI: 356-34-10	0.08 CM 163-26-46	0.03 CM 253-26-46	0.20 CM	0.08 CM	-8.3254	0.00	HOR.: 1 / 6541 VER.:
16	25	LTH: 46.9802 M AZI: 262-59- 2	0.08 CM 173-42- 0	0.03 CM 263-42- 0	0.21 CM	0.08 CM	2.9851	0.00	HOR.: 1 / 56946 VER.:
24	25	LTH: 24.2572 M AZI: 3-13-42	0.08 CM 173- 3-23	0.04 CM 263- 3-23	0.19 CM	0.10 CM	-13.6280	0.00	HOR.: 1 / 13140 VER.:
165	21	LTH: 178.1310 M AZI: 318-39-20	0.15 CM 132-57-40	0.06 CM 222-57-40	0.37 CM	0.15 CM	-9.2909	0.00	HOR.: 1 / 47917 VER.:
11	21	LTH: 49.5984 M AZI: 269-58-42	0.08 CM 175-32- 9	0.03 CM 265-32- 9	0.19 CM	0.08 CM	-0.0989	0.00	HOR.: 1 / 63221 VER.:
13	21	LTH: 49.7137 M AZI: 265-50- 5	0.08 CM 175-50-58	0.03 CM 265-50-58	0.19 CM	0.08 CM	0.0742	0.00	HOR.: 1 / 64352 VER.:
13	23	LTH: 49.6394 M AZI: 271- 0-17	0.07 CM 174-26-22	0.03 CM 264-26-22	0.17 CM	0.08 CM	0.0441	0.00	HOR.: 1 / 63906 VER.:
23	24	LTH: 15.7056 M AZI: 16- 6-50	0.07 CM 171-35- 1	0.04 CM 261-35- 1	0.18 CM	0.09 CM	-8.4039	0.00	HOR.: 1 / 9442 VER.:
164	18	LTH: 111.1852 M AZI: 297- 6-56	0.11 CM 154-34-19	0.03 CM 244-34-19	0.27 CM	0.07 CM	-45.7028	0.00	HOR.: 1 / 51466 VER.:
17	18	LTH: 11.1406 M AZI: 356- 4-49	0.08 CM 157-43-38	0.03 CM 247-43-38	0.20 CM	0.08 CM	-6.4217	0.00	HOR.: 1 / 5871 VER.:
16	26	LTH: 46.7381 M AZI: 271-52-14	0.08 CM 171-41-31	0.03 CM 261-41-31	0.20 CM	0.08 CM	-1.1772	0.00	HOR.: 1 / 53734 VER.:
17	26	LTH: 47.3403 M AZI: 256- 0-26	0.08 CM 170-53-12	0.04 CM 260-53-12	0.20 CM	0.09 CM	7.1482	0.00	HOR.: 1 / 49933 VER.:
25	26	LTH: 7.2647 M AZI: 359-19-54	0.07 CM 173-29-42	0.03 CM 263-29-42	0.17 CM	0.09 CM	-4.1623	0.00	HOR.: 1 / 4327 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
24	35	LTH:	58.7953 M	0.08 CM	0.04 CM	0.20 CM	0.09 CM	-14.0469	0.00	HOR.: 1 / 39662
		AZI:	299-48-15	168-51-44	258-51-44					VER.:
25	35	LTH:	52.6229 M	0.08 CM	0.03 CM	0.19 CM	0.08 CM	-0.4189	0.00	HOR.: 1 / 63695
		AZI:	275-27-27	178-28-19	268-28-19					VER.:
165	31	LTH:	215.8585 M	0.18 CM	0.07 CM	0.44 CM	0.17 CM	-9.0912	0.00	HOR.: 1 / 49697
		AZI:	309-43-34	141-12-20	231-12-20					VER.:
21	31	LTH:	48.5321 M	0.09 CM	0.04 CM	0.21 CM	0.09 CM	0.1997	0.00	HOR.: 1 / 47735
		AZI:	274-59-50	172-31-45	262-31-45					VER.:
21	23	LTH:	4.4815 M	0.07 CM	0.03 CM	0.17 CM	0.08 CM	-0.0301	0.00	HOR.: 1 / 2671
		AZI:	359-22- 7	170-14- 4	260-14- 4					VER.:
23	33	LTH:	47.6737 M	0.07 CM	0.03 CM	0.17 CM	0.07 CM	-0.1428	0.00	HOR.: 1 / 60404
		AZI:	275-31-38	171- 6-10	261- 6-10					VER.:
24	33	LTH:	52.8636 M	0.08 CM	0.03 CM	0.20 CM	0.08 CM	8.2611	0.00	HOR.: 1 / 61819
		AZI:	258-32-50	177-15- 4	267-15- 4					VER.:
164	19	LTH:	126.3475 M	0.12 CM	0.03 CM	0.28 CM	0.08 CM	-59.3562	0.00	HOR.: 1 / 46662
		AZI:	307-12- 7	144-43-49	234-43-49					VER.:
18	19	LTH:	25.7709 M	0.08 CM	0.04 CM	0.18 CM	0.09 CM	-13.6534	0.00	HOR.: 1 / 15089
		AZI:	356-16-47	149-58-24	239-58-24					VER.:
17	27	LTH:	44.9704 M	0.08 CM	0.04 CM	0.20 CM	0.09 CM	-1.0157	0.00	HOR.: 1 / 45763
		AZI:	271-22-44	166-43-29	256-43-29					VER.:
18	27	LTH:	45.3201 M	0.08 CM	0.04 CM	0.19 CM	0.10 CM	5.4060	0.00	HOR.: 1 / 47081
		AZI:	257-12-38	168-31-22	258-31-22					VER.:
26	27	LTH:	12.5672 M	0.06 CM	0.04 CM	0.16 CM	0.09 CM	-8.1639	0.00	HOR.: 1 / 8118
		AZI:	4-27-52	172-36-56	262-36-56					VER.:
26	35	LTH:	52.3484 M	0.07 CM	0.03 CM	0.18 CM	0.08 CM	3.7434	0.00	HOR.: 1 / 64734
		AZI:	267-31-35	181-42- 4	271-42- 4					VER.:
24	34	LTH:	54.3890 M	0.09 CM	0.03 CM	0.21 CM	0.07 CM	0.2639	0.00	HOR.: 1 / 66955
		AZI:	274-30-17	175- 2-22	265- 2-22					VER.:
34	35	LTH:	25.1564 M	0.06 CM	0.03 CM	0.16 CM	0.08 CM	-14.3108	0.00	HOR.: 1 / 16215
		AZI:	7-18-51	183-41-36	273-41-36					VER.:
161	165	LTH:	317.9851 M	0.25 CM	0.09 CM	0.62 CM	0.22 CM	8.5918	0.00	HOR.: 1 / 122484
		AZI:	97-27-14	173-47-53	263-47-53					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	31	LTH: 177.8674 M AZI: 57- 3-49	0.16 CM 212-57- 6	0.06 CM 302-57- 6	0.39 CM	0.14 CM	-0.4994	0.00	HOR.: 1 / 49522 VER.:
21	22	LTH: 2.5286 M AZI: 347-28- 8	0.08 CM 171- 2-18	0.03 CM 261- 2-18	0.19 CM	0.08 CM	0.1274	0.00	HOR.: 1 / 1361 VER.:
22	31	LTH: 47.8314 M AZI: 272- 6-28	0.09 CM 173-19-47	0.04 CM 263-19-47	0.21 CM	0.09 CM	0.0723	0.00	HOR.: 1 / 48925 VER.:
22	23	LTH: 2.0739 M AZI: 13-55-48	0.07 CM 170-33-23	0.03 CM 260-33-23	0.17 CM	0.08 CM	-0.1575	0.00	HOR.: 1 / 1302 VER.:
22	33	LTH: 47.4150 M AZI: 278- 0-25	0.08 CM 171-20-36	0.03 CM 261-20-36	0.19 CM	0.07 CM	-0.3003	0.00	HOR.: 1 / 55024 VER.:
33	34	LTH: 14.9638 M AZI: 350-43-55	0.06 CM 173-10-40	0.03 CM 263-10-40	0.16 CM	0.07 CM	-7.9972	0.00	HOR.: 1 / 9523 VER.:
164	163	LTH: 280.5428 M AZI: 316-32-41	0.22 CM 134-17-44	0.06 CM 224-17-44	0.55 CM	0.15 CM	-81.1158	0.00	HOR.: 1 / 51509 VER.:
163	19	LTH: 157.2150 M AZI: 144- 2-28	0.14 CM 127- 4-52	0.06 CM 217- 4-52	0.34 CM	0.13 CM	21.7596	0.00	HOR.: 1 / 48659 VER.:
18	29	LTH: 49.3961 M AZI: 300-40-29	0.08 CM 153-46- 3	0.04 CM 243-46- 3	0.19 CM	0.09 CM	-13.7305	0.00	HOR.: 1 / 29908 VER.:
19	29	LTH: 40.8156 M AZI: 269-16-30	0.07 CM 158-13-34	0.04 CM 248-13-34	0.17 CM	0.10 CM	-0.0771	0.00	HOR.: 1 / 37331 VER.:
18	28	LTH: 43.9063 M AZI: 269-41-29	0.08 CM 164-47- 0	0.04 CM 254-47- 0	0.19 CM	0.09 CM	0.1747	0.00	HOR.: 1 / 43741 VER.:
27	28	LTH: 9.8002 M AZI: 1-41-47	0.06 CM 170-34-27	0.04 CM 260-34-27	0.14 CM	0.09 CM	-5.2313	0.00	HOR.: 1 / 6841 VER.:
26	37	LTH: 53.0567 M AZI: 290- 6-45	0.07 CM 172-34-28	0.04 CM 262-34-28	0.17 CM	0.09 CM	-8.6553	0.00	HOR.: 1 / 46807 VER.:
27	37	LTH: 51.1200 M AZI: 276-25- 9	0.07 CM 178-43-32	0.04 CM 268-43-32	0.17 CM	0.09 CM	-0.4914	0.00	HOR.: 1 / 57112 VER.:
26	36	LTH: 51.9639 M AZI: 275- 3-59	0.07 CM 179-11-33	0.03 CM 269-11-33	0.18 CM	0.08 CM	-0.0956	0.00	HOR.: 1 / 61959 VER.:
35	36	LTH: 6.8694 M AZI: 4-29-53	0.06 CM 194- 3-12	0.03 CM 284- 3-12	0.14 CM	0.07 CM	-3.8390	0.00	HOR.: 1 / 5090 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
34	166	LTH:	74.2174 M	0.08 CM	0.02 CM	0.20 CM	0.05 CM	7.8988	0.00	HOR.: 1 / 148376
		AZI:	269-18- 6	179- 3-29	269- 3-29					VER.:
35	166	LTH:	81.6184 M	0.08 CM	0.02 CM	0.19 CM	0.05 CM	22.2096	0.00	HOR.: 1 / 68180
		AZI:	251-31-51	196-48-23	286-48-23					VER.:
161	166	LTH:	136.8356 M	0.13 CM	0.03 CM	0.31 CM	0.08 CM	-0.9704	0.00	HOR.: 1 / 48704
		AZI:	32-29-28	238-22-24	328-22-24					VER.:
31	166	LTH:	78.0512 M	0.09 CM	0.03 CM	0.21 CM	0.08 CM	-0.4710	0.00	HOR.: 1 / 66646
		AZI:	283-52- 9	169- 6-50	259- 6-50					VER.:
22	32	LTH:	47.2650 M	0.08 CM	0.03 CM	0.21 CM	0.07 CM	0.0783	0.00	HOR.: 1 / 56747
		AZI:	274-59-58	171-28- 0	261-28- 0					VER.:
31	32	LTH:	2.4654 M	0.07 CM	0.04 CM	0.18 CM	0.09 CM	0.0060	0.00	HOR.: 1 / 1459
		AZI:	16-49-50	170-59- 8	260-59- 8					VER.:
32	33	LTH:	2.4893 M	0.07 CM	0.02 CM	0.16 CM	0.06 CM	-0.3786	0.00	HOR.: 1 / 1548
		AZI:	3- 2-58	169-14-36	259-14-36					VER.:
31	33	LTH:	4.9189 M	0.07 CM	0.04 CM	0.16 CM	0.09 CM	-0.3726	0.00	HOR.: 1 / 3099
		AZI:	9-54-24	171-18- 7	261-18- 7					VER.:
31	34	LTH:	19.6763 M	0.08 CM	0.04 CM	0.19 CM	0.10 CM	-8.3698	0.00	HOR.: 1 / 10499
		AZI:	355-26-31	173-14-17	263-14-17					VER.:
163	29	LTH:	137.7626 M	0.12 CM	0.05 CM	0.29 CM	0.12 CM	21.6825	0.00	HOR.: 1 / 63699
		AZI:	158- 2-44	110-57-20	200-57-20					VER.:
28	29	LTH:	25.4762 M	0.05 CM	0.04 CM	0.13 CM	0.10 CM	-13.9052	0.00	HOR.: 1 / 19790
		AZI:	3-11-52	159-40- 7	249-40- 7					VER.:
28	37	LTH:	51.2523 M	0.07 CM	0.04 CM	0.16 CM	0.09 CM	4.7399	0.00	HOR.: 1 / 56679
		AZI:	265-26- 1	184-17- 2	274-17- 2					VER.:
36	37	LTH:	13.7926 M	0.05 CM	0.03 CM	0.13 CM	0.08 CM	-8.5597	0.00	HOR.: 1 / 10878
		AZI:	8- 5- 3	200-23-16	290-23-16					VER.:
36	166	LTH:	84.5358 M	0.08 CM	0.02 CM	0.19 CM	0.06 CM	26.0486	0.00	HOR.: 1 / 60019
		AZI:	247-14-24	201-16- 7	291-16- 7					VER.:
161	162	LTH:	203.2675 M	0.17 CM	0.07 CM	0.42 CM	0.16 CM	13.7968	0.00	HOR.: 1 / 121790
		AZI:	357-27-26	91-20-36	181-20-36					VER.:
162	166	LTH:	120.3843 M	0.11 CM	0.02 CM	0.27 CM	0.05 CM	-14.7672	0.00	HOR.: 1 / 45361
		AZI:	136-43-34	132-50-28	222-50-28					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
163	39	LTH:	123.7226 M	0.11 CM	0.04 CM	0.28 CM	0.10 CM	21.8829	0.00	HOR.: 1 / 117189
		AZI:	178-27-13	265-55-21	355-55-21					VER.:
29	39	LTH:	48.3402 M	0.06 CM	0.05 CM	0.14 CM	0.12 CM	0.2004	0.00	HOR.: 1 / 40974
		AZI:	274-51-33	182- 5-20	272- 5-20					VER.:
28	39	LTH:	55.2921 M	0.06 CM	0.05 CM	0.16 CM	0.12 CM	-13.7048	0.00	HOR.: 1 / 37613
		AZI:	302-16-57	155- 5-10	245- 5-10					VER.:
28	38	LTH:	50.0934 M	0.06 CM	0.04 CM	0.16 CM	0.09 CM	0.0115	0.00	HOR.: 1 / 54385
		AZI:	275-30- 5	178-51-25	268-51-25					VER.:
37	38	LTH:	8.9672 M	0.05 CM	0.03 CM	0.12 CM	0.08 CM	-4.7284	0.00	HOR.: 1 / 7657
		AZI:	7-51-51	206- 7-57	296- 7-57					VER.:
37	166	LTH:	92.3696 M	0.08 CM	0.03 CM	0.20 CM	0.06 CM	34.6083	0.00	HOR.: 1 / 52137
		AZI:	239-52-28	209- 6-14	299- 6-14					VER.:
162	39	LTH:	166.9356 M	0.14 CM	0.06 CM	0.34 CM	0.14 CM	-67.8202	0.00	HOR.: 1 / 111333
		AZI:	92-38-11	175- 4- 8	265- 4- 8					VER.:
39	166	LTH:	116.1525 M	0.10 CM	0.03 CM	0.25 CM	0.08 CM	53.0530	0.00	HOR.: 1 / 46792
		AZI:	226-29-17	225-42-46	315-42-46					VER.:
162	163	LTH:	200.4046 M	0.17 CM	0.05 CM	0.40 CM	0.12 CM	-89.7031	0.00	HOR.: 1 / 53065
		AZI:	54-37-55	212-42-16	302-42-16					VER.:
38	39	LTH:	24.9246 M	0.05 CM	0.04 CM	0.13 CM	0.09 CM	-13.7163	0.00	HOR.: 1 / 22673
		AZI:	7-11- 6	237-27-49	327-27-49					VER.:
38	166	LTH:	98.1439 M	0.09 CM	0.03 CM	0.21 CM	0.06 CM	39.3367	0.00	HOR.: 1 / 49804
		AZI:	235-44-42	213-35-48	303-35-48					VER.:

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	150	0.659136D+02	0.741045D+02	0.94312
AZIMUTHS	1	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	5	0.123737D+01	0.389550D+01	0.56360
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
HEIGHT DIFFERENCE	0	0.000000D+00	0.000000D+00	1.00000
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	156	0.671510D+02	78	0.92785

STATIONS:	FIXED	1
	FREE	32
	WEIGHTED	0
	TOTAL	33

CONVERGENCE:	ITERATIONS USED	3
	TOLERANCE	0.000100
	COMPUTATION TIME	38.830 SEC

APPENDIX II B

Horizontal Adjustment:

Epoch 3

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 17:25:00 DATE: 16-DEC-86

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*                                                                                   *
*  BOSTON SURVEY CONSULTANTS - BALL MOUNTAIN DAM - PROJECT 1-1654.00                *
*                                                                                   *
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PROJECT INFORMATION:

EPOCH 3 HORIZONTAL ANALYSIS
DATABASE 11654003.DBS
1165400H

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

O P T I O N S I N E F F E C T

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.000100
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.20000 CM
VARIABLE PART OF EDM MEASUREMENT	3.00000 PPM
ZENITH DISTANCE	0.60000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	0.00100 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6378.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT 0.130

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
1663	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.1172		10173.6877		1000.2730	FIXED
12	9979.0451		10174.9374		1000.3150	FIXED
1218	9846.9425		10016.2121		1015.0000	FIXED
13	9980.7103		10173.6725		1000.1030	FIXED
14	9995.5499		10177.1530		992.5700	FIXED
15	10022.2476		10176.3998		977.7050	FIXED
16	10026.6277		10176.3942		975.1380	FIXED
161	9884.6165		9926.4538		1001.4850	FIXED
162	10087.6923		9917.4407		1014.9810	FIXED
163	10203.6906		10080.8608		925.3040	FIXED
164	10000.0376		10273.8214		1006.4650	FIXED
165	9843.3615		10241.7614		1009.7800	FIXED
17	10039.6007		10175.6162		966.8130	FIXED
18	10050.7168		10174.8548		960.3930	FIXED
19	10076.4323		10173.1814		946.7430	FIXED
21	9977.0994		10124.0894		1000.1760	FIXED
22	9979.5674		10123.5400		1000.3040	FIXED
23	9981.5825		10124.0405		1000.1480	FIXED
24	9996.6704		10128.3981		990.2490	FIXED
25	10020.8893		10129.7642		978.1230	FIXED
26	10028.1539		10129.6781		973.9620	FIXED
27	10040.6833		10130.6563		965.8000	FIXED
28	10050.4796		10130.9475		960.5700	FIXED
29	10075.9160		10132.3685		946.6670	FIXED
31	9981.3276		10075.7375		1000.3780	FIXED
32	9983.6881		10076.4549		1000.3840	FIXED
33	9986.1746		10076.5864		1000.0010	FIXED
34	10000.9424		10074.1756		992.0120	FIXED
35	10025.8948		10077.3785		977.7070	FIXED
36	10032.7426		10077.9167		973.8690	FIXED
37	10046.3985		10079.8569		965.3180	FIXED
38	10055.2827		10081.0833		960.5840	FIXED
39	10080.0113		10084.2006		946.8710	FIXED

10076.4549
10076.4452 (from page 3)
.0097 m.
= ~~.0097~~
.0097 X 1000
= 9.7 mm

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
161	165	0- 0- 0.000	0.800	0.000
161	164	25-50- 4.700	0.800	0.318
161	11	27-58- 1.500	0.800	-0.493
161	12	28-15-42.000	0.800	-1.300
161	13	28-41-43.500	0.800	0.257
161	21	32-31-51.500	0.800	-1.344
161	22	33-10-39.700	0.800	-0.366
161	23	33-35-36.500	0.800	-1.307
161	31	40-23-25.700	0.800	-1.228
161	32	40-53-51.800	0.800	-0.739
161	33	41-31-50.300	0.800	-0.888
161	1218	344-41- 5.200	0.800	-1.323
162	165	0- 0- 0.000	0.600	0.000
162	164	23-10-30.400	0.600	0.767
162	31	3- 5-40.800	0.300	0.418
162	32	3-48-22.500	0.300	0.773
162	33	4-27-34.900	0.300	0.661
162	34	8- 1-46.100	0.300	0.818
162	35	15-52- 2.400	0.300	0.453
162	36	18- 5-28.000	0.300	0.766
162	37	22-43-41.100	0.300	0.494
162	38	25-47-26.100	0.300	0.493
162	39	34-21-21.600	0.300	0.800
162	29	33-51-25.200	0.300	0.854
162	28	27- 6-22.500	0.300	0.738
162	27	24-33-34.800	0.300	0.523
162	26	21-19-22.100	0.300	0.349
162	25	19-31-40.800	0.300	0.304
162	24	13-39-15.800	0.300	0.692
162	23	9-48-29.900	0.300	1.434
162	22	9-18-37.500	0.300	0.305
162	21	8-50-18.900	0.300	0.433
162	11	13-39- 7.600	0.300	0.684
162	12	14- 6-59.500	0.300	0.730
162	13	14-19-53.900	0.300	0.717
162	14	17-27-33.000	0.300	0.686
162	15	22-48-36.600	0.300	0.497
162	16	23-43-28.100	0.300	0.677
162	17	26-26-29.100	0.300	0.985
162	18	28-49- 8.600	0.300	0.926
162	19	34-28-19.600	0.300	0.671
162	163	72-21-38.400	0.600	-0.249
163	162	0- 0- 0.000	0.400	0.000
163	34	52-44-37.000	0.400	-0.356
163	33	53-30-23.200	0.400	-0.064
163	35	53-30-36.600	0.400	-0.070

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
163	36	53-38-43.900	0.400	-0.164
163	37	54-15-59.500	0.400	-0.101
163	38	54-43- 5.200	0.400	-0.087
163	39	56-10-44.400	0.400	-0.208
163	23	65-38- 1.000	0.400	-0.647
163	24	67-33-52.600	0.400	-0.200
163	25	69-36-33.900	0.400	0.043
163	26	70-10-25.200	0.400	0.064
163	27	71-37- 8.700	0.400	-0.090
163	28	72-44- 7.600	0.400	-0.154
163	29	76-35-14.200	0.400	0.003
163	14	79-27-31.900	0.600	-0.238
163	15	82-24- 5.000	0.600	0.214
163	16	82-58-51.600	0.600	-0.334
163	17	84-38-12.600	0.600	-0.464
163	18	86-12- 2.200	0.600	-0.234
163	19	90-35-29.400	0.600	-0.208
163	164	98- 5-15.900	0.600	-0.751
164	165	0- 0- 0.000	1.000	0.000
164	163	235- 1-12.800	1.000	-0.217
164	39	258-41-48.600	0.600	0.535
164	38	265-34-13.500	0.600	-0.333
164	37	268- 7-19.200	0.600	-0.243
164	36	272- 5-12.800	0.600	0.286
164	35	274- 3-56.900	0.600	-0.671
164	34	281-18-18.000	0.600	0.379
164	33	285-35- 6.200	0.600	-0.085
164	32	286-17-59.600	0.600	-0.509
164	31	286-57-37.600	0.600	0.092
164	21	290-16-27.400	0.900	0.012
164	22	289-19-16.500	0.900	0.102
164	23	288-35-21.400	0.900	1.735
164	24	282-53-28.100	0.900	0.588
164	25	273-19-42.900	0.900	0.562
164	26	270-31-38.100	0.900	0.360
164	27	265-42-53.200	0.900	-0.429
164	28	262- 7- 8.400	0.900	0.547
164	29	253-21-17.900	0.900	1.749
164	19	244-21-46.100	1.000	-0.094
164	18	254-26-54.400	1.000	0.501
164	17	259-37-19.500	1.000	0.486
164	16	266-17-56.400	1.000	-0.057
164	15	268-43-19.200	1.000	0.489
164	14	284-13-21.400	1.000	0.292
164	13	292-29-15.900	1.000	0.756
164	12	293-32-59.500	1.000	-1.134
164	11	294-27-26.200	1.000	-0.222

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
164	161	299-56-42.900	1.000	1.452
164	1218	312-17-13.600	1.000	-0.423
164	162	267-44-48.100	1.000	0.750
165	162	0- 0- 0.000	0.700	0.000
165	12	333-12-47.400	0.700	0.031
165	11	333-57-59.000	0.700	0.106
165	23	347-24-49.600	0.700	0.839
165	22	347-56-58.100	0.700	-0.729
165	21	348-20-11.700	0.700	0.091
165	33	356- 8-45.700	0.700	1.099
165	32	356-39-55.800	0.700	0.129
165	31	357-15-59.000	0.700	0.174
165	161	29-32-20.100	0.700	0.752
165	164	295-25-42.800	0.700	0.518
165	1218	36- 4-59.800	0.700	-0.346
1663	164	0- 0- 0.000	1.000	0.000
1663	31	346- 7-54.800	1.000	1.997
1663	32	347-56-10.500	1.000	0.559
1663	34	0-41-55.500	1.000	1.074
1663	36	22-45-31.700	1.000	1.440
1663	37	30- 7-27.300	1.000	2.139
1663	38	34-15-15.100	1.000	1.857
1663	39	43-30-38.000	1.000	0.969
1663	27	17-16-31.300	1.000	1.725
1663	26	12-13-49.000	1.000	3.541
1663	25	9- 7-36.200	1.000	3.519
1663	23	351-32-25.800	1.000	0.385
1663	22	350-35-44.100	1.000	2.025
1663	21	349-31-53.200	1.000	3.101
1663	11	352-29- 3.700	1.000	-0.034
1663	12	353- 9-31.500	1.000	-0.610
1663	13	353-39- 6.300	1.000	0.885
1663	14	358-32-58.600	1.000	1.362
1663	15	7-10-31.000	1.000	3.069
1663	16	8-34-13.500	1.000	0.529
1663	17	12-41-33.300	1.000	-0.337
1663	18	16- 9-35.000	1.000	0.261
1663	19	23-47-54.500	1.000	1.195
1663	163	68-20- 3.300	1.000	1.935
1663	161	237-30-38.500	1.000	1.696
1663	165	327- 3-35.200	1.000	2.643
1663	1218	276- 3-41.800	1.000	2.007

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
1663	164	0- 0- 0.000	0.001	0.000

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
164	165	159.9216	0.2480	-0.10
164	163	280.5467	0.2842	-0.34
164	161	366.0451	0.3098	0.37

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO ZENITH DISTANCE OBSERVATIONS

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HEIGHT DIFFERENCE OBSERVATIONS

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED

ALL STATIONS ARE INVOLVED IN AT LEAST TWO OBSERVATIONS

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	139
POINTS	1000	34
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	6
MATRIX ELEMENTS	99998	2278

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
161	165	O:	0- 0- 0.00	0.80		61.68	COM:	1.0 SEC	0.0 CM	317.9951
		C:	- 0- 0- 0.64	0.50			BND:	4.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.64	0.63	-1.02					
161	164	O:	25-50- 4.70	0.80		79.20	COM:	1.3 SEC	0.0 CM	366.0414
		C:	25-50- 3.71	0.36			BND:	3.7 SEC	-0.1 CM	
		V=C-O:	- 0- 0- 0.99	0.71	-1.39					
161	11	O:	27-58- 1.50	0.80		75.02	COM:	0.3 SEC	0.0 CM	263.9716
		C:	27-58- 1.29	0.40			BND:	3.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.21	0.69	-0.30					
161	12	O:	28-15-42.00	0.80		75.23	COM:	-0.8 SEC	0.0 CM	265.8212
		C:	28-15-42.63	0.40			BND:	3.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.63	0.69	0.90					
161	13	O:	28-41-43.50	0.80		65.90	COM:	1.5 SEC	0.0 CM	265.2379
		C:	28-41-42.54	0.47			BND:	4.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.96	0.65	-1.47					
161	21	O:	32-31-51.50	0.80		55.41	COM:	-1.2 SEC	-0.1 CM	218.2039
		C:	32-31-52.18	0.53			BND:	4.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.68	0.60	1.14					
161	22	O:	33-10-39.70	0.80		55.14	COM:	0.6 SEC	0.0 CM	218.7662
		C:	33-10-39.35	0.54			BND:	4.4 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.35	0.59	-0.59					
161	23	O:	33-35-36.50	0.80		69.58	COM:	-0.9 SEC	0.0 CM	220.0975
		C:	33-35-37.12	0.44			BND:	4.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.62	0.67	0.93					
161	31	O:	40-23-25.70	0.80		41.49	COM:	-1.2 SEC	-0.1 CM	177.8725
		C:	40-23-26.20	0.61			BND:	5.1 SEC	0.3 CM	
		V=C-O:	0- 0- 0.50	0.52	0.97					
161	32	O:	40-53-51.80	0.80		42.43	COM:	-0.2 SEC	0.0 CM	179.7652
		C:	40-53-51.88	0.61			BND:	5.1 SEC	0.3 CM	
		V=C-O:	0- 0- 0.08	0.52	0.15					
161	33	O:	41-31-50.30	0.80		58.40	COM:	-0.2 SEC	0.0 CM	181.2563
		C:	41-31-50.43	0.52			BND:	4.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.13	0.61	0.22					
161	1218	O:	344-41- 5.20	0.80		10.33	COM:	-5.0 SEC	-0.2 CM	97.3442
		C:	344-41- 5.72	0.76			BND:	10.3 SEC	0.5 CM	
		V=C-O:	0- 0- 0.52	0.26	2.02					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	165	O:	0- 0- 0.00	0.60		71.60	COM:	-0.9 SEC	0.0 CM	406.0560
		C:	0- 0- 0.65	0.32			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.65	0.51	1.28					
162	164	O:	23-10-30.40	0.60		86.60	COM:	0.2 SEC	0.0 CM	367.0021
		C:	23-10-30.26	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.14	0.56	-0.25					
162	31	O:	3- 5-40.80	0.30		23.42	COM:	-0.7 SEC	-0.1 CM	190.7127
		C:	3- 5-40.96	0.26			BND:	2.6 SEC	0.2 CM	
		V=C-O:	0- 0- 0.16	0.15	1.09					
162	32	O:	3-48-22.50	0.30		23.13	COM:	0.4 SEC	0.0 CM	190.0063
		C:	3-48-22.42	0.26			BND:	2.6 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.08	0.14	-0.57					
162	33	O:	4-27-34.90	0.30		25.20	COM:	0.2 SEC	0.0 CM	188.7676
		C:	4-27-34.84	0.26			BND:	2.5 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.06	0.15	-0.38					
162	34	O:	8- 1-46.10	0.30		30.74	COM:	0.5 SEC	0.0 CM	179.1406
		C:	8- 1-45.94	0.25			BND:	2.2 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.16	0.17	-0.98					
162	35	O:	15-52- 2.40	0.30		15.47	COM:	-1.2 SEC	-0.1 CM	171.4615
		C:	15-52- 2.59	0.28			BND:	3.1 SEC	0.2 CM	
		V=C-O:	0- 0- 0.19	0.12	1.62					
162	36	O:	18- 5-28.00	0.30		25.74	COM:	0.2 SEC	0.0 CM	169.6232
		C:	18- 5-27.95	0.26			BND:	2.4 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.05	0.15	-0.35					
162	37	O:	22-43-41.10	0.30		22.98	COM:	-0.7 SEC	-0.1 CM	167.5834
		C:	22-43-41.27	0.26			BND:	2.6 SEC	0.2 CM	
		V=C-O:	0- 0- 0.17	0.14	1.18					
162	38	O:	25-47-26.10	0.30		21.08	COM:	-0.7 SEC	-0.1 CM	166.8211
		C:	25-47-26.26	0.27			BND:	2.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.16	0.14	1.13					
162	39	O:	34-21-21.60	0.30		15.85	COM:	0.8 SEC	0.1 CM	166.9367
		C:	34-21-21.48	0.28			BND:	3.1 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.12	0.12	-1.03					
162	29	O:	33-51-25.20	0.30		7.95	COM:	2.2 SEC	0.2 CM	215.2502
		C:	33-51-25.03	0.29			BND:	4.4 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.17	0.08	-2.05					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	28	O: 27- 6-22.50	0.30		14.62	COM:	0.4 SEC	0.0 CM	216.7255
		C: 27- 6-22.44	0.28			BND:	3.2 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.06	0.11	-0.54					
162	27	O: 24-33-34.80	0.30		31.95	COM:	-0.4 SEC	0.0 CM	218.3363
		C: 24-33-34.93	0.25			BND:	2.2 SEC	0.2 CM	
		V=C-O: 0- 0- 0.13	0.17	0.80					
162	26	O: 21-19-22.10	0.30		34.75	COM:	-0.9 SEC	-0.1 CM	220.4303
		C: 21-19-22.42	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.32	0.18	1.78					
162	25	O: 19-31-40.80	0.30		36.08	COM:	-0.9 SEC	-0.1 CM	222.5846
		C: 19-31-41.11	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.31	0.18	1.72					
162	24	O: 13-39-15.80	0.30		24.80	COM:	0.3 SEC	0.0 CM	229.7565
		C: 13-39-15.72	0.26			BND:	2.5 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.08	0.15	-0.52					
162	23	O: 9-48-29.90	0.30		45.09	COM:	1.7 SEC	0.1 CM	232.2558
		C: 9-48-29.13	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.77	0.20	-3.82 ..					
162	22	O: 9-18-37.50	0.30		35.11	COM:	-1.0 SEC	-0.1 CM	232.7401
		C: 9-18-37.84	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.34	0.18	1.93					
162	21	O: 8-50-18.90	0.30		35.38	COM:	-0.7 SEC	0.0 CM	234.3810
		C: 8-50-19.14	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.24	0.18	1.32					
162	11	O: 13-39- 7.60	0.30		45.56	COM:	0.1 SEC	0.0 CM	279.0867
		C: 13-39- 7.54	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.06	0.20	-0.29					
162	12	O: 14- 6-59.50	0.30		45.77	COM:	0.1 SEC	0.0 CM	279.4795
		C: 14- 6-59.44	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.06	0.20	-0.31					
162	13	O: 14-19-53.90	0.30		7.04	COM:	1.2 SEC	0.1 CM	277.6687
		C: 14-19-53.81	0.29			BND:	4.7 SEC	0.6 CM	
		V=C-O: - 0- 0- 0.09	0.08	-1.08					
162	14	O: 17-27-33.00	0.30		42.79	COM:	0.1 SEC	0.0 CM	275.5734
		C: 17-27-32.95	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.05	0.20	-0.27					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	15	O:	22-48-36.60	0.30		44.51	COM:	-0.4 SEC	0.0 CM	267.1008
		C:	22-48-36.77	0.22			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.17	0.20	0.85					
162	16	O:	23-43-28.10	0.30		43.07	COM:	0.2 SEC	0.0 CM	266.0561
		C:	23-43-28.03	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.07	0.20	-0.38					
162	17	O:	26-26-29.10	0.30		36.82	COM:	1.0 SEC	0.1 CM	262.6164
		C:	26-26-28.75	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.35	0.18	-1.93					
162	18	O:	28-49- 8.60	0.30		31.04	COM:	0.8 SEC	0.1 CM	260.0562
		C:	28-49- 8.34	0.25			BND:	2.2 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.26	0.17	-1.53					
162	19	O:	34-28-19.60	0.30		21.11	COM:	0.1 SEC	0.0 CM	255.9885
		C:	34-28-19.58	0.27			BND:	2.7 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.02	0.14	-0.16					
162	163	O:	72-21-38.40	0.60		39.73	COM:	-2.1 SEC	-0.1 CM	200.4039
		C:	72-21-39.25	0.47			BND:	3.9 SEC	0.2 CM	
		V=C-O:	0- 0- 0.85	0.38	2.25					
163	162	O:	0- 0- 0.00	0.40		10.13	COM:	2.1 SEC	0.1 CM	200.4039
		C:	- 0- 0- 0.21	0.38			BND:	5.2 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.21	0.13	-1.65					
163	34	O:	52-44-37.00	0.40		16.88	COM:	-0.9 SEC	-0.1 CM	202.8583
		C:	52-44-37.16	0.36			BND:	4.0 SEC	0.3 CM	
		V=C-O:	0- 0- 0.16	0.16	0.97					
163	33	O:	53-30-23.20	0.40		27.18	COM:	0.4 SEC	0.0 CM	217.5580
		C:	53-30-23.10	0.34			BND:	3.2 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.10	0.21	-0.50					
163	35	O:	53-30-36.60	0.40		1.66	COM:	5.0 SEC	0.4 CM	177.8299
		C:	53-30-36.52	0.40			BND:	12.8 SEC	1.1 CM	
		V=C-O:	- 0- 0- 0.08	0.05	-1.62					
163	36	O:	53-38-43.90	0.40		15.92	COM:	-0.2 SEC	0.0 CM	170.9733
		C:	53-38-43.93	0.37			BND:	4.1 SEC	0.3 CM	
		V=C-O:	0- 0- 0.03	0.16	0.17					
163	37	O:	54-15-59.50	0.40		13.72	COM:	0.9 SEC	0.1 CM	157.2952
		C:	54-15-59.38	0.37			BND:	4.5 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.12	0.15	-0.83					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	38	O:	54-43- 5.20	0.40		12.12	COM:	0.5 SEC	0.0 CM	148.4080
		C:	54-43- 5.14	0.37			BND:	4.7 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.06	0.14	-0.46					
163	39	O:	56-10-44.40	0.40		8.20	COM:	-0.3 SEC	0.0 CM	123.7243
		C:	56-10-44.43	0.38			BND:	5.8 SEC	0.3 CM	
		V=C-O:	0- 0- 0.03	0.11	0.23					
163	23	O:	65-38- 1.00	0.40		27.02	COM:	-1.9 SEC	-0.2 CM	226.2664
		C:	65-38- 1.50	0.34			BND:	3.2 SEC	0.3 CM	
		V=C-O:	0- 0- 0.50	0.21	2.42					
163	24	O:	67-33-52.60	0.40		6.84	COM:	-0.8 SEC	-0.1 CM	212.4080
		C:	67-33-52.65	0.39			BND:	6.3 SEC	0.6 CM	
		V=C-O:	0- 0- 0.05	0.10	0.52					
163	25	O:	69-36-33.90	0.40		6.19	COM:	3.9 SEC	0.3 CM	189.2296
		C:	69-36-33.66	0.39			BND:	6.6 SEC	0.6 CM	
		V=C-O:	- 0- 0- 0.24	0.10	-2.41					
163	26	O:	70-10-25.20	0.40		6.03	COM:	4.0 SEC	0.3 CM	182.1983
		C:	70-10-24.96	0.39			BND:	6.7 SEC	0.6 CM	
		V=C-O:	- 0- 0- 0.24	0.10	-2.45					
163	27	O:	71-37- 8.70	0.40		6.09	COM:	0.4 SEC	0.0 CM	170.4434
		C:	71-37- 8.68	0.39			BND:	6.7 SEC	0.5 CM	
		V=C-O:	- 0- 0- 0.02	0.10	-0.25					
163	28	O:	72-44- 7.60	0.40		0.63	COM:	2.7 SEC	0.2 CM	161.1901
		C:	72-44- 7.58	0.40			BND:	20.8 SEC	1.6 CM	
		V=C-O:	- 0- 0- 0.02	0.03	-0.54					
163	29	O:	76-35-14.20	0.40		2.53	COM:	5.1 SEC	0.3 CM	137.7656
		C:	76-35-14.07	0.39			BND:	10.4 SEC	0.7 CM	
		V=C-O:	- 0- 0- 0.13	0.06	-2.05					
163	14	O:	79-27-31.90	0.60		18.44	COM:	-0.4 SEC	0.0 CM	229.3354
		C:	79-27-31.97	0.54			BND:	5.8 SEC	0.6 CM	
		V=C-O:	0- 0- 0.07	0.26	0.27					
163	15	O:	82-24- 5.00	0.60		7.89	COM:	4.0 SEC	0.4 CM	205.0591
		C:	82-24- 4.68	0.58			BND:	8.8 SEC	0.8 CM	
		V=C-O:	- 0- 0- 0.32	0.17	-1.88					
163	16	O:	82-58-51.60	0.60		8.96	COM:	-2.0 SEC	-0.2 CM	201.1912
		C:	82-58-51.78	0.57			BND:	8.3 SEC	0.7 CM	
		V=C-O:	0- 0- 0.18	0.18	1.00					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	17	O:	84-38-12.60	0.60		14.47	COM:	-2.0 SEC	-0.2 CM	189.4837
		C:	84-38-12.90	0.55			BND:	6.5 SEC	0.5 CM	
		V=C-O:	0- 0- 0.30	0.23	1.29					
163	18	O:	86-12- 2.20	0.60		19.12	COM:	-0.7 SEC	0.0 CM	179.5434
		C:	86-12- 2.32	0.54			BND:	5.7 SEC	0.4 CM	
		V=C-O:	0- 0- 0.12	0.26	0.48					
163	19	O:	90-35-29.40	0.60		23.08	COM:	-0.5 SEC	0.0 CM	157.2188
		C:	90-35-29.51	0.53			BND:	5.2 SEC	0.3 CM	
		V=C-O:	0- 0- 0.11	0.29	0.37					
163	164	O:	98- 5-15.90	0.60		62.52	COM:	-0.9 SEC	0.0 CM	280.5500
		C:	98- 5-16.49	0.37			BND:	3.1 SEC	0.0 CM	
		V=C-O:	0- 0- 0.59	0.47	1.24					
164	165	O:	0- 0- 0.00	1.00		52.68	COM:	-0.3 SEC	0.0 CM	159.9226
		C:	0- 0- 0.16	0.69			BND:	5.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.16	0.73	0.23					
164	163	O:	235- 1-12.80	1.00		75.84	COM:	-0.5 SEC	0.0 CM	280.5500
		C:	235- 1-13.20	0.49			BND:	4.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.40	0.87	0.46					
164	39	O:	258-41-48.60	0.60		74.21	COM:	0.5 SEC	0.0 CM	205.7957
		C:	258-41-48.20	0.30			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.40	0.52	-0.77					
164	38	O:	265-34-13.50	0.60		79.13	COM:	-0.6 SEC	0.0 CM	200.4994
		C:	265-34-13.99	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.49	0.53	0.91					
164	37	O:	268- 7-19.20	0.60		79.83	COM:	-0.5 SEC	0.0 CM	199.4281
		C:	268- 7-19.58	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.38	0.54	0.72					
164	36	O:	272- 5-12.80	0.60		79.89	COM:	0.2 SEC	0.0 CM	198.6159
		C:	272- 5-12.62	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.18	0.54	-0.34					
164	35	O:	274- 3-56.90	0.60		73.88	COM:	-1.1 SEC	0.0 CM	198.1373
		C:	274- 3-57.73	0.31			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.83	0.52	1.62					
164	34	O:	281-18-18.00	0.60		74.68	COM:	0.3 SEC	0.0 CM	199.6479
		C:	281-18-17.76	0.30			BND:	2.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.24	0.52	-0.47					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	33	O:	285-35- 6.20	0.60		64.75	COM:	-0.5 SEC	0.0 CM	197.7216
		C:	285-35- 6.49	0.36			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.29	0.48	0.61					
164	32	O:	286-17-59.60	0.60		60.34	COM:	-1.0 SEC	0.0 CM	198.0425
		C:	286-18- 0.22	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.62	0.47	1.32					
164	31	O:	286-57-37.60	0.60		58.95	COM:	-0.2 SEC	0.0 CM	198.9656
		C:	286-57-37.71	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.11	0.46	0.25					
164	21	O:	290-16-27.40	0.90		58.05	COM:	-0.2 SEC	0.0 CM	151.4788
		C:	290-16-27.50	0.58			BND:	4.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.10	0.69	0.14					
164	22	O:	289-19-16.50	0.90		59.96	COM:	-0.1 SEC	0.0 CM	151.6691
		C:	289-19-16.57	0.57			BND:	4.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.07	0.70	0.11					
164	23	O:	288-35-21.40	0.90		70.05	COM:	2.3 SEC	0.0 CM	150.9136
		C:	288-35-19.80	0.49			BND:	4.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.60	0.75	-2.12					
164	24	O:	282-53-28.10	0.90		60.61	COM:	0.6 SEC	0.0 CM	145.4622
		C:	282-53-27.73	0.56			BND:	4.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.37	0.70	-0.52					
164	25	O:	273-19-42.90	0.90		77.87	COM:	0.5 SEC	0.0 CM	145.5585
		C:	273-19-42.53	0.42			BND:	4.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.37	0.79	-0.47					
164	26	O:	270-31-38.10	0.90		79.69	COM:	0.3 SEC	0.0 CM	146.8599
		C:	270-31-37.86	0.41			BND:	4.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.24	0.80	-0.30					
164	27	O:	265-42-53.20	0.90		81.34	COM:	-0.7 SEC	0.0 CM	148.8231
		C:	265-42-53.75	0.39			BND:	4.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.55	0.81	0.68					
164	28	O:	262- 7- 8.40	0.90		79.80	COM:	0.5 SEC	0.0 CM	151.5169
		C:	262- 7- 7.96	0.40			BND:	4.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.44	0.80	-0.54					
164	29	O:	253-21-17.90	0.90		79.51	COM:	2.1 SEC	0.0 CM	160.5194
		C:	253-21-16.26	0.41			BND:	4.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.64	0.80	-2.05					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	19	O:	244-21-46.10	1.00		61.70	COM:	-0.3 SEC	0.0 CM	126.3509
		C:	244-21-46.30	0.62			BND:	5.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.20	0.79	0.26					
164	18	O:	254-26-54.40	1.00		64.40	COM:	0.7 SEC	0.0 CM	111.1880
		C:	254-26-53.97	0.60			BND:	5.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.43	0.80	-0.53					
164	17	O:	259-37-19.50	1.00		64.64	COM:	0.5 SEC	0.0 CM	105.8749
		C:	259-37-19.18	0.59			BND:	5.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.32	0.80	-0.40					
164	16	O:	266-17-56.40	1.00		61.94	COM:	-0.5 SEC	0.0 CM	100.9905
		C:	266-17-56.70	0.62			BND:	5.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.30	0.79	0.38					
164	15	O:	268-43-19.20	1.00		60.05	COM:	0.7 SEC	0.0 CM	99.9212
		C:	268-43-18.78	0.63			BND:	5.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.42	0.77	-0.54					
164	14	O:	284-13-21.40	1.00		39.02	COM:	0.3 SEC	0.0 CM	96.7725
		C:	284-13-21.27	0.78			BND:	6.6 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.13	0.62	-0.20					
164	13	O:	292-29-15.90	1.00		27.88	COM:	2.0 SEC	0.1 CM	101.9968
		C:	292-29-15.34	0.85			BND:	7.8 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.56	0.53	-1.07					
164	12	O:	293-32-59.50	1.00		41.98	COM:	-3.0 SEC	-0.1 CM	101.0877
		C:	293-33- 0.75	0.76			BND:	6.4 SEC	0.2 CM	
		V=C-O:	0- 0- 1.25	0.65	1.92					
164	11	O:	294-27-26.20	1.00		41.68	COM:	-1.0 SEC	0.0 CM	102.7234
		C:	294-27-26.63	0.76			BND:	6.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.43	0.65	0.66					
164	161	O:	299-56-42.90	1.00		81.71	COM:	1.6 SEC	0.0 CM	366.0414
		C:	299-56-41.58	0.43			BND:	4.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.32	0.90	-1.46					
164	1218	O:	312-17-13.60	1.00		69.18	COM:	-0.8 SEC	0.0 CM	299.6676
		C:	312-17-14.19	0.56			BND:	5.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.59	0.83	0.71					
164	162	O:	267-44-48.10	1.00		90.88	COM:	0.6 SEC	0.0 CM	367.0021
		C:	267-44-47.52	0.30			BND:	4.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.58	0.95	-0.61					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
165	162	O:	0- 0- 0.00	0.70		70.89	COM:	-0.3 SEC	0.0 CM	406.0560
		C:	0- 0- 0.23	0.38			BND:	3.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.23	0.59	0.38					
165	12	O:	333-12-47.40	0.70		24.74	COM:	-0.6 SEC	0.0 CM	151.2464
		C:	333-12-47.54	0.61			BND:	5.8 SEC	0.3 CM	
		V=C-O:	0- 0- 0.14	0.35	0.40					
165	11	O:	333-57-59.00	0.70		25.62	COM:	-0.5 SEC	0.0 CM	150.0820
		C:	333-57-59.13	0.60			BND:	5.7 SEC	0.3 CM	
		V=C-O:	0- 0- 0.13	0.35	0.35					
165	23	O:	347-24-49.60	0.70		67.94	COM:	0.9 SEC	0.0 CM	181.5578
		C:	347-24-48.96	0.40			BND:	3.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.64	0.58	-1.11					
165	22	O:	347-56-58.10	0.70		51.36	COM:	-1.8 SEC	-0.1 CM	180.3561
		C:	347-56-59.04	0.49			BND:	4.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.94	0.50	1.87					
165	21	O:	348-20-11.70	0.70		51.50	COM:	-0.2 SEC	0.0 CM	178.1363
		C:	348-20-11.82	0.49			BND:	4.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.12	0.50	0.23					
165	33	O:	356- 8-45.70	0.70		76.63	COM:	1.1 SEC	0.0 CM	218.3537
		C:	356- 8-44.86	0.34			BND:	3.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.84	0.61	-1.37					
165	32	O:	356-39-55.80	0.70		73.85	COM:	-0.1 SEC	0.0 CM	216.8359
		C:	356-39-55.86	0.36			BND:	3.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.06	0.60	0.11					
165	31	O:	357-15-59.00	0.70		74.04	COM:	-0.2 SEC	0.0 CM	215.8670
		C:	357-15-59.12	0.36			BND:	3.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.12	0.60	0.20					
165	161	O:	29-32-20.10	0.70		55.00	COM:	1.0 SEC	0.0 CM	317.9951
		C:	29-32-19.55	0.47			BND:	3.9 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.55	0.52	-1.06					
165	164	O:	295-25-42.80	0.70		31.64	COM:	1.0 SEC	0.0 CM	159.9226
		C:	295-25-42.48	0.58			BND:	5.1 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.32	0.39	-0.80					
165	1218	O:	36- 4-59.80	0.70		40.62	COM:	-1.5 SEC	-0.1 CM	225.5778
		C:	36- 5- 0.41	0.54			BND:	4.5 SEC	0.3 CM	
		V=C-O:	0- 0- 0.61	0.45	1.38					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1663	164	O:	0- 0- 0.00	1.00		85.66	COM:	-1.7 SEC	0.0 CM	273.8652
		C:	0- 0- 1.43	0.38			BND:	4.5 SEC	0.0 CM	
		V=C-O:	0- 0- 1.43	0.93	1.55					
1663	31	O:	346- 7-54.80	1.00		50.21	COM:	1.4 SEC	0.0 CM	78.0568
		C:	346- 7-54.09	0.71			BND:	5.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.71	0.71	-1.01					
1663	32	O:	347-56-10.50	1.00		50.70	COM:	-2.0 SEC	0.0 CM	78.2263
		C:	347-56-11.50	0.70			BND:	5.8 SEC	0.1 CM	
		V=C-O:	0- 0- 1.00	0.71	1.41					
1663	34	O:	0-41-55.50	1.00		45.52	COM:	-0.9 SEC	0.0 CM	74.2249
		C:	0-41-55.92	0.74			BND:	6.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.42	0.67	0.62					
1663	36	O:	22-45-31.70	1.00		52.60	COM:	-0.1 SEC	0.0 CM	84.5427
		C:	22-45-31.77	0.69			BND:	5.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.07	0.73	0.10					
1663	37	O:	30- 7-27.30	1.00		57.29	COM:	1.1 SEC	0.0 CM	92.3767
		C:	30- 7-26.68	0.65			BND:	5.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.62	0.76	-0.81					
1663	38	O:	34-15-15.10	1.00		60.26	COM:	0.7 SEC	0.0 CM	98.1511
		C:	34-15-14.66	0.63			BND:	5.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.44	0.78	-0.57					
1663	39	O:	43-30-38.00	1.00		66.72	COM:	-0.8 SEC	0.0 CM	116.1590
		C:	43-30-38.51	0.58			BND:	5.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.51	0.82	0.63					
1663	27	O:	17-16-31.30	1.00		71.06	COM:	0.4 SEC	0.0 CM	136.8744
		C:	17-16-31.01	0.54			BND:	4.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.29	0.84	-0.34					
1663	26	O:	12-13-49.00	1.00		70.62	COM:	2.9 SEC	0.1 CM	132.7339
		C:	12-13-46.95	0.54			BND:	4.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 2.05	0.84	-2.44					
1663	25	O:	9- 7-36.20	1.00		70.66	COM:	3.0 SEC	0.1 CM	131.4721
		C:	9- 7-34.09	0.54			BND:	4.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 2.11	0.84	-2.51					
1663	23	O:	351-32-25.80	1.00		73.68	COM:	-1.5 SEC	0.0 CM	125.4492
		C:	351-32-26.88	0.51			BND:	4.8 SEC	0.1 CM	
		V=C-O:	0- 0- 1.08	0.86	1.26					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY, INTERNAL	RELIABILITY, EXTERNAL	HORIZONTAL DISTANCE (METERS)
1663	22	O:	350-35-44.10	1.00		72.38	COM:	0.8 SEC	0.0 CM	125.2677
		C:	350-35-43.50	0.53			BND:	4.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.60	0.85	-0.70					
1663	21	O:	349-31-53.20	1.00		72.89	COM:	2.2 SEC	0.0 CM	126.2348
		C:	349-31-51.59	0.52			BND:	4.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.61	0.85	-1.89					
1663	11	O:	352-29- 3.70	1.00		82.53	COM:	-1.7 SEC	0.0 CM	175.2369
		C:	352-29- 5.14	0.42			BND:	4.5 SEC	0.0 CM	
		V=C-O:	0- 0- 1.44	0.91	1.59					
1663	12	O:	353- 9-31.50	1.00		82.71	COM:	-2.5 SEC	0.0 CM	176.2360
		C:	353- 9-33.58	0.42			BND:	4.5 SEC	0.0 CM	
		V=C-O:	0- 0- 2.08	0.91	2.29					
1663	13	O:	353-39- 6.30	1.00		82.27	COM:	-0.6 SEC	0.0 CM	174.7882
		C:	353-39- 6.83	0.42			BND:	4.6 SEC	0.0 CM	
		V=C-O:	0- 0- 0.53	0.91	0.59					
1663	14	O:	358-32-58.60	1.00		80.73	COM:	-0.1 SEC	0.0 CM	177.2536
		C:	358-32-58.66	0.44			BND:	4.6 SEC	0.0 CM	
		V=C-O:	0- 0- 0.06	0.90	0.07					
1663	15	O:	7-10-31.00	1.00		72.69	COM:	2.2 SEC	0.0 CM	177.8360
		C:	7-10-29.39	0.52			BND:	4.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.61	0.85	-1.89					
1663	16	O:	8-34-13.50	1.00		71.32	COM:	-1.2 SEC	0.0 CM	178.4304
		C:	8-34-14.34	0.54			BND:	4.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.84	0.84	0.99					
1663	17	O:	12-41-33.30	1.00		68.57	COM:	-2.6 SEC	-0.1 CM	180.0602
		C:	12-41-35.07	0.56			BND:	5.0 SEC	0.1 CM	
		V=C-O:	0- 0- 1.77	0.83	2.14					
1663	18	O:	16- 9-35.00	1.00		67.79	COM:	-1.8 SEC	0.0 CM	182.0931
		C:	16- 9-36.21	0.57			BND:	5.0 SEC	0.1 CM	
		V=C-O:	0- 0- 1.21	0.82	1.47					
1663	19	O:	23-47-54.50	1.00		68.54	COM:	-0.3 SEC	0.0 CM	189.3228
		C:	23-47-54.74	0.56			BND:	5.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.24	0.83	0.29					
1663	163	O:	68-20- 3.30	1.00		62.74	COM:	0.8 SEC	0.0 CM	219.1348
		C:	68-20- 2.79	0.61			BND:	5.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.51	0.79	-0.64					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1663	161	O: 237-30-38.50	1.00		24.56	COM:	1.4 SEC	0.1 CM	136.8380
		C: 237-30-38.16	0.87			BND:	8.3 SEC	0.4 CM	
		V=C-O: - 0- 0- 0.34	0.50	-0.68					
1663	165	O: 327- 3-35.20	1.00		73.94	COM:	1.6 SEC	0.0 CM	288.1270
		C: 327- 3-34.02	0.51			BND:	4.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 1.18	0.86	-1.37					
1663	1218	O: 276- 3-41.80	1.00		12.78	COM:	5.0 SEC	0.3 CM	153.9558
		C: 276- 3-41.16	0.93			BND:	11.6 SEC	0.7 CM	
		V=C-O: - 0- 0- 0.64	0.36	-1.79					

4.2 ANALYSIS OF AZIMUTH OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1663	164	O:	0- 0- 0.00	0.00		0.00	COM: NOT		273.8652
		C:	0- 0- 0.00	0.00			BND: CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00				

4.3 ANALYSIS OF HORIZONTAL DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	165	O:	159.92160	0.25		80.06	COM:	-0.1 CM	0.0 CM	159.9226
		C:	159.92258	0.11			BND:	1.1 CM	0.2 CM	
		V=C-O:	0.00098	0.22	0.44					
164	163	O:	280.54670	0.28		61.00	COM:	-0.5 CM	-0.2 CM	280.5500
		C:	280.55005	0.18			BND:	1.5 CM	0.6 CM	
		V=C-O:	0.00335	0.22	1.51					
164	161	O:	366.04510	0.31		47.12	COM:	0.8 CM	0.4 CM	366.0414
		C:	366.04139	0.23			BND:	1.9 CM	1.0 CM	
		V=C-O:	-0.00371	0.21	-1.75					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1172	LTH: 0.15 CM	0.04 CM	0.37 CM	0.10 CM	EAST.:	0.05 CM
		NORT.:	10173.6877	AZI: 173- 6-40	263- 6-40			NORT.:	0.15 CM
		ELEV.:	1000.2730 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3652
12	FREE	EAST.:	9979.0451	LTH: 0.15 CM	0.04 CM	0.37 CM	0.10 CM	EAST.:	0.04 CM
		NORT.:	10174.9374	AZI: 173-41-38	263-41-38			NORT.:	0.15 CM
		ELEV.:	1000.3150 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3421
1218	FREE	EAST.:	9846.9425	LTH: 0.14 CM	0.09 CM	0.33 CM	0.21 CM	EAST.:	0.13 CM
		NORT.:	10016.2121	AZI: 99-14-48	189-14-48			NORT.:	0.09 CM
		ELEV.:	1015.0000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1449
13	FREE	EAST.:	9980.7103	LTH: 0.18 CM	0.04 CM	0.44 CM	0.10 CM	EAST.:	0.04 CM
		NORT.:	10173.6725	AZI: 175- 8-51	265- 8-51			NORT.:	0.18 CM
		ELEV.:	1000.1030 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3236
14	FREE	EAST.:	9995.5499	LTH: 0.16 CM	0.04 CM	0.39 CM	0.11 CM	EAST.:	0.04 CM
		NORT.:	10177.1530	AZI: 176-15-53	266-15-53			NORT.:	0.16 CM
		ELEV.:	992.5700 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2173
15	FREE	EAST.:	10022.2476	LTH: 0.16 CM	0.05 CM	0.40 CM	0.13 CM	EAST.:	0.05 CM
		NORT.:	10176.3998	AZI: 179-59-14	269-59-14			NORT.:	0.16 CM
		ELEV.:	977.7050 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.0006
16	FREE	EAST.:	10026.6277	LTH: 0.16 CM	0.05 CM	0.40 CM	0.13 CM	EAST.:	0.05 CM
		NORT.:	10176.3942	AZI: 180-53-38	270-53-38			NORT.:	0.16 CM
		ELEV.:	975.1380 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0414
161	FREE	EAST.:	9884.6165	LTH: 0.14 CM	0.07 CM	0.35 CM	0.17 CM	EAST.:	0.12 CM
		NORT.:	9926.4538	AZI: 235- 3-35	325- 3-35			NORT.:	0.10 CM
		ELEV.:	1001.4850 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.6082
162	FREE	EAST.:	10087.6923	LTH: 0.12 CM	0.07 CM	0.28 CM	0.18 CM	EAST.:	0.10 CM
		NORT.:	9917.4407	AZI: 131-48-26	221-48-26			NORT.:	0.10 CM
		ELEV.:	1014.9810 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4181
163	FREE	EAST.:	10203.6906	LTH: 0.18 CM	0.07 CM	0.44 CM	0.16 CM	EAST.:	0.16 CM
		NORT.:	10080.8608	AZI: 243- 2-28	333- 2-28			NORT.:	0.10 CM
		ELEV.:	925.3040 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.6808
164	FREE	EAST.:	10000.0376	LTH: 0.20 CM	0.00 CM	0.49 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8214	AZI: 180- 0- 0	270- 0- 0			NORT.:	0.20 CM
		ELEV.:	1006.4650 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3615	LTH: 0.21 CM	0.08 CM	0.52 CM	0.19 CM	EAST.:	0.13 CM
		NORT.:	10241.7614	AZI: 149-50-37	239-50-37			NORT.:	0.19 CM
		ELEV.:	1009.7800 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.7116

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
1663	FIXED	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.6007		LTH: 0.16 CM	0.06 CM	0.39 CM	0.14 CM	EAST.:	0.06 CM
		NORT.:	10175.6162		AZI: 184-28-47	274-28-47			NORT.:	0.16 CM
		ELEV.:	966.8130	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.1798
18	FREE	EAST.:	10050.7168		LTH: 0.16 CM	0.06 CM	0.38 CM	0.15 CM	EAST.:	0.06 CM
		NORT.:	10174.8548		AZI: 188-21-45	278-21-45			NORT.:	0.15 CM
		ELEV.:	960.3930	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2993
19	FREE	EAST.:	10076.4323		LTH: 0.16 CM	0.06 CM	0.38 CM	0.15 CM	EAST.:	0.08 CM
		NORT.:	10173.1814		AZI: 198- 3-45	288- 3-45			NORT.:	0.15 CM
		ELEV.:	946.7430	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.5166
21	FREE	EAST.:	9977.0994		LTH: 0.13 CM	0.04 CM	0.33 CM	0.10 CM	EAST.:	0.05 CM
		NORT.:	10124.0894		AZI: 168-18-35	258-18-35			NORT.:	0.13 CM
		ELEV.:	1000.1760	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4962
22	FREE	EAST.:	9979.5674		LTH: 0.13 CM	0.04 CM	0.33 CM	0.10 CM	EAST.:	0.05 CM
		NORT.:	10123.5400		AZI: 168-58-29	258-58-29			NORT.:	0.13 CM
		ELEV.:	1000.3040	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4757
23	FREE	EAST.:	9981.5825		LTH: 0.11 CM	0.04 CM	0.28 CM	0.10 CM	EAST.:	0.05 CM
		NORT.:	10124.0405		AZI: 170-51-42	260-51-42			NORT.:	0.11 CM
		ELEV.:	1000.1480	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3399
24	FREE	EAST.:	9996.6704		LTH: 0.12 CM	0.05 CM	0.28 CM	0.12 CM	EAST.:	0.05 CM
		NORT.:	10128.3981		AZI: 174-13-34	264-13-34			NORT.:	0.12 CM
		ELEV.:	990.2490	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1871
25	FREE	EAST.:	10020.8893		LTH: 0.11 CM	0.05 CM	0.28 CM	0.11 CM	EAST.:	0.05 CM
		NORT.:	10129.7642		AZI: 185-28-12	275-28-12			NORT.:	0.11 CM
		ELEV.:	978.1230	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.1936
26	FREE	EAST.:	10028.1539		LTH: 0.11 CM	0.05 CM	0.28 CM	0.11 CM	EAST.:	0.05 CM
		NORT.:	10129.6781		AZI: 188-36- 5	278-36- 5			NORT.:	0.11 CM
		ELEV.:	973.9620	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2898
27	FREE	EAST.:	10040.6833		LTH: 0.12 CM	0.05 CM	0.28 CM	0.12 CM	EAST.:	0.05 CM
		NORT.:	10130.6563		AZI: 193-52-17	283-52-17			NORT.:	0.11 CM
		ELEV.:	965.8000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4261
28	FREE	EAST.:	10050.4796		LTH: 0.12 CM	0.05 CM	0.29 CM	0.13 CM	EAST.:	0.06 CM
		NORT.:	10130.9475		AZI: 196-15-25	286-15-25			NORT.:	0.12 CM
		ELEV.:	960.5700	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4271

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
29	FREE	EAST.:	10075.9160	LTH: 0.13 CM	0.06 CM	0.31 CM	0.14 CM	EAST.: 0.07 CM
		NORT.:	10132.3685	AZI: 206-18- 1	296-18- 1			NORT.: 0.12 CM
		ELEV.:	946.6670 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.5897
31	FREE	EAST.:	9981.3276	LTH: 0.11 CM	0.04 CM	0.26 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10075.7375	AZI: 166-53-34	256-53-34			NORT.: 0.10 CM
		ELEV.:	1000.3780 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.4966
32	FREE	EAST.:	9983.6881	LTH: 0.11 CM	0.04 CM	0.26 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10076.4549	AZI: 168- 4-37	258- 4-37			NORT.: 0.10 CM
		ELEV.:	1000.3840 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.4678
33	FREE	EAST.:	9986.1746	LTH: 0.08 CM	0.04 CM	0.21 CM	0.11 CM	EAST.: 0.05 CM
		NORT.:	10076.5864	AZI: 171- 3-11	261- 3-11			NORT.: 0.08 CM
		ELEV.:	1000.0010 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.2016
34	FREE	EAST.:	10000.9424	LTH: 0.08 CM	0.04 CM	0.20 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10074.1756	AZI: 179- 3-25	269- 3-25			NORT.: 0.08 CM
		ELEV.:	992.0120 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.0298
35	FREE	EAST.:	10025.8948	LTH: 0.08 CM	0.05 CM	0.20 CM	0.12 CM	EAST.: 0.05 CM
		NORT.:	10077.3785	AZI: 191-11-56	281-11-56			NORT.: 0.08 CM
		ELEV.:	977.7070 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.2098
36	FREE	EAST.:	10032.7426	LTH: 0.08 CM	0.04 CM	0.20 CM	0.10 CM	EAST.: 0.05 CM
		NORT.:	10077.9167	AZI: 200-27-36	290-27-36			NORT.: 0.08 CM
		ELEV.:	973.8690 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.4802
37	FREE	EAST.:	10046.3985	LTH: 0.09 CM	0.04 CM	0.21 CM	0.10 CM	EAST.: 0.05 CM
		NORT.:	10079.8569	AZI: 207-58-34	297-58-34			NORT.: 0.08 CM
		ELEV.:	965.3180 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.5773
38	FREE	EAST.:	10055.2827	LTH: 0.09 CM	0.04 CM	0.22 CM	0.10 CM	EAST.: 0.06 CM
		NORT.:	10081.0833	AZI: 212-12-15	302-12-15			NORT.: 0.08 CM
		ELEV.:	960.5840 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.6214
39	FREE	EAST.:	10080.0113	LTH: 0.10 CM	0.04 CM	0.25 CM	0.10 CM	EAST.: 0.08 CM
		NORT.:	10084.2006	AZI: 221-33-23	311-33-23			NORT.: 0.08 CM
		ELEV.:	946.8710 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.7007

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1218	LTH: 97.3442 M AZI: 112-46- 8	0.13 CM 156-54-40	0.06 CM 246-54-40	0.31 CM	0.15 CM	13.5150	0.00	HOR.: 1 / 39620 VER.:
161	1663	LTH: 136.8380 M AZI: 32-29-23	0.14 CM 235- 3-35	0.07 CM 325- 3-35	0.35 CM	0.17 CM	-1.4850	0.00	HOR.: 1 / 41506 VER.:
1218	1663	LTH: 153.9558 M AZI: 353-56-20	0.14 CM 99-14-48	0.09 CM 189-14-48	0.33 CM	0.21 CM	-15.0000	0.00	HOR.: 1 / 68960 VER.:
161	162	LTH: 203.2757 M AZI: 357-27-31	0.17 CM 91-54-13	0.11 CM 181-54-13	0.42 CM	0.27 CM	13.4960	0.00	HOR.: 1 / 75229 VER.:
162	1663	LTH: 120.3834 M AZI: 136-43-47	0.12 CM 131-48-26	0.07 CM 221-48-26	0.28 CM	0.18 CM	-14.9810	0.00	HOR.: 1 / 42366 VER.:
1218	31	LTH: 146.9783 M AZI: 23-53-26	0.13 CM 232-34-13	0.13 CM 322-34-13	0.31 CM	0.31 CM	-14.6220	0.00	HOR.: 1 / 47605 VER.:
31	1663	LTH: 78.0568 M AZI: 283-52- 7	0.11 CM 166-53-34	0.04 CM 256-53-34	0.26 CM	0.09 CM	-0.3780	0.00	HOR.: 1 / 55035 VER.:
162	39	LTH: 166.9367 M AZI: 92-38-13	0.14 CM 175-22- 1	0.05 CM 265-22- 1	0.35 CM	0.13 CM	-68.1100	0.00	HOR.: 1 / 119958 VER.:
39	1663	LTH: 116.1590 M AZI: 226-29-22	0.10 CM 221-33-23	0.04 CM 311-33-23	0.25 CM	0.10 CM	53.1290	0.00	HOR.: 1 / 46366 VER.:
1218	21	LTH: 169.0514 M AZI: 39-39-10	0.15 CM 200-50-16	0.12 CM 290-50-16	0.37 CM	0.30 CM	-14.8240	0.00	HOR.: 1 / 46952 VER.:
21	31	LTH: 48.5365 M AZI: 274-59-50	0.11 CM 160-44-26	0.04 CM 250-44-26	0.28 CM	0.10 CM	0.2020	0.00	HOR.: 1 / 33737 VER.:
31	34	LTH: 19.6770 M AZI: 355-26-50	0.09 CM 157-14- 0	0.04 CM 247-14- 0	0.22 CM	0.09 CM	-8.3660	0.00	HOR.: 1 / 9506 VER.:
34	1663	LTH: 74.2249 M AZI: 269-18- 5	0.08 CM 179- 3-25	0.04 CM 269- 3-25	0.20 CM	0.09 CM	7.9880	0.00	HOR.: 1 / 82541 VER.:
162	163	LTH: 200.4039 M AZI: 54-37-56	0.17 CM 207-33-22	0.07 CM 297-33-22	0.42 CM	0.17 CM	-89.6770	0.00	HOR.: 1 / 52018 VER.:
163	39	LTH: 123.7243 M AZI: 178-27-11	0.10 CM 265-36- 0	0.05 CM 355-36- 0	0.25 CM	0.13 CM	21.5670	0.00	HOR.: 1 / 95005 VER.:
38	39	LTH: 24.9243 M AZI: 7-11- 5	0.04 CM 160-14-24	0.04 CM 250-14-24	0.10 CM	0.10 CM	-13.7130	0.00	HOR.: 1 / 24432 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
38	1663	LTH:	98.1511 M	0.09 CM	0.04 CM	0.22 CM	0.10 CM	39.4160	0.00	HOR.: 1 / 47352
		AZI:	235-44-46	212-12-15	302-12-15					VER.:
165	1218	LTH:	225.5778 M	0.19 CM	0.10 CM	0.47 CM	0.25 CM	5.2200	0.00	HOR.: 1 / 89229
		AZI:	270-54-34	182-43- 4	272-43- 4					VER.:
165	21	LTH:	178.1363 M	0.15 CM	0.08 CM	0.38 CM	0.19 CM	-9.6040	0.00	HOR.: 1 / 47001
		AZI:	318-39-23	138-43-23	228-43-23					VER.:
21	22	LTH:	2.5284 M	0.11 CM	0.04 CM	0.28 CM	0.10 CM	0.1280	0.00	HOR.: 1 / 911
		AZI:	347-27- 2	159- 5-49	249- 5-49					VER.:
22	31	LTH:	47.8350 M	0.11 CM	0.04 CM	0.27 CM	0.10 CM	0.0740	0.00	HOR.: 1 / 35562
		AZI:	272- 6-31	161- 8-13	251- 8-13					VER.:
31	33	LTH:	4.9208 M	0.09 CM	0.04 CM	0.21 CM	0.09 CM	-0.3770	0.00	HOR.: 1 / 2734
		AZI:	9-56- 4	154-41-48	244-41-48					VER.:
33	34	LTH:	14.9634 M	0.06 CM	0.04 CM	0.16 CM	0.09 CM	-7.9890	0.00	HOR.: 1 / 10068
		AZI:	350-43-42	149-13-16	239-13-16					VER.:
34	35	LTH:	25.1571 M	0.06 CM	0.04 CM	0.15 CM	0.10 CM	-14.3050	0.00	HOR.: 1 / 18500
		AZI:	7-18-52	150-33-53	240-33-53					VER.:
35	1663	LTH:	81.6260 M	0.08 CM	0.05 CM	0.20 CM	0.12 CM	22.2930	0.00	HOR.: 1 / 56239
		AZI:	251-31-54	191-11-56	281-11-56					VER.:
163	29	LTH:	137.7656 M	0.12 CM	0.06 CM	0.29 CM	0.15 CM	21.3630	0.00	HOR.: 1 / 60787
		AZI:	158- 2-41	111-55-58	201-55-58					VER.:
29	39	LTH:	48.3417 M	0.06 CM	0.04 CM	0.15 CM	0.10 CM	0.2040	0.00	HOR.: 1 / 41282
		AZI:	274-51-34	154-58-10	244-58-10					VER.:
28	38	LTH:	50.0949 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	0.0140	0.00	HOR.: 1 / 41488
		AZI:	275-30- 6	157- 9-33	247- 9-33					VER.:
28	39	LTH:	55.2937 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-13.6990	0.00	HOR.: 1 / 33622
		AZI:	302-16-55	144-58-23	234-58-23					VER.:
37	38	LTH:	8.9684 M	0.05 CM	0.04 CM	0.11 CM	0.09 CM	-4.7340	0.00	HOR.: 1 / 8264
		AZI:	7-51-35	166- 7-21	256- 7-21					VER.:
37	1663	LTH:	92.3767 M	0.09 CM	0.04 CM	0.21 CM	0.10 CM	34.6820	0.00	HOR.: 1 / 48967
		AZI:	239-52-34	207-58-34	297-58-34					VER.:
165	11	LTH:	150.0820 M	0.13 CM	0.07 CM	0.31 CM	0.18 CM	-9.5070	0.00	HOR.: 1 / 53717
		AZI:	333- 1-35	120- 9- 1	210- 9- 1					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
11	21	LTH:	49.5983 M	0.11 CM	0.05 CM	0.27 CM	0.11 CM	-0.0970	0.00	HOR.: 1 / 37040
		AZI:	269-58-46	162-37-50	252-37-50					VER.:
21	23	LTH:	4.4834 M	0.10 CM	0.04 CM	0.24 CM	0.10 CM	-0.0280	0.00	HOR.: 1 / 1962
		AZI:	359-22-31	157-15-20	247-15-20					VER.:
22	23	LTH:	2.0763 M	0.10 CM	0.04 CM	0.24 CM	0.10 CM	-0.1560	0.00	HOR.: 1 / 1012
		AZI:	13-56-52	157-35- 2	247-35- 2					VER.:
22	32	LTH:	47.2651 M	0.11 CM	0.04 CM	0.28 CM	0.10 CM	0.0800	0.00	HOR.: 1 / 33193
		AZI:	275- 0- 5	161- 8-29	251- 8-29					VER.:
31	32	LTH:	2.4672 M	0.10 CM	0.03 CM	0.24 CM	0.08 CM	0.0060	0.00	HOR.: 1 / 1276
		AZI:	16-54-19	158-27-22	248-27-22					VER.:
32	33	LTH:	2.4899 M	0.09 CM	0.04 CM	0.21 CM	0.09 CM	-0.3830	0.00	HOR.: 1 / 1297
		AZI:	3- 1-38	155-19-33	245-19-33					VER.:
24	33	LTH:	52.8641 M	0.08 CM	0.05 CM	0.20 CM	0.12 CM	9.7520	0.00	HOR.: 1 / 41813
		AZI:	258-32-53	155-54- 7	245-54- 7					VER.:
24	34	LTH:	54.3906 M	0.08 CM	0.04 CM	0.20 CM	0.11 CM	1.7630	0.00	HOR.: 1 / 40831
		AZI:	274-30-17	157- 1-50	247- 1-50					VER.:
24	35	LTH:	58.7968 M	0.09 CM	0.04 CM	0.21 CM	0.11 CM	-12.5420	0.00	HOR.: 1 / 30523
		AZI:	299-48-15	147-36-43	237-36-43					VER.:
35	36	LTH:	6.8690 M	0.06 CM	0.04 CM	0.14 CM	0.09 CM	-3.8380	0.00	HOR.: 1 / 5379
		AZI:	4-29-38	154- 7- 8	244- 7- 8					VER.:
36	1663	LTH:	84.5427 M	0.08 CM	0.04 CM	0.20 CM	0.10 CM	26.1310	0.00	HOR.: 1 / 54135
		AZI:	247-14-29	200-27-36	290-27-36					VER.:
163	19	LTH:	157.2188 M	0.14 CM	0.08 CM	0.34 CM	0.18 CM	21.4390	0.00	HOR.: 1 / 47001
		AZI:	144- 2-26	132- 3- 3	222- 3- 3					VER.:
19	29	LTH:	40.8162 M	0.09 CM	0.05 CM	0.21 CM	0.11 CM	-0.0760	0.00	HOR.: 1 / 31040
		AZI:	269-16-30	156-51-24	246-51-24					VER.:
28	29	LTH:	25.4761 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-13.9030	0.00	HOR.: 1 / 18522
		AZI:	3-11-51	137-22-55	227-22-55					VER.:
28	37	LTH:	51.2534 M	0.07 CM	0.04 CM	0.17 CM	0.11 CM	4.7480	0.00	HOR.: 1 / 46060
		AZI:	265-25-58	161-31-46	251-31-46					VER.:
36	37	LTH:	13.7930 M	0.05 CM	0.04 CM	0.12 CM	0.09 CM	-8.5510	0.00	HOR.: 1 / 12022
		AZI:	8- 5- 9	165- 4-35	255- 4-35					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
164	165	LTH:	159.9226 M	0.13 CM	0.07 CM	0.32 CM	0.16 CM	3.3150	0.00	HOR.: 1 / 78178
		AZI:	191-33-52	253-42-12	343-42-12					VER.:
164	11	LTH:	102.7234 M	0.10 CM	0.05 CM	0.24 CM	0.11 CM	-6.1920	0.00	HOR.: 1 / 82366
		AZI:	257- 6-25	182- 0- 7	272- 0- 7					VER.:
11	13	LTH:	3.5931 M	0.13 CM	0.05 CM	0.33 CM	0.12 CM	-0.1700	0.00	HOR.: 1 / 1104
		AZI:	359-45-27	171-19-18	261-19-18					VER.:
13	21	LTH:	49.7144 M	0.15 CM	0.05 CM	0.36 CM	0.12 CM	0.0730	0.00	HOR.: 1 / 39515
		AZI:	265-50- 5	170- 3-18	260- 3-18					VER.:
13	23	LTH:	49.6397 M	0.13 CM	0.05 CM	0.33 CM	0.12 CM	0.0450	0.00	HOR.: 1 / 38548
		AZI:	271- 0-24	171-20-34	261-20-34					VER.:
22	33	LTH:	47.4162 M	0.10 CM	0.04 CM	0.25 CM	0.11 CM	-0.3030	0.00	HOR.: 1 / 31261
		AZI:	278- 0-35	159-19-18	249-19-18					VER.:
23	33	LTH:	47.6758 M	0.07 CM	0.04 CM	0.18 CM	0.10 CM	-0.1470	0.00	HOR.: 1 / 36537
		AZI:	275-31-37	154- 1-45	244- 1-45					VER.:
23	24	LTH:	15.7045 M	0.08 CM	0.04 CM	0.19 CM	0.11 CM	-9.8990	0.00	HOR.: 1 / 10442
		AZI:	16- 6-34	146-36-13	236-36-13					VER.:
24	25	LTH:	24.2574 M	0.08 CM	0.05 CM	0.19 CM	0.11 CM	-12.1260	0.00	HOR.: 1 / 14382
		AZI:	3-13-41	146-36-16	236-36-16					VER.:
25	35	LTH:	52.6243 M	0.08 CM	0.04 CM	0.19 CM	0.10 CM	-0.4160	0.00	HOR.: 1 / 41420
		AZI:	275-27-29	157-53-51	247-53-51					VER.:
26	35	LTH:	52.3483 M	0.08 CM	0.04 CM	0.18 CM	0.11 CM	3.7450	0.00	HOR.: 1 / 45213
		AZI:	267-31-35	160-22-49	250-22-49					VER.:
26	36	LTH:	51.9643 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-0.0930	0.00	HOR.: 1 / 46328
		AZI:	275- 3-57	163- 6-33	253- 6-33					VER.:
163	164	LTH:	280.5500 M	0.21 CM	0.09 CM	0.51 CM	0.21 CM	81.1610	0.00	HOR.: 1 / 55355
		AZI:	136-32-39	133- 8- 0	223- 8- 0					VER.:
164	19	LTH:	126.3509 M	0.12 CM	0.05 CM	0.30 CM	0.12 CM	-59.7220	0.00	HOR.: 1 / 44755
		AZI:	307-12- 6	148-10-40	238-10-40					VER.:
18	19	LTH:	25.7699 M	0.10 CM	0.05 CM	0.26 CM	0.12 CM	-13.6500	0.00	HOR.: 1 / 10482
		AZI:	356-16-36	157-39-56	247-39-56					VER.:
18	29	LTH:	49.3972 M	0.10 CM	0.05 CM	0.24 CM	0.11 CM	-13.7260	0.00	HOR.: 1 / 23654
		AZI:	300-40-21	154- 6- 2	244- 6- 2					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
18	28	LTH:	43.9080 M	0.10 CM	0.05 CM	0.24 CM	0.11 CM	0.1770	0.00	HOR.: 1 / 31834
		AZI:	269-41-25	157-56-36	247-56-36					VER.:
27	28	LTH:	9.8007 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-5.2300	0.00	HOR.: 1 / 6734
		AZI:	1-42- 8	145-21-38	235-21-38					VER.:
27	37	LTH:	51.1200 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-0.4820	0.00	HOR.: 1 / 45356
		AZI:	276-25- 8	162-17- 4	252-17- 4					VER.:
26	37	LTH:	53.0568 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-8.6440	0.00	HOR.: 1 / 38264
		AZI:	290- 6-46	156-47-20	246-47-20					VER.:
164	12	LTH:	101.0877 M	0.10 CM	0.04 CM	0.24 CM	0.11 CM	-6.1500	0.00	HOR.: 1 / 83722
		AZI:	258- 0-51	181-23-31	271-23-31					VER.:
11	12	LTH:	2.2976 M	0.09 CM	0.05 CM	0.22 CM	0.11 CM	0.0420	0.00	HOR.: 1 / 1406
		AZI:	32-57- 6	162-20-50	252-20-50					VER.:
12	13	LTH:	2.0911 M	0.13 CM	0.05 CM	0.33 CM	0.12 CM	-0.2120	0.00	HOR.: 1 / 711
		AZI:	322-46-41	171-26-11	261-26-11					VER.:
13	24	LTH:	48.0051 M	0.14 CM	0.05 CM	0.35 CM	0.13 CM	-9.8540	0.00	HOR.: 1 / 22901
		AZI:	289-25- 6	168-25-58	258-25-58					VER.:
14	24	LTH:	48.7677 M	0.11 CM	0.05 CM	0.27 CM	0.12 CM	-2.3210	0.00	HOR.: 1 / 33446
		AZI:	271-18-59	162- 1-11	252- 1-11					VER.:
14	25	LTH:	53.7381 M	0.11 CM	0.05 CM	0.26 CM	0.11 CM	-14.4470	0.00	HOR.: 1 / 25883
		AZI:	298- 8- 2	161-19- 3	251-19- 3					VER.:
25	26	LTH:	7.2652 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-4.1610	0.00	HOR.: 1 / 4608
		AZI:	359-19-15	151-33-30	241-33-30					VER.:
164	18	LTH:	111.1880 M	0.12 CM	0.04 CM	0.30 CM	0.11 CM	-46.0720	0.00	HOR.: 1 / 45622
		AZI:	297- 6-58	155-42-22	245-42-22					VER.:
18	27	LTH:	45.3230 M	0.10 CM	0.05 CM	0.23 CM	0.12 CM	5.4070	0.00	HOR.: 1 / 38543
		AZI:	257-12-36	161- 3-23	251- 3-23					VER.:
26	27	LTH:	12.5675 M	0.07 CM	0.04 CM	0.16 CM	0.10 CM	-8.1620	0.00	HOR.: 1 / 8583
		AZI:	4-27-51	150-16-45	240-16-45					VER.:
164	14	LTH:	96.7725 M	0.12 CM	0.04 CM	0.28 CM	0.10 CM	-13.8950	0.00	HOR.: 1 / 90943
		AZI:	267-20-31	172-46-14	262-46-14					VER.:
12	14	LTH:	16.6528 M	0.12 CM	0.05 CM	0.28 CM	0.12 CM	-7.7450	0.00	HOR.: 1 / 6272
		AZI:	7-38-43	165-51-18	255-51-18					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
13	14	LTH:	15.2423 M	0.15 CM	0.05 CM	0.37 CM	0.12 CM	-7.5330	0.00	HOR.: 1 / 4451
		AZI:	13-11-58	170-36- 5	260-36- 5					VER.:
14	15	LTH:	26.7084 M	0.13 CM	0.05 CM	0.31 CM	0.12 CM	-14.8650	0.00	HOR.: 1 / 8889
		AZI:	358-23- 2	162-57-40	252-57-40					VER.:
15	25	LTH:	46.6555 M	0.11 CM	0.05 CM	0.27 CM	0.11 CM	0.4180	0.00	HOR.: 1 / 35840
		AZI:	268-19-53	162-10-30	252-10-30					VER.:
16	25	LTH:	46.9818 M	0.11 CM	0.05 CM	0.26 CM	0.11 CM	2.9850	0.00	HOR.: 1 / 38574
		AZI:	262-59- 3	162-13-27	252-13-27					VER.:
16	26	LTH:	46.7411 M	0.11 CM	0.05 CM	0.26 CM	0.11 CM	-1.1760	0.00	HOR.: 1 / 33866
		AZI:	271-52-16	161-28-24	251-28-24					VER.:
164	17	LTH:	105.8749 M	0.12 CM	0.04 CM	0.30 CM	0.10 CM	-39.6520	0.00	HOR.: 1 / 47911
		AZI:	291-56-33	158-49-26	248-49-26					VER.:
17	18	LTH:	11.1422 M	0.12 CM	0.05 CM	0.28 CM	0.11 CM	-6.4200	0.00	HOR.: 1 / 4094
		AZI:	356- 4-54	159-16-45	249-16-45					VER.:
17	27	LTH:	44.9729 M	0.10 CM	0.04 CM	0.25 CM	0.11 CM	-1.0130	0.00	HOR.: 1 / 33054
		AZI:	271-22-45	160-17-13	250-17-13					VER.:
17	26	LTH:	47.3428 M	0.10 CM	0.05 CM	0.25 CM	0.12 CM	7.1490	0.00	HOR.: 1 / 40230
		AZI:	256- 0-29	161-52-29	251-52-29					VER.:
164	15	LTH:	99.9212 M	0.13 CM	0.04 CM	0.31 CM	0.10 CM	-28.7600	0.00	HOR.: 1 / 57816
		AZI:	282-50-33	163-45-36	253-45-36					VER.:
15	16	LTH:	4.3800 M	0.13 CM	0.05 CM	0.31 CM	0.11 CM	-2.5670	0.00	HOR.: 1 / 1474
		AZI:	359-55-35	161-24- 3	251-24- 3					VER.:
16	17	LTH:	12.9964 M	0.12 CM	0.05 CM	0.30 CM	0.11 CM	-8.3250	0.00	HOR.: 1 / 4470
		AZI:	356-34- 4	160-22-12	250-22-12					VER.:
164	16	LTH:	100.9905 M	0.13 CM	0.04 CM	0.31 CM	0.10 CM	-31.3270	0.00	HOR.: 1 / 54132
		AZI:	285-15-55	162-28-12	252-28-12					VER.:

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	135	0.885519D+02	0.651182D+02	1.16613
AZIMUTHS	1	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	3	0.297731D+01	0.188182D+01	1.25783
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
HEIGHT DIFFERENCE	0	0.000000D+00	0.000000D+00	1.00000
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	139	0.915292D+02	67	1.16881

STATIONS:	FIXED	1
	FREE	33
	WEIGHTED	0
	TOTAL	34

CONVERGENCE:	ITERATIONS USED	2
	TOLERANCE	0.000100
	COMPUTATION TIME	100.453 SEC

APPENDIX II C

Horizontal Adjustment:

Epoch 4

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 11:11:47 DATE: 18-MAY-87

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*  BOSTON SURVEY CONSULTANTS - BALL MOUNTAIN DAM DEFORMATION ANALYSIS       *
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PROJECT INFORMATION:

EPOCH 4 HORIZONTAL ANALYSIS
DATABASE 11654004.DBS
1165400H

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

OPTIONS IN EFFECT

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.000100
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.20000 CM
VARIABLE PART OF EDM MEASUREMENT	3.00000 PPM
ZENITH DISTANCE	0.60000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	0.00100 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6378.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT 0.130

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.0770		10173.6840		1000.2730	FIXED
12	9979.0050		10174.9320		1000.3150	FIXED
1218	9846.9510		10016.2120		1015.0000	FIXED
13	9980.6700		10173.6680		1000.1030	FIXED
14	9995.5090		10177.1540		992.5700	FIXED
15	10022.2080		10176.4060		977.7050	FIXED
16	10026.5880		10176.4010		975.1380	FIXED
161	9884.6305		9926.4204		1001.4850	FIXED
162	10087.7124		9917.4501		1014.9810	FIXED
163	10203.6805		10080.9074		925.3040	FIXED
164	9999.9740		10273.8263		1006.4650	FIXED
165	9843.3021		10241.7285		1009.7800	FIXED
17	10039.5620		10175.6260		966.8130	FIXED
18	10050.6770		10174.8670		960.3930	FIXED
19	10076.3950		10173.2010		946.7430	FIXED
21	9977.0700		10124.0820		1000.1760	FIXED
22	9979.5390		10123.5340		1000.3040	FIXED
23	9981.5520		10124.0340		1000.1480	FIXED
24	9996.6400		10128.3960		990.2490	FIXED
25	10020.8600		10129.7680		978.1230	FIXED
26	10028.1250		10129.6850		973.9620	FIXED
27	10040.6540		10130.6660		965.8000	FIXED
28	10050.4510		10130.9590		960.5700	FIXED
29	10075.8880		10132.3860		946.6670	FIXED
31	9981.3100		10075.7320		1000.3780	FIXED
32	9983.6690		10076.4470		1000.3840	FIXED
33	9986.1550		10076.5800		1000.0010	FIXED
34	10000.9250		10074.1730		992.0120	FIXED
35	10025.8770		10077.3820		977.7070	FIXED
36	10032.7260		10077.9220		973.8690	FIXED
37	10046.3820		10079.8650		965.3180	FIXED
38	10055.2650		10081.0940		960.5840	FIXED
39	10079.9950		10084.2180		946.8710	FIXED

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
161	165	0- 0- 0.000	0.300	0.000	
161	11	27-58- 1.400	0.300	0.039	
161	12	28-15-42.500	0.300	-1.006	
161	13	28-41-47.000	0.300	4.092	
161	21	32-31-52.000	0.300	-0.434	
161	22	33-10-41.000	0.300	0.997	
161	23	33-35-39.900	0.300	3.472	
161	31	40-23-26.600	0.300	0.851	
161	32	40-53-56.900	0.300	5.012	
161	33	41-31-55.900	0.300	6.433	
161	166	64-57-43.900	0.300	-1.617	
161	1218	344-41-13.100	0.300	-57.144	****
162	165	0- 0- 0.000	0.300	0.000	
162	31	3- 5-40.500	0.300	-2.235	
162	32	3-48-27.400	0.300	6.382	
162	33	4-27-40.400	0.300	6.834	
162	34	8- 1-50.500	0.300	4.502	
162	35	15-52- 4.800	0.300	2.756	
162	36	18- 5-31.100	0.300	2.517	
162	37	22-43-43.900	0.300	2.162	
162	38	25-47-27.000	0.300	1.743	
162	29	33-51-24.600	0.300	0.668	
162	28	27- 6-22.900	0.300	1.271	
162	27	24-33-35.800	0.300	1.852	
162	26	21-19-24.200	0.300	2.043	
162	25	19-31-42.600	0.300	2.145	
162	24	13-39-18.200	0.300	3.624	
162	23	9-48-31.100	0.300	3.875	
162	22	9-18-38.500	0.300	0.524	
162	21	8-50-17.200	0.300	-1.068	
162	11	13-39- 6.500	0.200	-0.846	
162	12	14- 6-57.800	0.200	-0.973	
162	14	17-27-33.200	0.200	0.833	
162	15	22-48-37.000	0.200	1.016	
162	16	23-43-29.000	0.200	1.978	
162	17	26-26-28.600	0.200	0.645	
162	18	28-49- 7.500	0.200	1.353	
162	19	34-28-18.100	0.200	-0.169	
163	162	0- 0- 0.000	0.300	0.000	
163	34	52-44-36.800	0.300	1.690	
163	33	53-30-21.600	0.300	0.890	
163	35	53-30-35.800	0.300	1.429	
163	36	53-38-42.900	0.300	1.011	
163	37	54-15-59.600	0.300	2.923	
163	38	54-43- 4.500	0.300	1.616	
163	39	56-10-43.500	0.300	0.326	

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
163	23	65-38- 0.500	0.300	2.411
163	24	67-33-52.600	0.300	2.796
163	25	69-36-33.400	0.300	2.512
163	27	71-37- 9.100	0.300	2.297
163	28	72-44- 7.400	0.300	2.186
163	29	76-35-13.600	0.300	2.324
163	13	77-13-51.400	0.200	2.809
163	14	79-27-32.600	0.200	1.808
163	15	82-24- 3.900	0.200	1.389
163	16	82-58-52.000	0.200	2.878
163	17	84-38-12.400	0.200	2.088
163	18	86-12- 0.600	0.200	2.192
163	19	90-35-27.900	0.200	0.412
163	164	98- 5-16.400	0.300	1.551
164	163	0- 0- 0.000	0.500	0.000
164	39	23-40-33.800	0.500	-2.006
164	38	30-32-59.100	0.500	-3.988
164	37	33- 6- 3.200	0.500	-4.385
164	36	37- 3-55.400	0.500	-5.193
164	35	39- 2-41.200	0.500	-5.582
164	34	46-17- 0.000	0.500	-6.217
164	33	50-33-46.000	0.500	-9.962
164	31	51-56-21.900	0.500	-3.409
164	21	55-15-14.100	0.400	-1.011
164	22	54-18- 0.600	0.400	-2.656
164	23	53-34- 0.400	0.400	-8.751
164	24	47-52- 8.200	0.400	-8.310
164	25	38-18-25.100	0.400	-5.649
164	26	35-30-18.600	0.400	-7.059
164	27	30-41-37.400	0.400	-4.972
164	28	27- 5-51.900	0.400	-4.325
164	29	18-20- 1.900	0.400	-2.577
164	12	58-31-47.000	0.400	1.344
164	16	31-16-36.100	0.400	-8.536
164	15	33-41-59.600	0.400	-6.503
164	13	57-27-49.200	0.400	-12.368
164	18	19-25-40.500	0.400	-4.219
164	19	9-20-33.000	0.400	-0.779
164	1218	77-15-59.600	0.400	-6.287
164	161	64-55-29.100	0.400	-0.337
165	161	0- 0- 0.000	0.300	0.000
165	12	303-40-26.800	0.300	-3.114
165	13	303-49-22.900	0.300	-3.524
165	11	304-25-39.200	0.300	0.222
165	23	317-52-25.800	0.300	-6.656
165	22	318-24-37.100	0.300	-3.075

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
165	33	326-36-19.100	0.300	-8.507
165	32	327- 7-30.900	0.300	-7.974
165	31	327-43-37.800	0.300	-1.392
165	162	330-27-39.800	0.300	-2.834
166	165	0- 0- 0.000	0.800	0.000
166	32	20-52-55.900	0.800	23.629
166	21	22-28-18.600	0.800	2.002
166	22	23-32-15.000	0.800	4.739
166	23	24-29- 3.200	0.800	13.025
166	11	25-25-34.600	0.800	2.410
166	13	26-35-41.400	0.800	7.902
166	164	0- 0- 0.000	1.400	0.000
166	27	17-16-34.000	1.000	3.028
166	26	12-13-53.400	1.000	6.202
166	25	9- 7-38.500	1.000	4.252
166	24	358-30- 0.000	1.000	7.122
166	14	358-33- 0.500	1.500	2.911
166	15	7-10-29.900	1.500	0.537
166	16	8-34-16.400	1.500	2.080
166	17	12-41-37.500	1.500	1.678
166	18	16- 9-34.200	1.500	-1.291
166	19	23-47-52.800	1.500	-2.606
166	34	0-42- 4.500	1.400	10.438
166	35	18-28- 9.500	1.400	1.946
166	36	22-45-37.400	1.400	1.590
166	37	30- 7-30.200	1.400	-1.917
166	38	34-15-16.000	1.400	-1.741
166	39	43-30-38.800	1.400	-3.868
166	161	0- 0- 0.000	0.900	0.000
166	164	122-29-24.500	0.900	0.000
166	165	89-32-57.900	0.900	1.436
166	163	190-49-25.600	0.900	-3.892
166	162	255-45-40.900	0.900	-8.792

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
166	164	0- 0- 0.000	0.001	47.900	****

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
164	165	159.9160	0.2480	-1.01
164	166	273.8540	0.2822	-1.61
164	163	280.5370	0.2842	-2.32
164	161	366.0330	0.3098	-2.03
164	162	366.9960	0.3101	-2.17

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO ZENITH DISTANCE OBSERVATIONS

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HEIGHT DIFFERENCE OBSERVATIONS

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED

ALL STATIONS ARE INVOLVED IN AT LEAST TWO OBSERVATIONS

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	131
POINTS	1000	34
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	9
MATRIX ELEMENTS	99998	2278

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
161	165	O:	0- 0- 0.00	0.30		25.83	COM:	-1.3 SEC	-0.1 CM	317.9903
		C:	0- 0- 0.33	0.26			BND:	2.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.33	0.15	2.16					
161	11	O:	27-58- 1.40	0.30		35.89	COM:	-0.4 SEC	0.0 CM	263.9680
		C:	27-58- 1.53	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.13	0.18	0.70					
161	12	O:	28-15-42.50	0.30		63.19	COM:	0.7 SEC	0.0 CM	265.8180
		C:	28-15-42.07	0.18			BND:	1.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.43	0.24	-1.80					
161	13	O:	28-41-47.00	0.30		61.59	COM:	0.3 SEC	0.0 CM	265.2350
		C:	28-41-46.80	0.19			BND:	1.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.20	0.24	-0.85					
161	21	O:	32-31-52.00	0.30		32.02	COM:	0.2 SEC	0.0 CM	218.2004
		C:	32-31-51.92	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.08	0.17	-0.47					
161	22	O:	33-10-41.00	0.30		42.06	COM:	0.9 SEC	0.0 CM	218.7650
		C:	33-10-40.64	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.36	0.19	-1.84					
161	23	O:	33-35-39.90	0.30		50.40	COM:	-0.7 SEC	0.0 CM	220.0968
		C:	33-35-40.26	0.21			BND:	1.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.36	0.21	1.70					
161	31	O:	40-23-26.60	0.30		11.24	COM:	-1.9 SEC	-0.1 CM	177.8718
		C:	40-23-26.81	0.28			BND:	3.7 SEC	0.3 CM	
		V=C-O:	0- 0- 0.21	0.10	2.08					
161	32	O:	40-53-56.90	0.30		7.31	COM:	-0.2 SEC	0.0 CM	179.7676
		C:	40-53-56.91	0.29			BND:	4.6 SEC	0.4 CM	
		V=C-O:	0- 0- 0.01	0.08	0.15					
161	33	O:	41-31-55.90	0.30		27.46	COM:	0.1 SEC	0.0 CM	181.2592
		C:	41-31-55.86	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.04	0.16	-0.23					
161	166	O:	64-57-43.90	0.30		6.14	COM:	-1.1 SEC	-0.1 CM	136.8384
		C:	64-57-43.97	0.29			BND:	5.0 SEC	0.4 CM	
		V=C-O:	0- 0- 0.07	0.07	0.92					
161	1218	O:	344-41-13.10	0.30		0.00	COM:	NOT		97.3413
		C:	344-41-13.10	0.30			BND:	CONTROLLED		
		V=C-O:	- 0- 0- 0.00	0.00	0.00					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	165	O:	0- 0- 0.00	0.30		56.01	COM:	1.3 SEC	0.0 CM	406.0442
		C:	- 0- 0- 0.72	0.20			BND:	1.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.72	0.22	-3.22 ..					
162	31	O:	3- 5-40.50	0.30		40.13	COM:	-0.6 SEC	0.0 CM	190.7051
		C:	3- 5-40.73	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.23	0.19	1.21					
162	32	O:	3-48-27.40	0.30		47.90	COM:	0.6 SEC	0.0 CM	189.9964
		C:	3-48-27.13	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.27	0.21	-1.30					
162	33	O:	4-27-40.40	0.30		48.86	COM:	0.1 SEC	0.0 CM	188.7576
		C:	4-27-40.36	0.21			BND:	1.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.04	0.21	-0.18					
162	34	O:	8- 1-50.50	0.30		32.78	COM:	1.0 SEC	0.1 CM	179.1340
		C:	8- 1-50.18	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.32	0.17	-1.87					
162	35	O:	15-52- 4.80	0.30		28.44	COM:	-0.1 SEC	0.0 CM	171.4564
		C:	15-52- 4.83	0.25			BND:	2.3 SEC	0.2 CM	
		V=C-O:	0- 0- 0.03	0.16	0.16					
162	36	O:	18- 5-31.10	0.30		26.89	COM:	-0.2 SEC	0.0 CM	169.6178
		C:	18- 5-31.14	0.26			BND:	2.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.04	0.16	0.28					
162	37	O:	22-43-43.90	0.30		24.14	COM:	-0.3 SEC	0.0 CM	167.5796
		C:	22-43-43.96	0.26			BND:	2.5 SEC	0.2 CM	
		V=C-O:	0- 0- 0.06	0.15	0.42					
162	38	O:	25-47-27.00	0.30		22.38	COM:	-0.3 SEC	0.0 CM	166.8173
		C:	25-47-27.07	0.26			BND:	2.6 SEC	0.2 CM	
		V=C-O:	0- 0- 0.07	0.14	0.46					
162	29	O:	33-51-24.60	0.30		27.32	COM:	0.5 SEC	0.0 CM	215.2448
		C:	33-51-24.47	0.26			BND:	2.4 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.13	0.16	-0.86					
162	28	O:	27- 6-22.90	0.30		44.42	COM:	-0.1 SEC	0.0 CM	216.7195
		C:	27- 6-22.96	0.22			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.06	0.20	0.29					
162	27	O:	24-33-35.80	0.30		55.26	COM:	-0.1 SEC	0.0 CM	218.3304
		C:	24-33-35.83	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.22	0.15					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	26	O:	21-19-24.20	0.30		41.26	COM:	-0.6 SEC	0.0 CM	220.4192
		C:	21-19-24.46	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.26	0.19	1.34					
162	25	O:	19-31-42.60	0.30		60.59	COM:	0.1 SEC	0.0 CM	222.5771
		C:	19-31-42.55	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.05	0.23	-0.20					
162	24	O:	13-39-18.20	0.30		59.98	COM:	0.2 SEC	0.0 CM	229.7478
		C:	13-39-18.07	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.13	0.23	-0.58					
162	23	O:	9-48-31.10	0.30		71.84	COM:	0.0 SEC	0.0 CM	232.2461
		C:	9-48-31.07	0.16			BND:	1.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.03	0.25	-0.13					
162	22	O:	9-18-38.50	0.30		67.16	COM:	0.3 SEC	0.0 CM	232.7316
		C:	9-18-38.29	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.21	0.25	-0.84					
162	21	O:	8-50-17.20	0.30		20.38	COM:	0.3 SEC	0.0 CM	234.3726
		C:	8-50-17.14	0.27			BND:	2.7 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.06	0.14	-0.45					
162	11	O:	13-39- 6.50	0.20		41.44	COM:	0.0 SEC	0.0 CM	279.0775
		C:	13-39- 6.50	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.00	0.13	0.00					
162	12	O:	14- 6-57.80	0.20		50.54	COM:	-0.6 SEC	0.0 CM	279.4713
		C:	14- 6-58.11	0.14			BND:	1.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.31	0.14	2.21					
162	14	O:	17-27-33.20	0.20		5.79	COM:	-0.8 SEC	-0.1 CM	275.5646
		C:	17-27-33.25	0.19			BND:	3.4 SEC	0.4 CM	
		V=C-O:	0- 0- 0.05	0.05	0.97					
162	15	O:	22-48-37.00	0.20		54.24	COM:	-0.3 SEC	0.0 CM	267.0907
		C:	22-48-37.15	0.14			BND:	1.1 SEC	0.0 CM	
		V=C-O:	0- 0- 0.15	0.15	1.04					
162	16	O:	23-43-29.00	0.20		52.18	COM:	-0.2 SEC	0.0 CM	266.0465
		C:	23-43-29.10	0.14			BND:	1.1 SEC	0.0 CM	
		V=C-O:	0- 0- 0.10	0.14	0.72					
162	17	O:	26-26-28.60	0.20		5.23	COM:	-1.1 SEC	-0.1 CM	262.6076
		C:	26-26-28.66	0.19			BND:	3.6 SEC	0.4 CM	
		V=C-O:	0- 0- 0.06	0.05	1.30					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	18	O:	28-49- 7.50	0.20		31.75	COM:	0.6 SEC	0.0 CM	260.0471
		C:	28-49- 7.32	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.18	0.11	-1.56					
162	19	O:	34-28-18.10	0.20		11.22	COM:	-0.2 SEC	0.0 CM	255.9806
		C:	34-28-18.13	0.19			BND:	2.5 SEC	0.3 CM	
		V=C-O:	0- 0- 0.03	0.07	0.42					
163	162	O:	0- 0- 0.00	0.30		8.81	COM:	3.2 SEC	0.2 CM	200.4007
		C:	- 0- 0- 0.28	0.29			BND:	4.2 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.28	0.09	-3.16 ..					
163	34	O:	52-44-36.80	0.30		9.99	COM:	-1.8 SEC	-0.2 CM	202.8471
		C:	52-44-36.98	0.28			BND:	3.9 SEC	0.3 CM	
		V=C-O:	0- 0- 0.18	0.09	1.90					
163	33	O:	53-30-21.60	0.30		39.01	COM:	-0.1 SEC	0.0 CM	217.5436
		C:	53-30-21.63	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.19	0.15					
163	35	O:	53-30-35.80	0.30		7.09	COM:	-1.2 SEC	-0.1 CM	177.8215
		C:	53-30-35.89	0.29			BND:	4.7 SEC	0.4 CM	
		V=C-O:	0- 0- 0.09	0.08	1.09					
163	36	O:	53-38-42.90	0.30		6.45	COM:	-0.9 SEC	-0.1 CM	170.9642
		C:	53-38-42.96	0.29			BND:	4.9 SEC	0.4 CM	
		V=C-O:	0- 0- 0.06	0.08	0.79					
163	37	O:	54-15-59.60	0.30		5.19	COM:	0.1 SEC	0.0 CM	157.2873
		C:	54-15-59.59	0.29			BND:	5.4 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.01	0.07	-0.08					
163	38	O:	54-43- 4.50	0.30		4.58	COM:	0.1 SEC	0.0 CM	148.4017
		C:	54-43- 4.50	0.29			BND:	5.8 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.00	0.06	-0.08					
163	39	O:	56-10-43.50	0.30		3.51	COM:	0.4 SEC	0.0 CM	123.7190
		C:	56-10-43.49	0.29			BND:	6.6 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.01	0.06	-0.24					
163	23	O:	65-38- 0.50	0.30		46.46	COM:	-0.7 SEC	0.0 CM	226.2539
		C:	65-38- 0.82	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.32	0.20	1.55					
163	24	O:	67-33-52.60	0.30		9.03	COM:	-0.6 SEC	-0.1 CM	212.3961
		C:	67-33-52.65	0.29			BND:	4.1 SEC	0.4 CM	
		V=C-O:	0- 0- 0.05	0.09	0.57					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	25	O: 69-36-33.40	0.30		3.54	COM:	1.3 SEC	0.1 CM	189.2197
		C: 69-36-33.35	0.29			BND:	6.6 SEC	0.6 CM	
		V=C-O: - 0- 0- 0.05	0.06	-0.82					
163	27	O: 71-37- 9.10	0.30		4.06	COM:	2.6 SEC	0.2 CM	170.4351
		C: 71-37- 8.99	0.29			BND:	6.1 SEC	0.5 CM	
		V=C-O: - 0- 0- 0.11	0.06	-1.76					
163	28	O: 72-44- 7.40	0.30		1.08	COM:	-0.9 SEC	-0.1 CM	161.1823
		C: 72-44- 7.41	0.30			BND:	11.9 SEC	0.9 CM	
		V=C-O: 0- 0- 0.01	0.03	0.29					
163	29	O: 76-35-13.60	0.30		4.90	COM:	1.2 SEC	0.1 CM	137.7595
		C: 76-35-13.54	0.29			BND:	5.6 SEC	0.4 CM	
		V=C-O: - 0- 0- 0.06	0.07	-0.86					
163	13	O: 77-13-51.40	0.20		20.16	COM:	0.4 SEC	0.0 CM	241.5097
		C: 77-13-51.32	0.18			BND:	1.8 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.08	0.09	-0.90					
163	14	O: 79-27-32.60	0.20		0.48	COM:	2.8 SEC	0.3 CM	229.3247
		C: 79-27-32.59	0.20			BND:	11.9 SEC	1.3 CM	
		V=C-O: - 0- 0- 0.01	0.01	-0.97					
163	15	O: 82-24- 3.90	0.20		0.49	COM:	-1.3 SEC	-0.1 CM	205.0479
		C: 82-24- 3.91	0.20			BND:	11.8 SEC	1.2 CM	
		V=C-O: 0- 0- 0.01	0.01	0.44					
163	16	O: 82-58-52.00	0.20		0.65	COM:	-1.0 SEC	-0.1 CM	201.1798
		C: 82-58-52.01	0.20			BND:	10.2 SEC	1.0 CM	
		V=C-O: 0- 0- 0.01	0.02	0.42					
163	17	O: 84-38-12.40	0.20		0.47	COM:	3.8 SEC	0.4 CM	189.4740
		C: 84-38-12.38	0.20			BND:	12.1 SEC	1.1 CM	
		V=C-O: - 0- 0- 0.02	0.01	-1.30					
163	18	O: 86-12- 0.60	0.20		6.38	COM:	0.6 SEC	0.0 CM	179.5347
		C: 86-12- 0.56	0.19			BND:	3.3 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.04	0.05	-0.75					
163	19	O: 90-35-27.90	0.20		11.19	COM:	-0.6 SEC	0.0 CM	157.2117
		C: 90-35-27.97	0.19			BND:	2.5 SEC	0.2 CM	
		V=C-O: 0- 0- 0.07	0.07	1.05					
163	164	O: 98- 5-16.40	0.30		30.74	COM:	0.2 SEC	0.0 CM	280.5396
		C: 98- 5-16.33	0.25			BND:	2.2 SEC	-0.1 CM	
		V=C-O: - 0- 0- 0.07	0.17	-0.41					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	163	O:	0- 0- 0.00	0.50		60.52	COM:	1.4 SEC	0.1 CM	280.5396
		C:	- 0- 0- 0.83	0.31			BND:	2.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.83	0.39	-2.12					
164	39	O:	23-40-33.80	0.50		17.76	COM:	0.3 SEC	0.0 CM	205.7887
		C:	23-40-33.75	0.45			BND:	4.9 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.05	0.21	-0.24					
164	38	O:	30-32-59.10	0.50		75.99	COM:	-0.2 SEC	0.0 CM	200.4925
		C:	30-32-59.28	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.18	0.44	0.42					
164	37	O:	33- 6- 3.20	0.50		75.63	COM:	-0.2 SEC	0.0 CM	199.4209
		C:	33- 6- 3.38	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.18	0.43	0.42					
164	36	O:	37- 3-55.40	0.50		74.20	COM:	-0.7 SEC	0.0 CM	198.6095
		C:	37- 3-55.91	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.51	0.43	1.17					
164	35	O:	39- 2-41.20	0.50		73.01	COM:	-1.0 SEC	0.0 CM	198.1306
		C:	39- 2-41.90	0.26			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.70	0.43	1.63					
164	34	O:	46-17- 0.00	0.50		66.77	COM:	0.1 SEC	0.0 CM	199.6404
		C:	46-16-59.95	0.29			BND:	2.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.05	0.41	-0.11					
164	33	O:	50-33-46.00	0.5[illegible]		75.89	COM:	0.3 SEC	0.0 CM	197.7150
		C:	50-33-45.75	0.2[illegible]			BND:	2.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.25	0.44	-0.59					
164	31	O:	51-56-21.90	0.50		74.74	COM:	-1.3 SEC	0.0 CM	198.9601
		C:	51-56-22.87	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.97	0.43	2.25					
164	21	O:	55-15-14.10	0.40		51.27	COM:	0.2 SEC	0.0 CM	151.4754
		C:	55-15-13.99	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.11	0.29	-0.38					
164	22	O:	54-18- 0.60	0.40		52.26	COM:	1.1 SEC	0.0 CM	151.6642
		C:	54-18- 0.01	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.59	0.29	-2.05					
164	23	O:	53-34- 0.40	0.40		54.70	COM:	0.1 SEC	0.0 CM	150.9088
		C:	53-34- 0.34	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.06	0.30	-0.20					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	24	O:	47-52- 8.20	0.40		33.86	COM:	0.3 SEC	0.0 CM	145.4575
		C:	47-52- 8.10	0.33			BND:	2.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.10	0.23	-0.42					
164	25	O:	38-18-25.10	0.40		43.13	COM:	0.7 SEC	0.0 CM	145.5544
		C:	38-18-24.81	0.30			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.29	0.26	-1.11					
164	26	O:	35-30-18.60	0.40		45.68	COM:	-0.8 SEC	0.0 CM	146.8597
		C:	35-30-18.96	0.29			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.36	0.27	1.34					
164	27	O:	30-41-37.40	0.40		49.63	COM:	0.5 SEC	0.0 CM	148.8183
		C:	30-41-37.13	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.27	0.28	-0.94					
164	28	O:	27- 5-51.90	0.40		47.88	COM:	-0.2 SEC	0.0 CM	151.5124
		C:	27- 5-51.98	0.29			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.08	0.28	0.29					
164	29	O:	18-20- 1.90	0.40		53.98	COM:	0.5 SEC	0.0 CM	160.5143
		C:	18-20- 1.65	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.25	0.29	-0.86					
164	12	O:	58-31-47.00	0.40		22.65	COM:	0.0 SEC	0.0 CM	101.0840
		C:	58-31-47.01	0.35			BND:	3.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.01	0.19	0.05					
164	16	O:	31-16-36.10	0.40		32.69	COM:	-0.5 SEC	0.0 CM	100.9892
		C:	31-16-36.28	0.33			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.18	0.23	0.78					
164	15	O:	33-41-59.60	0.40		29.91	COM:	-0.9 SEC	0.0 CM	99.9203
		C:	33-41-59.88	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.28	0.22	1.27					
164	13	O:	57-27-49.20	0.40		19.51	COM:	0.6 SEC	0.0 CM	101.9938
		C:	57-27-49.09	0.36			BND:	3.7 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.11	0.18	-0.65					
164	18	O:	19-25-40.50	0.40		47.67	COM:	0.7 SEC	0.0 CM	111.1863
		C:	19-25-40.19	0.29			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.31	0.28	-1.13					
164	19	O:	9-20-33.00	0.40		52.09	COM:	-0.5 SEC	0.0 CM	126.3478
		C:	9-20-33.28	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.28	0.29	0.97					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	1218	O:	77-15-59.60	0.40		0.00	COM:	NOT		299.6594
		C:	77-15-59.60	0.40			BND:	CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00					
164	161	O:	64-55-29.10	0.40		49.41	COM:	-0.1 SEC	0.0 CM	366.0344
		C:	64-55-29.13	0.28			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.28	0.12					
165	161	O:	0- 0- 0.00	0.30		13.61	COM:	0.3 SEC	0.0 CM	317.9903
		C:	- 0- 0- 0.04	0.28			BND:	3.4 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.04	0.11	-0.40					
165	12	O:	303-40-26.80	0.30		13.20	COM:	-2.0 SEC	-0.1 CM	151.2421
		C:	303-40-27.06	0.28			BND:	3.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.26	0.11	2.42					
165	13	O:	303-49-22.90	0.30		19.79	COM:	0.5 SEC	0.0 CM	153.3014
		C:	303-49-22.81	0.27			BND:	2.8 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.09	0.13	-0.67					
165	11	O:	304-25-39.20	0.30		11.85	COM:	0.3 SEC	0.0 CM	150.0787
		C:	304-25-39.16	0.28			BND:	3.6 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.04	0.10	-0.39					
165	23	O:	317-52-25.80	0.30		45.71	COM:	-0.2 SEC	0.0 CM	181.5567
		C:	317-52-25.88	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.08	0.20	0.39					
165	22	O:	318-24-37.10	0.30		26.20	COM:	0.0 SEC	0.0 CM	180.3532
		C:	318-24-37.10	0.26			BND:	2.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.00	0.15	0.03					
165	33	O:	326-36-19.10	0.30		54.16	COM:	-0.1 SEC	0.0 CM	218.3527
		C:	326-36-19.14	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.04	0.22	0.16					
165	32	O:	327- 7-30.90	0.30		49.41	COM:	0.5 SEC	0.0 CM	216.8346
		C:	327- 7-30.64	0.21			BND:	1.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.26	0.21	-1.22					
165	31	O:	327-43-37.80	0.30		46.34	COM:	-0.1 SEC	0.0 CM	215.8629
		C:	327-43-37.87	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.07	0.20	0.32					
165	162	O:	330-27-39.80	0.30		54.47	COM:	0.0 SEC	0.0 CM	406.0442
		C:	330-27-39.78	0.20			BND:	1.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.02	0.22	-0.08					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	165	O:	0- 0- 0.00	0.80		68.72	COM:	-2.3 SEC	0.0 CM	288.1171
		C:	0- 0- 1.60	0.45			BND:	4.0 SEC	0.0 CM	
		V=C-O:	0- 0- 1.60	0.66	2.41					
166	32	O:	20-52-55.90	0.80		49.08	COM:	-0.3 SEC	0.0 CM	78.2201
		C:	20-52-56.03	0.57			BND:	4.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.13	0.56	0.23					
166	21	O:	22-28-18.60	0.80		69.71	COM:	-0.2 SEC	0.0 CM	126.2274
		C:	22-28-18.75	0.44			BND:	4.0 SEC	0.0 CM	
		V=C-O:	0- 0- 0.15	0.67	0.22					
166	22	O:	23-32-15.00	0.80		75.13	COM:	-0.1 SEC	0.0 CM	125.2611
		C:	23-32-15.09	0.40			BND:	3.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.09	0.69	0.13					
166	23	O:	24-29- 3.20	0.80		75.10	COM:	1.9 SEC	0.0 CM	125.4420
		C:	24-29- 1.80	0.40			BND:	3.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.40	0.69	-2.02					
166	11	O:	25-25-34.60	0.80		74.33	COM:	1.0 SEC	0.0 CM	175.2289
		C:	25-25-33.88	0.41			BND:	3.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.72	0.69	-1.04					
166	13	O:	26-35-41.40	0.80		76.66	COM:	-0.2 SEC	0.0 CM	174.7785
		C:	26-35-41.54	0.39			BND:	3.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.14	0.70	0.21					
166	164	O:	0- 0- 0.00	1.40		85.45	COM:	1.8 SEC	0.0 CM	273.8546
		C:	- 0- 0- 1.50	0.53			BND:	6.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.50	1.29	-1.16					
166	27	O:	17-16-34.00	1.00		75.05	COM:	2.0 SEC	0.0 CM	136.8699
		C:	17-16-32.51	0.50			BND:	4.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.49	0.87	-1.72					
166	26	O:	12-13-53.40	1.00		6.94	COM:	-5.1 SEC	-0.3 CM	132.7255
		C:	12-13-53.75	0.96			BND:	15.7 SEC	0.9 CM	
		V=C-O:	0- 0- 0.35	0.26	1.34					
166	25	O:	9- 7-38.50	1.00		76.00	COM:	1.7 SEC	0.0 CM	131.4666
		C:	9- 7-37.24	0.49			BND:	4.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.26	0.87	-1.44					
166	24	O:	358-30- 0.00	1.00		74.61	COM:	-0.2 SEC	0.0 CM	128.4800
		C:	358-30- 0.15	0.50			BND:	4.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.15	0.86	0.17					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	14	O: 358-33- 0.50	1.50		85.64	COM:	1.6 SEC	0.0 CM	177.2464
		C: 358-32-59.16	0.57			BND:	6.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 1.34	1.39	-0.97					
166	15	O: 7-10-29.90	1.50		90.60	COM:	-1.2 SEC	0.0 CM	177.8274
		C: 7-10-30.96	0.46			BND:	6.5 SEC	0.0 CM	
		V=C-O: 0- 0- 1.06	1.43	0.75					
166	16	O: 8-34-16.40	1.50		90.46	COM:	-0.3 SEC	0.0 CM	178.4227
		C: 8-34-16.67	0.46			BND:	6.5 SEC	0.0 CM	
		V=C-O: 0- 0- 0.27	1.43	0.19					
166	17	O: 12-41-37.50	1.50		87.56	COM:	2.1 SEC	0.0 CM	180.0524
		C: 12-41-35.68	0.53			BND:	6.6 SEC	0.0 CM	
		V=C-O: - 0- 0- 1.82	1.40	-1.30					
166	18	O: 16- 9-34.20	1.50		89.25	COM:	-1.8 SEC	0.0 CM	182.0846
		C: 16- 9-35.84	0.49			BND:	6.6 SEC	0.0 CM	
		V=C-O: 0- 0- 1.64	1.42	1.16					
166	19	O: 23-47-52.80	1.50		88.29	COM:	-0.9 SEC	0.0 CM	189.3149
		C: 23-47-53.63	0.51			BND:	6.6 SEC	0.0 CM	
		V=C-O: 0- 0- 0.83	1.41	0.59					
166	34	O: 0-42- 4.50	1.40		66.57	COM:	-3.7 SEC	0.0 CM	74.2219
		C: 0-42- 6.95	0.81			BND:	7.1 SEC	0.1 CM	
		V=C-O: 0- 0- 2.45	1.14	2.14					
166	35	O: 18-28- 9.50	1.40		71.48	COM:	-3.0 SEC	0.0 CM	81.6234
		C: 18-28-11.61	0.75			BND:	6.8 SEC	0.1 CM	
		V=C-O: 0- 0- 2.11	1.18	1.78					
166	36	O: 22-45-37.40	1.40		72.75	COM:	-1.8 SEC	0.0 CM	84.5404
		C: 22-45-38.74	0.73			BND:	6.8 SEC	0.1 CM	
		V=C-O: 0- 0- 1.34	1.19	1.12					
166	37	O: 30- 7-30.20	1.40		75.68	COM:	0.1 SEC	0.0 CM	92.3752
		C: 30- 7-30.11	0.69			BND:	6.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.09	1.22	-0.07					
166	38	O: 34-15-16.00	1.40		77.36	COM:	0.2 SEC	0.0 CM	98.1483
		C: 34-15-15.82	0.67			BND:	6.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.18	1.23	-0.15					
166	39	O: 43-30-38.80	1.40		66.51	COM:	0.4 SEC	0.0 CM	116.1558
		C: 43-30-38.52	0.81			BND:	7.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.28	1.14	-0.24					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	161	O:	0- 0- 0.00	0.90		0.00	COM:	NOT		136.8384
		C:	0- 0- 0.00	0.90			BND:	CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00					
166	164	O:	122-29-24.50	0.90		63.04	COM:	-0.2 SEC	0.0 CM	273.8546
		C:	122-29-24.63	0.55			BND:	4.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.13	0.71	0.19					
166	165	O:	89-32-57.90	0.90		56.87	COM:	1.0 SEC	0.0 CM	288.1171
		C:	89-32-57.35	0.59			BND:	4.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.55	0.68	-0.82					
166	163	O:	190-49-25.60	0.90		57.27	COM:	0.0 SEC	0.0 CM	219.1283
		C:	190-49-25.58	0.59			BND:	4.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.02	0.68	-0.02					
166	162	O:	255-45-40.90	0.90		33.65	COM:	-1.3 SEC	0.0 CM	120.3810
		C:	255-45-41.34	0.73			BND:	6.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.44	0.52	0.84					

4.2 ANALYSIS OF AZIMUTH OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	164	O:	0- 0- 0.00	0.00		0.00	COM: NOT		273.8546
		C:	0- 0- 0.00	0.00			BND: CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00				

4.3 ANALYSIS OF HORIZONTAL DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	165	O:	159.91600	0.25		88.45	COM:	-0.1 CM	0.0 CM	159.9167
		C:	159.91668	0.08			BND:	1.1 CM	0.1 CM	
		V=C-O:	0.00068	0.23	0.29					
164	166	O:	273.85400	0.28		80.82	COM:	-0.1 CM	0.0 CM	273.8546
		C:	273.85462	0.12			BND:	1.3 CM	0.2 CM	
		V=C-O:	0.00062	0.25	0.25					
164	163	O:	280.53700	0.28		79.14	COM:	-0.3 CM	-0.1 CM	280.5396
		C:	280.53962	0.13			BND:	1.3 CM	0.3 CM	
		V=C-O:	0.00262	0.25	1.04					
164	161	O:	366.03300	0.31		70.72	COM:	-0.2 CM	-0.1 CM	366.0344
		C:	366.03442	0.17			BND:	1.5 CM	0.4 CM	
		V=C-O:	0.00142	0.26	0.54					
164	162	O:	366.99600	0.31		70.04	COM:	0.7 CM	0.2 CM	366.9912
		C:	366.99117	0.17			BND:	1.5 CM	0.5 CM	
		V=C-O:	-0.00483	0.26	-1.86					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
11	FREE	EAST.:	9977.1193	LTH: 0.11 CM	0.04 CM	0.26 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10173.6799	AZI: 170-24-28	260-24-28			NORT.: 0.10 CM
		ELEV.:	1000.2730 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.3820
12	FREE	EAST.:	9979.0464	LTH: 0.10 CM	0.03 CM	0.25 CM	0.07 CM	EAST.: 0.03 CM
		NORT.:	10174.9304	AZI: 175- 5-40	265- 5-40			NORT.: 0.10 CM
		ELEV.:	1000.3150 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.2919
1218	FREE	EAST.:	9846.9491	LTH: 0.11 CM	0.09 CM	0.27 CM	0.21 CM	EAST.: 0.10 CM
		NORT.:	10016.2071	AZI: 122-20-40	212-20-40			NORT.: 0.09 CM
		ELEV.:	1015.0000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.2191
13	FREE	EAST.:	9980.7175	LTH: 0.10 CM	0.03 CM	0.24 CM	0.07 CM	EAST.: 0.03 CM
		NORT.:	10173.6636	AZI: 175- 2-22	265- 2-22			NORT.: 0.10 CM
		ELEV.:	1000.1030 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.2765
14	FREE	EAST.:	9995.5530	LTH: 0.11 CM	0.05 CM	0.26 CM	0.11 CM	EAST.: 0.05 CM
		NORT.:	10177.1459	AZI: 169-50-38	259-50-38			NORT.: 0.10 CM
		ELEV.:	992.5700 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.3011
15	FREE	EAST.:	10022.2504	LTH: 0.10 CM	0.03 CM	0.25 CM	0.08 CM	EAST.: 0.03 CM
		NORT.:	10176.3908	AZI: 182-37-47	272-37-47			NORT.: 0.10 CM
		ELEV.:	977.7050 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.1245
16	FREE	EAST.:	10026.6310	LTH: 0.10 CM	0.03 CM	0.25 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10176.3859	AZI: 183-25-44	273-25-44			NORT.: 0.10 CM
		ELEV.:	975.1380 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.1523
161	FREE	EAST.:	9884.6184	LTH: 0.10 CM	0.04 CM	0.25 CM	0.09 CM	EAST.: 0.10 CM
		NORT.:	9926.4499	AZI: 246-45-52	336-45-52			NORT.: 0.05 CM
		ELEV.:	1001.4850 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.6438
162	FREE	EAST.:	10087.6890	LTH: 0.09 CM	0.06 CM	0.23 CM	0.14 CM	EAST.: 0.08 CM
		NORT.:	9917.4406	AZI: 134-45- 7	224-45- 7			NORT.: 0.08 CM
		ELEV.:	1014.9810 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.4850
163	FREE	EAST.:	10203.6843	LTH: 0.13 CM	0.06 CM	0.31 CM	0.16 CM	EAST.: 0.11 CM
		NORT.:	10080.8588	AZI: 239-40-36	329-40-36			NORT.: 0.08 CM
		ELEV.:	925.3040 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.5425
164	FREE	EAST.:	10000.0376	LTH: 0.14 CM	0.00 CM	0.34 CM	0.00 CM	EAST.: 0.00 CM
		NORT.:	10273.8108	AZI: 180- 0- 0	270- 0- 0			NORT.: 0.14 CM
		ELEV.:	1006.4650 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.0000
165	FREE	EAST.:	9843.3671	LTH: 0.17 CM	0.05 CM	0.41 CM	0.12 CM	EAST.: 0.10 CM
		NORT.:	10241.7532	AZI: 147-38-13	237-38-13			NORT.: 0.14 CM
		ELEV.:	1009.7800 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.8103

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
166	FIXED	EAST.:	10000.0376 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.6020	LTH: 0.10 CM	0.05 CM	0.25 CM	0.12 CM	EAST.:	0.05 CM
		NORT.:	10175.6079	AZI: 185-22-45	275-22-45			NORT.:	0.10 CM
		ELEV.:	966.8130 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.1526
18	FREE	EAST.:	10050.7166	LTH: 0.10 CM	0.04 CM	0.25 CM	0.11 CM	EAST.:	0.05 CM
		NORT.:	10174.8460	AZI: 189- 1-30	279- 1-30			NORT.:	0.10 CM
		ELEV.:	960.3930 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2821
19	FREE	EAST.:	10076.4306	LTH: 0.10 CM	0.05 CM	0.26 CM	0.12 CM	EAST.:	0.06 CM
		NORT.:	10173.1735	AZI: 197-27-54	287-27-54			NORT.:	0.10 CM
		ELEV.:	946.7430 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4143
21	FREE	EAST.:	9977.1006	LTH: 0.09 CM	0.03 CM	0.23 CM	0.08 CM	EAST.:	0.03 CM
		NORT.:	10124.0821	AZI: 175-46-33	265-46-33			NORT.:	0.09 CM
		ELEV.:	1000.1760 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1708
22	FREE	EAST.:	9979.5709	LTH: 0.08 CM	0.03 CM	0.20 CM	0.08 CM	EAST.:	0.03 CM
		NORT.:	10123.5340	AZI: 172-17-34	262-17-34			NORT.:	0.08 CM
		ELEV.:	1000.3040 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2725
23	FREE	EAST.:	9981.5881	LTH: 0.08 CM	0.03 CM	0.19 CM	0.08 CM	EAST.:	0.03 CM
		NORT.:	10124.0341	AZI: 172-51-40	262-51-40			NORT.:	0.08 CM
		ELEV.:	1000.1480 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2415
24	FREE	EAST.:	9996.6754	LTH: 0.08 CM	0.04 CM	0.21 CM	0.09 CM	EAST.:	0.04 CM
		NORT.:	10128.3922	AZI: 175-22-49	265-22-49			NORT.:	0.08 CM
		ELEV.:	990.2490 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1535
25	FREE	EAST.:	10020.8923	LTH: 0.08 CM	0.04 CM	0.21 CM	0.09 CM	EAST.:	0.04 CM
		NORT.:	10129.7582	AZI: 182-59-23	272-59-23			NORT.:	0.08 CM
		ELEV.:	978.1230 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0892
26	FREE	EAST.:	10028.1583	LTH: 0.19 CM	0.04 CM	0.48 CM	0.11 CM	EAST.:	0.05 CM
		NORT.:	10129.6686	AZI: 171-52-33	261-52-33			NORT.:	0.19 CM
		ELEV.:	973.9620 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5056
27	FREE	EAST.:	10040.6848	LTH: 0.08 CM	0.04 CM	0.21 CM	0.10 CM	EAST.:	0.04 CM
		NORT.:	10130.6512	AZI: 190-17-56	280-17-56			NORT.:	0.08 CM
		ELEV.:	965.8000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2569
28	FREE	EAST.:	10050.4805	LTH: 0.09 CM	0.05 CM	0.21 CM	0.11 CM	EAST.:	0.05 CM
		NORT.:	10130.9420	AZI: 193- 4-18	283- 4-18			NORT.:	0.08 CM
		ELEV.:	960.5700 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2838

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
29	FREE	EAST.:	10075.9150	LTH: 0.09 CM	0.05 CM	0.22 CM	0.12 CM	EAST.: 0.06 CM
		NORT.:	10132.3631	AZI: 203-34-18	293-34-18			NORT.: 0.08 CM
		ELEV.:	946.6670 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.4076
31	FREE	EAST.:	9981.3302	LTH: 0.06 CM	0.04 CM	0.15 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10075.7322	AZI: 172-34- 9	262-34- 9			NORT.: 0.06 CM
		ELEV.:	1000.3780 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.1315
32	FREE	EAST.:	9983.6958	LTH: 0.06 CM	0.03 CM	0.15 CM	0.08 CM	EAST.: 0.03 CM
		NORT.:	10076.4502	AZI: 172- 9-57	262- 9-57			NORT.: 0.06 CM
		ELEV.:	1000.3840 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.1851
33	FREE	EAST.:	9986.1828	LTH: 0.06 CM	0.04 CM	0.14 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10076.5818	AZI: 176- 3-43	266- 3-43			NORT.: 0.06 CM
		ELEV.:	1000.0010 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.0673
34	FREE	EAST.:	10000.9474	LTH: 0.07 CM	0.04 CM	0.16 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10074.1725	AZI: 171-57-14	261-57-14			NORT.: 0.07 CM
		ELEV.:	992.0120 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.1576
35	FREE	EAST.:	10025.8970	LTH: 0.06 CM	0.04 CM	0.16 CM	0.10 CM	EAST.: 0.04 CM
		NORT.:	10077.3750	AZI: 188-14-55	278-14-55			NORT.: 0.06 CM
		ELEV.:	977.7070 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.1359
36	FREE	EAST.:	10032.7455	LTH: 0.07 CM	0.04 CM	0.16 CM	0.10 CM	EAST.: 0.04 CM
		NORT.:	10077.9130	AZI: 192-56-38	282-56-38			NORT.: 0.06 CM
		ELEV.:	973.8690 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.2007
37	FREE	EAST.:	10046.4002	LTH: 0.07 CM	0.04 CM	0.16 CM	0.10 CM	EAST.: 0.05 CM
		NORT.:	10079.8541	AZI: 201-56-39	291-56-39			NORT.: 0.06 CM
		ELEV.:	965.3180 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.3086
38	FREE	EAST.:	10055.2828	LTH: 0.07 CM	0.04 CM	0.17 CM	0.11 CM	EAST.: 0.05 CM
		NORT.:	10081.0799	AZI: 207-19-18	297-19-18			NORT.: 0.06 CM
		ELEV.:	960.5840 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.3665
39	FREE	EAST.:	10080.0103	LTH: 0.09 CM	0.06 CM	0.21 CM	0.14 CM	EAST.: 0.08 CM
		NORT.:	10084.1971	AZI: 237-17- 9	327-17- 9			NORT.: 0.07 CM
		ELEV.:	946.8710 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.3826

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1218	LTH:	97.3413 M	0.11 CM	0.03 CM	0.27 CM	0.07 CM	13.5150	0.00	HOR.: 1 / 47601
		AZI:	112-46- 0	154-35-44	244-35-44					VER.:
161	166	LTH:	136.8384 M	0.10 CM	0.04 CM	0.25 CM	0.09 CM	-1.4850	0.00	HOR.: 1 / 63082
		AZI:	32-29-29	246-45-52	336-45-52					VER.:
1218	166	LTH:	153.9486 M	0.11 CM	0.09 CM	0.27 CM	0.21 CM	-15.0000	0.00	HOR.: 1 / 65809
		AZI:	353-56-25	122-20-40	212-20-40					VER.:
161	162	LTH:	203.2703 M	0.12 CM	0.08 CM	0.28 CM	0.21 CM	13.4960	0.00	HOR.: 1 / 98341
		AZI:	357-27-34	92- 9-53	182- 9-53					VER.:
162	166	LTH:	120.3810 M	0.09 CM	0.06 CM	0.23 CM	0.14 CM	-14.9810	0.00	HOR.: 1 / 52253
		AZI:	136-43-43	134-45- 7	224-45- 7					VER.:
1218	31	LTH:	146.9745 M	0.11 CM	0.09 CM	0.27 CM	0.21 CM	-14.6220	0.00	HOR.: 1 / 55483
		AZI:	23-53-28	191-57-59	281-57-59					VER.:
31	166	LTH:	78.0511 M	0.06 CM	0.04 CM	0.15 CM	0.09 CM	-0.3780	0.00	HOR.: 1 / 78280
		AZI:	283-52- 3	172-34- 9	262-34- 9					VER.:
162	39	LTH:	166.9332 M	0.10 CM	0.07 CM	0.25 CM	0.17 CM	-68.1100	0.00	HOR.: 1 / 93263
		AZI:	92-38-11	167-56-33	257-56-33					VER.:
39	166	LTH:	116.1558 M	0.09 CM	0.06 CM	0.21 CM	0.14 CM	53.1290	0.00	HOR.: 1 / 55388
		AZI:	226-29-19	237-17- 9	327-17- 9					VER.:
1218	21	LTH:	169.0456 M	0.13 CM	0.08 CM	0.33 CM	0.20 CM	-14.8240	0.00	HOR.: 1 / 54566
		AZI:	39-39-12	196-37-33	286-37-33					VER.:
21	31	LTH:	48.5345 M	0.07 CM	0.03 CM	0.17 CM	0.08 CM	0.2020	0.00	HOR.: 1 / 62883
		AZI:	274-59-58	179-43-20	269-43-20					VER.:
31	34	LTH:	19.6791 M	0.05 CM	0.03 CM	0.13 CM	0.08 CM	-8.3660	0.00	HOR.: 1 / 15576
		AZI:	355-27-15	154-15-57	244-15-57					VER.:
34	166	LTH:	74.2219 M	0.07 CM	0.04 CM	0.16 CM	0.09 CM	7.9880	0.00	HOR.: 1 / 77991
		AZI:	269-17-51	171-57-14	261-57-14					VER.:
162	163	LTH:	200.4007 M	0.13 CM	0.06 CM	0.31 CM	0.15 CM	-89.6770	0.00	HOR.: 1 / 75103
		AZI:	54-37-57	199-28- 5	289-28- 5					VER.:
163	39	LTH:	123.7190 M	0.09 CM	0.04 CM	0.22 CM	0.11 CM	21.5670	0.00	HOR.: 1 / 115422
		AZI:	178-27-13	269-13-11	359-13-11					VER.:
38	39	LTH:	24.9233 M	0.06 CM	0.03 CM	0.15 CM	0.08 CM	-13.7130	0.00	HOR.: 1 / 31984
		AZI:	7-11- 5	93-59-16	183-59-16					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)'	95% RELATIVE PRECISION
38	166	LTH:	98.1483 M	0.07 CM	0.04 CM	0.17 CM	0.11 CM	39.4160	0.00	HOR.: 1 / 62348
		AZI:	235-44-42	207-19-18	297-19-18					VER.:
165	1218	LTH:	225.5746 M	0.17 CM	0.07 CM	0.42 CM	0.16 CM	5.2200	0.00	HOR.: 1 / 136814
		AZI:	270-54-35	175-46-47	265-46-47					VER.:
165	21	LTH:	178.1324 M	0.11 CM	0.06 CM	0.28 CM	0.15 CM	-9.6040	0.00	HOR.: 1 / 63404
		AZI:	318-39-20	141-11-30	231-11-30					VER.:
21	22	LTH:	2.5304 M	0.07 CM	0.03 CM	0.16 CM	0.07 CM	0.1280	0.00	HOR.: 1 / 1573
		AZI:	347-29-23	179-35-32	269-35-32					VER.:
22	31	LTH:	47.8341 M	0.05 CM	0.03 CM	0.13 CM	0.07 CM	0.0740	0.00	HOR.: 1 / 64265
		AZI:	272- 6-27	170-23-13	260-23-13					VER.:
31	33	LTH:	4.9264 M	0.04 CM	0.03 CM	0.10 CM	0.07 CM	-0.377(	0.00	HOR.: 1 / 4967
		AZI:	9-55-51	166- 7-27	256- 7-27					VER.:
33	34	LTH:	14.9599 M	0.05 CM	0.03 CM	0.11 CM	0.08 CM	-7.9890	0.00	HOR.: 1 / 14206
		AZI:	350-43-55	143-49-40	233-49-40					VER.:
34	35	LTH:	25.1543 M	0.05 CM	0.04 CM	0.11 CM	0.09 CM	-14.3050	0.00	HOR.: 1 / 24865
		AZI:	7-18-52	144- 6- 4	234- 6- 4					VER.:
35	166	LTH:	81.6234 M	0.06 CM	0.04 CM	0.16 CM	0.10 CM	22.2930	0.00	HOR.: 1 / 71665
		AZI:	251-31-46	188-14-55	278-14-55					VER.:
163	29	LTH:	137.7595 M	0.09 CM	0.05 CM	0.21 CM	0.12 CM	21.3630	0.00	HOR.: 1 / 77524
		AZI:	158- 2-43	117-52-23	207-52-23					VER.:
29	39	LTH:	48.3398 M	0.07 CM	0.04 CM	0.16 CM	0.10 CM	0.2040	0.00	HOR.: 1 / 30278
		AZI:	274-51-35	106-49-53	196-49-53					VER.:
28	38	LTH:	50.0928 M	0.05 CM	0.03 CM	0.13 CM	0.08 CM	0.0140	0.00	HOR.: 1 / 50293
		AZI:	275-30- 4	149-51-35	239-51-35					VER.:
28	39	LTH:	55.2910 M	0.07 CM	0.04 CM	0.17 CM	0.10 CM	-13.6990	0.00	HOR.: 1 / 33684
		AZI:	302-16-53	110-42-37	200-42-37					VER.:
37	38	LTH:	8.9667 M	0.04 CM	0.03 CM	0.09 CM	0.08 CM	-4.7340	0.00	HOR.: 1 / 10840
		AZI:	7-51-26	132-46-49	222-46-49					VER.:
37	166	LTH:	92.3752 M	0.07 CM	0.04 CM	0.16 CM	0.10 CM	34.6820	0.00	HOR.: 1 / 63816
		AZI:	239-52-28	201-56-39	291-56-39					VER.:
165	11	LTH:	150.0787 M	0.10 CM	0.04 CM	0.23 CM	0.10 CM	-9.5070	0.00	HOR.: 1 / 74148
		AZI:	333- 1-34	119- 9-19	209- 9-19					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
11	21	LTH:	49.5978 M	0.07 CM	0.04 CM	0.18 CM	0.09 CM	-0.0970	0.00	HOR.: 1 / 56782
		AZI:	269-58-42	174-32-59	264-32-59					VER.:
21	23	LTH:	4.4877 M	0.06 CM	0.03 CM	0.16 CM	0.07 CM	-0.0280	0.00	HOR.: 1 / 2881
		AZI:	359-23-11	180-13-20	270-13-20					VER.:
22	23	LTH:	2.0782 M	0.04 CM	0.03 CM	0.11 CM	0.06 CM	-0.1560	0.00	HOR.: 1 / 2098
		AZI:	13-55-25	164-32-51	254-32-51					VER.:
22	32	LTH:	47.2641 M	0.05 CM	0.03 CM	0.13 CM	0.07 CM	0.0800	0.00	HOR.: 1 / 63557
		AZI:	275- 0-24	168- 9-55	258- 9-55					VER.:
31	32	LTH:	2.4721 M	0.05 CM	0.03 CM	0.11 CM	0.07 CM	0.0060	0.00	HOR.: 1 / 2360
		AZI:	16-52-59	165-55-35	255-55-35					VER.:
32	33	LTH:	2.4905 M	0.04 CM	0.03 CM	0.11 CM	0.07 CM	-0.3830	0.00	HOR.: 1 / 2431
		AZI:	3- 1-48	163-31-59	253-31-59					VER.:
24	33	LTH:	52.8622 M	0.05 CM	0.03 CM	0.13 CM	0.08 CM	9.7520	0.00	HOR.: 1 / 62906
		AZI:	258-33- 4	168-51-41	258-51-41					VER.:
24	34	LTH:	54.3877 M	0.06 CM	0.03 CM	0.14 CM	0.08 CM	1.7630	0.00	HOR.: 1 / 57042
		AZI:	274-30-18	160-40- 9	250-40- 9					VER.:
24	35	LTH:	58.7933 M	0.06 CM	0.03 CM	0.14 CM	0.08 CM	-12.5420	0.00	HOR.: 1 / 47505
		AZI:	299-48-11	153-57-21	243-57-21					VER.:
35	36	LTH:	6.8696 M	0.04 CM	0.03 CM	0.10 CM	0.08 CM	-3.8380	0.00	HOR.: 1 / 7368
		AZI:	4-29-29	145- 1-44	235- 1-44					VER.:
36	166	LTH:	84.5404 M	0.07 CM	0.04 CM	0.16 CM	0.10 CM	26.1310	0.00	HOR.: 1 / 68102
		AZI:	247-14-19	192-56-38	282-56-38					VER.:
163	19	LTH:	157.2117 M	0.10 CM	0.05 CM	0.25 CM	0.12 CM	21.4390	0.00	HOR.: 1 / 64187
		AZI:	144- 2-29	134-54-53	224-54-53					VER.:
19	29	LTH:	40.8136 M	0.06 CM	0.03 CM	0.14 CM	0.07 CM	-0.0760	0.00	HOR.: 1 / 40856
		AZI:	269-16-34	143- 3- 2	233- 3- 2					VER.:
28	29	LTH:	25.4742 M	0.05 CM	0.03 CM	0.13 CM	0.07 CM	-13.9030	0.00	HOR.: 1 / 24827
		AZI:	3-11-52	134-24-23	224-24-23					VER.:
28	37	LTH:	51.2505 M	0.05 CM	0.03 CM	0.13 CM	0.09 CM	4.7480	0.00	HOR.: 1 / 55366
		AZI:	265-26- 1	153- 4-30	243- 4-30					VER.:
36	37	LTH:	13.7920 M	0.04 CM	0.03 CM	0.10 CM	0.08 CM	-8.5510	0.00	HOR.: 1 / 15650
		AZI:	8- 5-26	140-10-55	230-10-55					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
164	165	LTH: 159.9167 M AZI: 191-33-50	0.10 CM 103- 4- 2	0.07 CM 193- 4- 2	0.24 CM	0.18 CM	3.3150	0.00	HOR.: 1 / 90736 VER.:
164	11	LTH: 102.7202 M AZI: 257- 6-28	0.07 CM 174-17-27	0.04 CM 264-17-27	0.18 CM	0.10 CM	-6.1920	0.00	HOR.: 1 / 102747 VER.:
11	13	LTH: 3.5982 M AZI: 359-44-22	0.05 CM 140-59-13	0.03 CM 230-59-13	0.11 CM	0.07 CM	-0.1700	0.00	HOR.: 1 / 3715 VER.:
13	21	LTH: 49.7132 M AZI: 265-49-40	0.07 CM 182-26-31	0.03 CM 272-26-31	0.17 CM	0.07 CM	0.0730	0.00	HOR.: 1 / 68398 VER.:
13	23	LTH: 49.6372 M AZI: 271- 0-17	0.04 CM 168-47-24	0.03 CM 258-47-24	0.10 CM	0.07 CM	0.0450	0.00	HOR.: 1 / 72396 VER.:
22	33	LTH: 47.4154 M AZI: 278- 0-56	0.05 CM 167-52-58	0.03 CM 257-52-58	0.12 CM	0.07 CM	-0.3030	0.00	HOR.: 1 / 60581 VER.:
23	33	LTH: 47.6742 M AZI: 275-31-50	0.04 CM 165-34-46	0.03 CM 255-34-46	0.11 CM	0.07 CM	-0.1470	0.00	HOR.: 1 / 63270 VER.:
23	24	LTH: 15.7042 M AZI: 16- 6-43	0.05 CM 158-37-59	0.03 CM 248-37-59	0.12 CM	0.08 CM	-9.8990	0.00	HOR.: 1 / 15319 VER.:
24	25	LTH: 24.2553 M AZI: 3-13-42	0.05 CM 155-11-34	0.03 CM 245-11-34	0.13 CM	0.08 CM	-12.1260	0.00	HOR.: 1 / 20310 VER.:
25	35	LTH: 52.6217 M AZI: 275-27-27	0.05 CM 159- 5- 5	0.03 CM 249- 5- 5	0.13 CM	0.08 CM	-0.4160	0.00	HOR.: 1 / 56300 VER.:
26	35	LTH: 52.3424 M AZI: 267-31-26	0.18 CM 169-10-24	0.03 CM 259-10-24	0.45 CM	0.08 CM	3.7450	0.00	HOR.: 1 / 49427 VER.:
26	36	LTH: 51.9584 M AZI: 275- 3-54	0.18 CM 169- 1-37	0.03 CM 259- 1-37	0.45 CM	0.08 CM	-0.0930	0.00	HOR.: 1 / 35351 VER.:
163	164	LTH: 280.5396 M AZI: 136-32-40	0.15 CM 135-18-23	0.07 CM 225-18-23	0.36 CM	0.16 CM	81.1610	0.00	HOR.: 1 / 78370 VER.:
164	19	LTH: 126.3478 M AZI: 307-12- 6	0.08 CM 140-34- 5	0.03 CM 230-34- 5	0.20 CM	0.07 CM	-59.7220	0.00	HOR.: 1 / 63966 VER.:
18	19	LTH: 25.7683 M AZI: 356-16-42	0.05 CM 138-30- 5	0.02 CM 228-30- 5	0.13 CM	0.06 CM	-13.6500	0.00	HOR.: 1 / 23339 VER.:
18	29	LTH: 49.3939 M AZI: 300-40-26	0.06 CM 142-32- 4	0.03 CM 232-32- 4	0.15 CM	0.07 CM	-13.7260	0.00	HOR.: 1 / 35635 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
18	28	LTH: 43.9047 M AZI: 269-41-30	0.06 CM 147-58-28	0.03 CM 237-58-28	0.14 CM	0.07 CM	0.1770	0.00	HOR.: 1 / 45810 VER.:
27	28	LTH: 9.8000 M AZI: 1-42- 1	0.05 CM 142-25-45	0.03 CM 232-25-45	0.13 CM	0.07 CM	-5.2300	0.00	HOR.: 1 / 9087 VER.:
27	37	LTH: 51.1176 M AZI: 276-25-10	0.05 CM 155-11-32	0.03 CM 245-11-32	0.13 CM	0.08 CM	-0.4820	0.00	HOR.: 1 / 53903 VER.:
26	37	LTH: 53.0495 M AZI: 290- 6-45	0.18 CM 168-43-54	0.03 CM 258-43-54	0.45 CM	0.08 CM	-8.6440	0.00	HOR.: 1 / 21847 VER.:
164	12	LTH: 101.0840 M AZI: 258- 0-52	0.07 CM 185-54-26	0.03 CM 275-54-26	0.17 CM	0.07 CM	-6.1500	0.00	HOR.: 1 / 123914 VER.:
11	12	LTH: 2.2973 M AZI: 32-58-43	0.05 CM 144-23- 3	0.03 CM 234-23- 3	0.11 CM	0.07 CM	0.0420	0.00	HOR.: 1 / 3095 VER.:
12	13	LTH: 2.0969 M AZI: 322-50- 0	0.03 CM 167- 5- 4	0.02 CM 257- 5- 4	0.09 CM	0.06 CM	-0.2120	0.00	HOR.: 1 / 2562 VER.:
13	24	LTH: 48.0016 M AZI: 289-25- 2	0.05 CM 160-41-38	0.03 CM 250-41-38	0.12 CM	0.08 CM	-9.8540	0.00	HOR.: 1 / 48937 VER.:
14	24	LTH: 48.7666 M AZI: 271-19- 7	0.07 CM 144-53-54	0.04 CM 234-53-54	0.16 CM	0.09 CM	-2.3210	0.00	HOR.: 1 / 40322 VER.:
14	25	LTH: 53.7370 M AZI: 298- 8- 3	0.07 CM 141-42-51	0.03 CM 231-42-51	0.17 CM	0.08 CM	-14.4470	0.00	HOR.: 1 / 33920 VER.:
25	26	LTH: 7.2666 M AZI: 359-17-35	0.18 CM 168-48-51	0.03 CM 258-48-51	0.44 CM	0.08 CM	-4.1610	0.00	HOR.: 1 / 1665 VER.:
164	18	LTH: 111.1863 M AZI: 297- 6-59	0.08 CM 148-17-18	0.03 CM 238-17-18	0.19 CM	0.07 CM	-46.0720	0.00	HOR.: 1 / 68003 VER.:
18	27	LTH: 45.3191 M AZI: 257-12-39	0.06 CM 151-16-49	0.03 CM 241-16-49	0.14 CM	0.07 CM	5.4070	0.00	HOR.: 1 / 56164 VER.:
26	27	LTH: 12.5650 M AZI: 4-29- 6	0.18 CM 168-42-31	0.03 CM 258-42-31	0.44 CM	0.08 CM	-8.1620	0.00	HOR.: 1 / 2946 VER.:
164	14	LTH: 96.7689 M AZI: 267-20-37	0.07 CM 154- 0-37	0.04 CM 244- 0-37	0.18 CM	0.10 CM	-13.8950	0.00	HOR.: 1 / 81561 VER.:
12	14	LTH: 16.6546 M AZI: 7-38-39	0.06 CM 144-52-44	0.03 CM 234-52-44	0.16 CM	0.08 CM	-7.7450	0.00	HOR.: 1 / 12944 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
13	14	LTH:	15.2388 M	0.06 CM	0.03 CM	0.15 CM	0.08 CM	-7.5330	0.00	HOR.: 1 / 15393
		AZI:	13-12-34	133-54- 6	223-54- 6					VER.:
14	15	LTH:	26.7081 M	0.06 CM	0.03 CM	0.15 CM	0.07 CM	-14.8650	0.00	HOR.: 1 / 21980
		AZI:	358-22-47	135-54- 3	225-54- 3					VER.:
15	25	LTH:	46.6524 M	0.06 CM	0.03 CM	0.14 CM	0.07 CM	0.4180	0.00	HOR.: 1 / 57539
		AZI:	268-19-54	158- 5-29	248- 5-29					VER.:
16	25	LTH:	46.9795 M	0.06 CM	0.03 CM	0.14 CM	0.07 CM	2.9850	0.00	HOR.: 1 / 60143
		AZI:	262-59- 0	157-57-34	247-57-34					VER.:
16	26	LTH:	46.7423 M	0.18 CM	0.03 CM	0.45 CM	0.07 CM	-1.1760	0.00	HOR.: 1 / 37009
		AZI:	271-52-20	168-34-20	258-34-20					VER.:
164	17	LTH:	105.8733 M	0.08 CM	0.03 CM	0.18 CM	0.08 CM	-39.6520	0.00	HOR.: 1 / 67474
		AZI:	291-56-37	147-56-17	237-56-17					VER.:
17	18	LTH:	11.1407 M	0.06 CM	0.02 CM	0.14 CM	0.06 CM	-6.4200	0.00	HOR.: 1 / 9762
		AZI:	356- 4-42	137-39- 6	227-39- 6					VER.:
17	27	LTH:	44.9698 M	0.06 CM	0.03 CM	0.15 CM	0.08 CM	-1.0130	0.00	HOR.: 1 / 42071
		AZI:	271-22-46	145-19-38	235-19-38					VER.:
17	26	LTH:	47.3433 M	0.18 CM	0.04 CM	0.45 CM	0.09 CM	7.1490	0.00	HOR.: 1 / 49305
		AZI:	256- 0-43	168- 2- 7	258- 2- 7					VER.:
164	15	LTH:	99.9203 M	0.07 CM	0.03 CM	0.17 CM	0.06 CM	-28.7600	0.00	HOR.: 1 / 95914
		AZI:	282-50-40	160-37-46	250-37-46					VER.:
15	16	LTH:	4.3806 M	0.05 CM	0.02 CM	0.12 CM	0.05 CM	-2.5670	0.00	HOR.: 1 / 4105
		AZI:	359-56- 9	149-33-33	239-33-33					VER.:
16	17	LTH:	12.9943 M	0.06 CM	0.03 CM	0.14 CM	0.06 CM	-8.3250	0.00	HOR.: 1 / 11380
		AZI:	356-34- 3	139-15-45	229-15-45					VER.:
164	16	LTH:	100.9892 M	0.07 CM	0.03 CM	0.17 CM	0.06 CM	-31.3270	0.00	HOR.: 1 / 88450
		AZI:	285-16- 3	158-22-59	248-22-59					VER.:

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	125	0.675242D+02	0.521082D+02	1.13835
AZIMUTHS	1	0.000000D+00	-.444565D-16	1.00000
HORIZONTAL DISTANCE	5	0.360539D+01	0.389181D+01	0.96250
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
HEIGHT DIFFERENCE	0	0.000000D+00	0.000000D+00	1.00000
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	131	0.711296D+02	56	1.12702

STATIONS:	FIXED	1
	FREE	33
	WEIGHTED	0
	TOTAL	34

CONVERGENCE:	ITERATIONS USED	3
	TOLERANCE	0.000100
	COMPUTATION TIME	34.191 SEC

APPENDIX II D

Horizontal Adjustment:

Epoch 5

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 16:31:28 DATE: 11-OCT-87

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*  BSC GROUP - BALL MOUNTAIN DAM - DEFORMATION ANALYSIS - PROJECT 1-1654.00 EPOCH 5 *
*                                                                                   *
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PROJECT INFORMATION:

HORIZONTAL ANALYSIS FOR JULY 1987
DATABASE 11654005H.DBS;2
1165400H

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

OPTIONS IN EFFECT

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.001000
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.20000 CM
VARIABLE PART OF EDM MEASUREMENT	3.00000 PPM
ZENITH DISTANCE	10.00000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	2.00000 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6380.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT 0.130

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.0770		10173.6840		1000.2730	FIXED
12	9979.0050		10174.9320		1000.3150	FIXED
1218	9846.9510		10016.2120		1015.0000	FIXED
13	9980.6700		10173.6680		1000.1030	FIXED
14	9995.5090		10177.1540		992.5700	FIXED
15	10022.2508		10176.3887		977.7050	FIXED
16	10026.6317		10176.3821		975.1380	FIXED
161	9884.6199		9926.4502		1001.4850	FIXED
162	10087.6880		9917.4328		1014.9810	FIXED
163	10203.6805		10080.9074		925.3040	FIXED
164	10000.0376		10273.8113		1006.4650	FIXED
165	9843.3021		10241.7285		1009.7800	FIXED
17	10039.6041		10175.6028		966.8130	FIXED
18	10050.7176		10174.8432		960.3930	FIXED
21	9977.0700		10124.0820		1000.1760	FIXED
22	9979.5680		10123.5295		1000.3040	FIXED
23	9981.5520		10124.0340		1000.1480	FIXED
24	9996.6736		10128.3899		990.2490	FIXED
25	10020.8924		10129.7558		978.1230	FIXED
26	10028.1566		10129.6705		973.9620	FIXED
27	10040.6849		10130.6476		965.8000	FIXED
28	10050.4811		10130.9384		960.5700	FIXED
29	10075.8880		10132.3860		946.6670	FIXED
31	9981.3100		10075.7320		1000.3780	FIXED
32	9983.6938		10076.4466		1000.3840	FIXED
33	9986.1794		10076.5789		1000.0010	FIXED
34	10000.9250		10074.1730		992.0120	FIXED
35	10025.8770		10077.3820		977.7070	FIXED
36	10032.7462		10077.9101		973.8690	FIXED
37	10046.3820		10079.8650		965.3180	FIXED
38	10055.2650		10081.0940		960.5840	FIXED
39	10079.9950		10084.2180		946.8710	FIXED

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
161	165	0- 0- 0.000	0.300	0.000	
161	164	25-50- 4.200	0.300	-42.378	****
161	11	27-58- 1.600	0.300	-11.369	
161	12	28-15-43.600	0.300	-11.500	
161	13	28-41-45.700	0.300	-8.979	
161	21	32-31-51.200	0.300	-17.940	
161	22	33-10-41.300	0.300	-42.070	****
161	23	33-35-40.800	0.300	-12.540	
161	31	40-23-25.300	0.300	-25.246	
161	32	40-53-58.100	0.300	-42.472	****
161	33	41-31-54.800	0.300	-43.053	****
161	166	64-57-45.200	0.300	-42.480	****
161	1218	344-41-23.600	0.300	-38.616	****
162	165	0- 0- 0.000	0.300	0.000	
162	31	3- 5-42.800	0.200	-17.086	
162	32	3-48-28.800	0.200	-31.770	****
162	33	4-27-41.100	0.200	-31.753	****
162	34	8- 1-51.700	0.200	-13.337	
162	35	15-52- 7.800	0.200	-13.937	
162	36	18- 5-35.000	0.200	-31.831	****
162	37	22-43-46.700	0.200	-14.203	
162	29	33-51-27.200	0.300	-5.799	
162	28	27- 6-24.800	0.300	-32.200	****
162	27	24-33-37.700	0.300	-31.853	****
162	26	21-19-26.300	0.300	-31.829	****
162	25	19-31-44.800	0.300	-32.094	****
162	24	13-39-19.100	0.300	-32.080	****
162	23	9-48-31.600	0.300	-6.733	
162	22	9-18-38.300	0.300	-31.666	****
162	11	13-39- 7.000	0.300	-6.782	
162	12	14- 6-57.100	0.300	-8.041	
162	13	14-19-55.300	0.300	-4.176	
162	14	17-27-35.000	0.300	-3.721	
162	15	22-48-39.000	0.300	-32.108	****
162	16	23-43-30.700	0.300	-32.235	****
162	17	26-26-31.500	0.300	-31.765	****
162	18	28-49- 9.500	0.300	-31.757	****
162	163	72-21-35.300	0.400	3.984	
163	162	0- 0- 0.000	0.300	0.000	
163	34	52-44-39.700	0.300	0.000	
163	33	53-30-23.300	0.300	-0.498	
163	35	53-30-37.000	0.300	-1.961	
163	36	53-38-45.500	0.300	13.801	
163	37	54-16- 0.700	0.300	-0.567	
163	38	54-43- 6.300	0.300	-1.175	
163	39	56-10-45.100	0.300	-2.664	

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
163	24	67-33-55.000	0.500	-0.916	
163	25	69-36-36.700	0.500	4.951	
163	26	70-10-28.500	0.500	6.510	
163	27	71-37-11.100	0.500	10.089	
163	28	72-44- 9.800	0.500	13.096	
163	29	76-35-16.200	0.500	0.334	
163	13	77-13-51.000	0.400	-2.181	
163	14	79-27-33.800	0.400	-1.583	
163	15	82-24- 7.000	0.400	-4.752	
163	16	82-58-53.600	0.400	-4.322	
163	17	84-38-13.300	0.400	-2.637	
163	18	86-12- 3.600	0.400	-0.507	
164	163	0- 0- 0.000	0.400	0.000	
164	39	23-40-32.600	0.400	-31.948	
164	38	30-32-59.500	0.400	-38.083	
164	37	33- 6- 1.700	0.400	-42.107	****
164	36	37- 3-53.600	0.400	-26.768	
164	35	39- 2-39.600	0.400	-46.637	****
164	34	46-17- 0.000	0.400	-47.704	****
164	32	51-16-40.000	0.400	-26.488	
164	21	55-15-15.800	0.400	-63.856	****
164	22	54-18- 1.200	0.400	-26.456	
164	24	47-52- 8.700	0.400	-26.478	
164	25	38-18-23.200	0.400	-26.585	
164	26	35-30-18.600	0.400	-26.886	
164	27	30-41-36.600	0.400	-26.506	
164	28	27- 5-50.700	0.400	-26.915	
164	29	18-20- 0.000	0.400	-43.235	****
164	11	59-26-11.600	0.400	-108.513	****
164	12	58-31-46.600	0.400	-108.201	****
164	17	24-36- 0.500	0.400	-26.913	
164	16	31-16-34.700	0.400	-27.092	
164	15	33-41-58.300	0.400	-26.569	
164	14	49-11-58.700	0.400	-122.735	****
164	13	57-27-51.500	0.400	-117.949	****
164	18	19-25-39.500	0.400	-26.486	
165	164	0- 0- 0.000	0.400	0.000	
165	12	37-47-11.700	0.400	0.000	
165	13	37-56- 4.700	0.400	-3.510	
165	11	38-32-21.300	0.400	0.536	
165	23	51-59- 9.100	0.400	-5.142	
165	22	52-31-19.300	0.400	15.183	
165	21	52-54-34.000	0.400	-2.100	
165	33	60-43- 1.300	0.400	8.658	
165	31	61-50-18.200	0.400	-2.778	
165	166	68-37-25.300	0.400	-3.061	

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
165	161	94- 6-39.500	0.400	-6.591
165	1218	100-39-12.100	0.400	4.915
166	165	0- 0- 0.000	0.500	0.000
166	31	19- 4-19.200	0.800	-0.902
166	32	20-52-50.600	0.800	-45.402
166	33	22-41-25.100	0.800	-44.166
166	34	33-38-32.600	0.700	10.502
166	35	51-24-47.800	0.700	12.210
166	36	55-42-15.500	0.700	-45.025
166	37	63- 4- 7.800	0.700	7.648
166	38	67-11-52.200	0.700	6.423
166	29	62-45-30.100	0.500	5.792
166	28	54- 0-16.700	0.500	-44.431
166	27	50-13- 7.200	0.500	-44.507
166	25	42- 4-11.500	0.500	-44.009
166	24	31-26-30.300	0.500	-44.279
166	23	24-28-57.800	0.500	7.625
166	22	23-32-10.800	0.500	-45.360
166	21	22-28-14.100	0.500	-2.498
166	13	26-35-39.100	0.500	5.602
166	14	31-29-32.600	0.500	6.975
166	15	40- 7- 5.000	0.500	-44.158
166	16	41-30-51.000	0.500	-44.564
166	17	45-38-11.600	0.500	-45.146
166	18	49- 6-10.500	0.500	-44.703
166	165	0- 0- 0.000	0.700	0.000
166	164	32-56-28.100	0.700	-47.836
166	163	101-16-34.100	0.700	1.072
166	161	270-26-58.500	0.700	-46.910

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
166	164	0- 0- 0.000	0.001	0.000

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
164	165	159.9188	0.2480	-6.66
164	166	273.8534	0.2822	-0.17
164	163	280.5430	0.2842	3.93
164	161	366.0355	0.3098	0.14
164	162	366.9999	0.3101	0.10

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO ZENITH DISTANCE OBSERVATIONS

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HEIGHT DIFFERENCE OBSERVATIONS

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED

ALL STATIONS ARE INVOLVED IN AT LEAST TWO OBSERVATIONS

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	127
POINTS	1000	33
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	9
MATRIX ELEMENTS	99998	2145

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
161	165	O: 0- 0- 0.00	0.30		33.09	COM:	0.3 SEC	0.0 CM	317.9855
		C: - 0- 0- 0.09	0.25			BND:	2.2 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.09	0.17	-0.50					
161	164	O: 25-50- 4.20	0.30		62.54	COM:	0.2 SEC	0.0 CM	366.0341
		C: 25-50- 4.05	0.18			BND:	1.6 SEC	-0.1 CM	
		V=C-O: - 0- 0- 0.15	0.24	-0.65					
161	11	O: 27-58- 1.60	0.30		66.31	COM:	-0.5 SEC	0.0 CM	263.9622
		C: 27-58- 1.90	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O: 0- 0- 0.30	0.24	1.23					
161	12	O: 28-15-43.60	0.30		66.95	COM:	0.5 SEC	0.0 CM	265.8099
		C: 28-15-43.24	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.36	0.25	-1.47					
161	13	O: 28-41-45.70	0.30		68.70	COM:	-1.0 SEC	0.0 CM	265.2293
		C: 28-41-46.41	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O: 0- 0- 0.71	0.25	2.84 ..					
161	21	O: 32-31-51.20	0.30		41.79	COM:	0.6 SEC	0.0 CM	218.1956
		C: 32-31-50.95	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.25	0.19	-1.27					
161	22	O: 33-10-41.30	0.30		41.72	COM:	1.1 SEC	0.1 CM	218.7588
		C: 33-10-40.85	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.45	0.19	-2.34					
161	23	O: 33-35-40.80	0.30		22.89	COM:	-0.1 SEC	0.0 CM	220.0904
		C: 33-35-40.82	0.26			BND:	2.6 SEC	0.2 CM	
		V=C-O: 0- 0- 0.02	0.14	0.12					
161	31	O: 40-23-25.30	0.30		7.33	COM:	-0.4 SEC	0.0 CM	177.8682
		C: 40-23-25.33	0.29			BND:	4.6 SEC	0.4 CM	
		V=C-O: 0- 0- 0.03	0.08	0.32					
161	32	O: 40-53-58.10	0.30		17.15	COM:	0.8 SEC	0.1 CM	179.7625
		C: 40-53-57.96	0.27			BND:	3.0 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.14	0.12	-1.15					
161	33	O: 41-31-54.80	0.30		28.47	COM:	-1.6 SEC	-0.1 CM	181.2539
		C: 41-31-55.27	0.25			BND:	2.3 SEC	0.2 CM	
		V=C-O: 0- 0- 0.47	0.16	2.91 ..					
161	166	O: 64-57-45.20	0.30		15.76	COM:	0.5 SEC	0.0 CM	136.8370
		C: 64-57-45.13	0.28			BND:	3.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.07	0.12	-0.60					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
161	1218	O: 344-41-23.60	0.30		0.00	COM:	NOT		97.3373
		C: 344-41-23.60	0.30			BND:	CONTROLLED		
		V=C-O: - 0- 0- 0.00	0.00	0.00					
162	165	O: 0- 0- 0.00	0.30		45.18	COM:	0.2 SEC	0.0 CM	406.0468
		C: - 0- 0- 0.07	0.22			BND:	1.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.07	0.20	-0.37					
162	31	O: 3- 5-42.80	0.20		22.66	COM:	-0.5 SEC	0.0 CM	190.7117
		C: 3- 5-42.92	0.18			BND:	1.7 SEC	0.2 CM	
		V=C-O: 0- 0- 0.12	0.10	1.28					
162	32	O: 3-48-28.80	0.20		15.30	COM:	0.6 SEC	0.1 CM	190.0005
		C: 3-48-28.71	0.18			BND:	2.1 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.09	0.08	-1.13					
162	33	O: 4-27-41.10	0.20		30.00	COM:	0.4 SEC	0.0 CM	188.7630
		C: 4-27-40.99	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.11	0.11	-1.03					
162	34	O: 8- 1-51.70	0.20		28.39	COM:	0.0 SEC	0.0 CM	179.1394
		C: 8- 1-51.69	0.17			BND:	1.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.01	0.11	-0.09					
162	35	O: 15-52- 7.80	0.20		24.71	COM:	-0.1 SEC	0.0 CM	171.4593
		C: 15-52- 7.83	0.17			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.03	0.10	0.33					
162	36	O: 18- 5-35.00	0.20		23.09	COM:	0.2 SEC	0.0 CM	169.6218
		C: 18- 5-34.97	0.18			BND:	1.7 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.03	0.10	-0.36					
162	37	O: 22-43-46.70	0.20		19.91	COM:	0.1 SEC	0.0 CM	167.5827
		C: 22-43-46.69	0.18			BND:	1.9 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.01	0.09	-0.12					
162	29	O: 33-51-27.20	0.30		48.48	COM:	0.3 SEC	0.0 CM	215.2489
		C: 33-51-27.03	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.17	0.21	-0.80					
162	28	O: 27- 6-24.80	0.30		59.56	COM:	-0.6 SEC	0.0 CM	216.7233
		C: 27- 6-25.16	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.36	0.23	1.54					
162	27	O: 24-33-37.70	0.30		62.32	COM:	0.0 SEC	0.0 CM	218.3342
		C: 24-33-37.70	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.00	0.24	0.02					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	26	O: 21-19-26.30	0.30		53.94	COM:	-0.1 SEC	0.0 CM	220.4288
		C: 21-19-26.33	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.03	0.22	0.15					
162	25	O: 19-31-44.80	0.30		63.08	COM:	-0.5 SEC	0.0 CM	222.5819
		C: 19-31-45.09	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.29	0.24	1.23					
162	24	O: 13-39-19.10	0.30		56.56	COM:	-0.3 SEC	0.0 CM	229.7531
		C: 13-39-19.30	0.20			BND:	1.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.20	0.23	0.87					
162	23	O: 9-48-31.60	0.30		59.81	COM:	1.2 SEC	0.1 CM	232.2495
		C: 9-48-30.88	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.72	0.23	-3.10 ..					
162	22	O: 9-18-38.30	0.30		62.09	COM:	0.2 SEC	0.0 CM	232.7354
		C: 9-18-38.17	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.13	0.24	-0.55					
162	11	O: 13-39- 7.00	0.30		64.45	COM:	0.8 SEC	0.0 CM	279.0812
		C: 13-39- 6.50	0.18			BND:	1.5 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.50	0.24	-2.07					
162	12	O: 14- 6-57.10	0.30		64.80	COM:	-0.5 SEC	0.0 CM	279.4726
		C: 14- 6-57.41	0.18			BND:	1.5 SEC	0.0 CM	
		V=C-O: 0- 0- 0.31	0.24	1.29					
162	13	O: 14-19-55.30	0.30		73.71	COM:	-0.2 SEC	0.0 CM	277.6610
		C: 14-19-55.42	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.12	0.26	0.45					
162	14	O: 17-27-35.00	0.30		67.25	COM:	-0.4 SEC	0.0 CM	275.5678
		C: 17-27-35.26	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O: 0- 0- 0.26	0.25	1.06					
162	15	O: 22-48-39.00	0.30		74.98	COM:	-0.3 SEC	0.0 CM	267.0959
		C: 22-48-39.25	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.25	0.26	0.95					
162	16	O: 23-43-30.70	0.30		74.00	COM:	-0.6 SEC	0.0 CM	266.0500
		C: 23-43-31.13	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.43	0.26	1.68					
162	17	O: 26-26-31.50	0.30		68.11	COM:	0.1 SEC	0.0 CM	262.6096
		C: 26-26-31.43	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.07	0.25	-0.30					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	18	O: 28-49- 9.50	0.30		61.48	COM:	0.2 SEC	0.0 CM	260.0518
		C: 28-49- 9.39	0.19			BND:	1.6 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.11	0.24	-0.47					
162	163	O: 72-21-35.30	0.40		18.45	COM:	2.4 SEC	0.2 CM	200.4031
		C: 72-21-34.86	0.36			BND:	3.8 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.44	0.17	-2.55					
163	162	O: 0- 0- 0.00	0.30		0.00	COM:	NOT		200.4031
		C: 0- 0- 0.00	0.30			BND:	CONTROLLED		
		V=C-O: 0- 0- 0.00	0.00	0.00					
163	34	O: 52-44-39.70	0.30		19.73	COM:	-0.1 SEC	0.0 CM	202.8494
		C: 52-44-39.71	0.27			BND:	2.8 SEC	0.2 CM	
		V=C-O: 0- 0- 0.01	0.13	0.11					
163	33	O: 53-30-23.30	0.30		37.87	COM:	-1.2 SEC	0.0 CM	217.5469
		C: 53-30-23.76	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O: 0- 0- 0.46	0.18	2.50					
163	35	O: 53-30-37.00	0.30		18.98	COM:	-0.3 SEC	0.0 CM	177.8211
		C: 53-30-37.05	0.27			BND:	2.8 SEC	0.2 CM	
		V=C-O: 0- 0- 0.05	0.13	0.40					
163	36	O: 53-38-45.50	0.30		18.13	COM:	-0.3 SEC	0.0 CM	170.9634
		C: 53-38-45.56	0.27			BND:	2.9 SEC	0.2 CM	
		V=C-O: 0- 0- 0.06	0.13	0.45					
163	37	O: 54-16- 0.70	0.30		15.46	COM:	-0.6 SEC	0.0 CM	157.2869
		C: 54-16- 0.80	0.28			BND:	3.2 SEC	0.2 CM	
		V=C-O: 0- 0- 0.10	0.12	0.83					
163	38	O: 54-43- 6.30	0.30		10.16	COM:	1.2 SEC	0.1 CM	148.4026
		C: 54-43- 6.18	0.28			BND:	3.9 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.12	0.10	-1.30					
163	39	O: 56-10-45.10	0.30		0.00	COM:	NOT		123.7182
		C: 56-10-45.10	0.30			BND:	CONTROLLED		
		V=C-O: - 0- 0- 0.00	0.00	0.00					
163	24	O: 67-33-55.00	0.50		22.34	COM:	0.7 SEC	0.1 CM	212.3986
		C: 67-33-54.84	0.44			BND:	4.4 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.16	0.24	-0.70					
163	25	O: 69-36-36.70	0.50		19.38	COM:	2.4 SEC	0.2 CM	189.2203
		C: 69-36-36.23	0.45			BND:	4.7 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.47	0.22	-2.15					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	26	O:	70-10-28.50	0.50		0.83	COM:	0.8 SEC	0.1 CM	182.1897
		C:	70-10-28.49	0.50			BND:	22.6 SEC	2.0 CM	
		V=C-O:	- 0- 0- 0.01	0.05	-0.15					
163	27	O:	71-37-11.10	0.50		25.55	COM:	1.1 SEC	0.1 CM	170.4355
		C:	71-37-10.83	0.43			BND:	4.1 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.27	0.25	-1.08					
163	28	O:	72-44- 9.80	0.50		28.28	COM:	0.9 SEC	0.0 CM	161.1823
		C:	72-44- 9.56	0.42			BND:	3.9 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.24	0.27	-0.91					
163	29	O:	76-35-16.20	0.50		30.43	COM:	-1.4 SEC	-0.1 CM	137.7588
		C:	76-35-16.63	0.42			BND:	3.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.43	0.28	1.57					
163	13	O:	77-13-51.00	0.40		39.20	COM:	-0.1 SEC	0.0 CM	241.5135
		C:	77-13-51.04	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.04	0.25	0.15					
163	14	O:	79-27-33.80	0.40		13.21	COM:	1.0 SEC	0.1 CM	229.3249
		C:	79-27-33.67	0.37			BND:	4.5 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.13	0.15	-0.90					
163	15	O:	82-24- 7.00	0.40		11.29	COM:	2.3 SEC	0.2 CM	205.0491
		C:	82-24- 6.74	0.38			BND:	4.9 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.26	0.13	-1.94					
163	16	O:	82-58-53.60	0.40		14.19	COM:	0.5 SEC	0.0 CM	201.1799
		C:	82-58-53.53	0.37			BND:	4.4 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.07	0.15	-0.48					
163	17	O:	84-38-13.30	0.40		23.73	COM:	-0.6 SEC	0.0 CM	189.4723
		C:	84-38-13.45	0.35			BND:	3.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.15	0.19	0.78					
163	18	O:	86-12- 3.60	0.40		30.01	COM:	0.8 SEC	0.0 CM	179.5353
		C:	86-12- 3.35	0.33			BND:	3.0 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.25	0.22	-1.15					
164	163	O:	0- 0- 0.00	0.40		17.86	COM:	-0.7 SEC	-0.1 CM	280.5436
		C:	0- 0- 0.12	0.36			BND:	3.9 SEC	0.4 CM	
		V=C-O:	0- 0- 0.12	0.17	0.73					
164	39	O:	23-40-32.60	0.40		0.00	COM:	NOT		205.7934
		C:	23-40-32.60	0.40			BND:	CONTROLLED		
		V=C-O:	- 0- 0- 0.00	0.00	0.00					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	38	O: 30-32-59.50	0.40		38.18	COM:	0.8 SEC	0.0 CM	200.4965
		C: 30-32-59.18	0.31			BND:	2.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.32	0.25	-1.30					
164	37	O: 33- 6- 1.70	0.40		72.93	COM:	-0.3 SEC	0.0 CM	199.4256
		C: 33- 6- 1.92	0.21			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.22	0.34	0.65					
164	36	O: 37- 3-53.60	0.40		74.15	COM:	0.0 SEC	0.0 CM	198.6130
		C: 37- 3-53.60	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.00	0.34	-0.01					
164	35	O: 39- 2-39.60	0.40		74.31	COM:	-0.6 SEC	0.0 CM	198.1351
		C: 39- 2-40.04	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.44	0.34	1.28					
164	34	O: 46-17- 0.00	0.40		69.98	COM:	-0.4 SEC	0.0 CM	199.6433
		C: 46-17- 0.28	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.28	0.33	0.84					
164	32	O: 51-16-40.00	0.40		68.33	COM:	0.3 SEC	0.0 CM	198.0402
		C: 51-16-39.77	0.23			BND:	2.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.23	0.33	-0.70					
164	21	O: 55-15-15.80	0.40		52.85	COM:	0.1 SEC	0.0 CM	151.4791
		C: 55-15-15.75	0.27			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.05	0.29	-0.17					
164	22	O: 54-18- 1.20	0.40		56.07	COM:	0.6 SEC	0.0 CM	151.6694
		C: 54-18- 0.84	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.36	0.30	-1.19					
164	24	O: 47-52- 8.70	0.40		46.72	COM:	0.5 SEC	0.0 CM	145.4603
		C: 47-52- 8.44	0.29			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.26	0.27	-0.94					
164	25	O: 38-18-23.20	0.40		55.91	COM:	0.5 SEC	0.0 CM	145.5572
		C: 38-18-22.93	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.27	0.30	-0.90					
164	26	O: 35-30-18.60	0.40		38.93	COM:	-0.1 SEC	0.0 CM	146.8578
		C: 35-30-18.64	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.04	0.25	0.15					
164	27	O: 30-41-36.60	0.40		54.72	COM:	0.5 SEC	0.0 CM	148.8222
		C: 30-41-36.33	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.27	0.30	-0.92					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	28	O:	27- 5-50.70	0.40		53.48	COM:	-0.2 SEC	0.0 CM	151.5163
		C:	27- 5-50.83	0.27			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.13	0.29	0.43					
164	29	O:	18-20- 0.00	0.40		50.79	COM:	-0.5 SEC	0.0 CM	160.5185
		C:	18-20- 0.24	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.24	0.29	0.83					
164	11	O:	59-26-11.60	0.40		22.41	COM:	0.0 SEC	0.0 CM	102.7255
		C:	59-26-11.60	0.35			BND:	3.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.00	0.19	-0.01					
164	12	O:	58-31-46.60	0.40		22.28	COM:	0.5 SEC	0.0 CM	101.0916
		C:	58-31-46.48	0.35			BND:	3.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.12	0.19	-0.61					
164	17	O:	24-36- 0.50	0.40		30.71	COM:	-0.3 SEC	0.0 CM	105.8792
		C:	24-36- 0.61	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.11	0.22	0.48					
164	16	O:	31-16-34.70	0.40		29.30	COM:	-0.6 SEC	0.0 CM	100.9935
		C:	31-16-34.88	0.34			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.18	0.22	0.85					
164	15	O:	33-41-58.30	0.40		28.48	COM:	0.6 SEC	0.0 CM	99.9228
		C:	33-41-58.13	0.34			BND:	3.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.17	0.21	-0.81					
164	14	O:	49-11-58.70	0.40		17.87	COM:	0.1 SEC	0.0 CM	96.7733
		C:	49-11-58.69	0.36			BND:	3.9 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.01	0.17	-0.07					
164	13	O:	57-27-51.50	0.40		28.85	COM:	-2.0 SEC	-0.1 CM	101.9988
		C:	57-27-52.08	0.34			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.58	0.21	2.68 ..					
164	18	O:	19-25-39.50	0.40		30.95	COM:	0.9 SEC	0.0 CM	111.1896
		C:	19-25-39.23	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.27	0.22	-1.21					
165	164	O:	0- 0- 0.00	0.40		0.00	COM:	NOT		159.9193
		C:	0- 0- 0.00	0.40			BND:	CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00					
165	12	O:	37-47-11.70	0.40		13.53	COM:	-1.7 SEC	-0.1 CM	151.2423
		C:	37-47-11.93	0.37			BND:	4.5 SEC	0.3 CM	
		V=C-O:	0- 0- 0.23	0.15	1.60					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
165	13	O: 37-56- 4.70	0.40		21.84	COM:	0.1 SEC	0.0 CM	153.2993
		C: 37-56- 4.67	0.35			BND:	3.5 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.03	0.19	-0.17					
165	11	O: 38-32-21.30	0.40		13.82	COM:	2.4 SEC	0.2 CM	150.0777
		C: 38-32-20.97	0.37			BND:	4.4 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.33	0.15	-2.23					
165	23	O: 51-59- 9.10	0.40		39.09	COM:	1.3 SEC	0.1 CM	181.5558
		C: 51-59- 8.59	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.51	0.25	-2.04					
165	22	O: 52-31-19.30	0.40		39.73	COM:	-0.8 SEC	0.0 CM	180.3519
		C: 52-31-19.61	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.31	0.25	1.24					
165	21	O: 52-54-34.00	0.40		21.37	COM:	-1.4 SEC	-0.1 CM	178.1296
		C: 52-54-34.30	0.35			BND:	3.6 SEC	0.2 CM	
		V=C-O: 0- 0- 0.30	0.18	1.65					
165	33	O: 60-43- 1.30	0.40		68.36	COM:	0.2 SEC	0.0 CM	218.3500
		C: 60-43- 1.14	0.23			BND:	2.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.16	0.33	-0.50					
165	31	O: 61-50-18.20	0.40		65.67	COM:	-0.5 SEC	0.0 CM	215.8591
		C: 61-50-18.54	0.23			BND:	2.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.34	0.32	1.04					
165	166	O: 68-37-25.30	0.40		61.24	COM:	0.3 SEC	0.0 CM	288.1138
		C: 68-37-25.14	0.25			BND:	2.1 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.16	0.31	-0.51					
165	161	O: 94- 6-39.50	0.40		19.97	COM:	0.0 SEC	0.0 CM	317.9855
		C: 94- 6-39.51	0.36			BND:	3.7 SEC	0.3 CM	
		V=C-O: 0- 0- 0.01	0.18	0.04					
165	1218	O: 100-39-12.10	0.40		0.00	COM:	NOT		225.5716
		C: 100-39-12.10	0.40			BND:	CONTROLLED		
		V=C-O: 0- 0- 0.00	0.00	0.00					
166	165	O: 0- 0- 0.00	0.50		62.02	COM:	-1.5 SEC	0.0 CM	288.1138
		C: 0- 0- 0.92	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.92	0.39	2.33					
166	31	O: 19- 4-19.20	0.80		63.48	COM:	0.6 SEC	0.0 CM	78.0507
		C: 19- 4-18.84	0.48			BND:	4.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.36	0.64	-0.57					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	32	O:	20-52-50.60	0.80		64.67	COM:	-0.8 SEC	0.0 CM	78.2171
		C:	20-52-51.11	0.48			BND:	4.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.51	0.64	0.79					
166	33	O:	22-41-25.10	0.80		64.40	COM:	1.1 SEC	0.0 CM	77.8659
		C:	22-41-24.38	0.48			BND:	4.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.72	0.64	-1.12					
166	34	O:	33-38-32.60	0.70		47.30	COM:	-0.8 SEC	0.0 CM	74.2194
		C:	33-38-32.96	0.51			BND:	4.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.36	0.48	0.76					
166	35	O:	51-24-47.80	0.70		51.11	COM:	-0.8 SEC	0.0 CM	81.6196
		C:	51-24-48.20	0.49			BND:	4.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.40	0.50	0.80					
166	36	O:	55-42-15.50	0.70		52.58	COM:	-0.4 SEC	0.0 CM	84.5379
		C:	55-42-15.72	0.48			BND:	4.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.22	0.51	0.43					
166	37	O:	63- 4- 7.80	0.70		56.29	COM:	-0.8 SEC	0.0 CM	92.3717
		C:	63- 4- 8.24	0.46			BND:	3.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.44	0.53	0.84					
166	38	O:	67-11-52.20	0.70		37.79	COM:	1.5 SEC	0.0 CM	98.1446
		C:	67-11-51.64	0.55			BND:	4.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.56	0.43	-1.30					
166	29	O:	62-45-30.10	0.50		41.73	COM:	-1.3 SEC	0.0 CM	152.6049
		C:	62-45-30.63	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.53	0.32	1.63					
166	28	O:	54- 0-16.70	0.50		42.24	COM:	1.0 SEC	0.0 CM	140.3598
		C:	54- 0-16.28	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.42	0.32	-1.30					
166	27	O:	50-13- 7.20	0.50		43.69	COM:	0.8 SEC	0.0 CM	136.8665
		C:	50-13- 6.86	0.38			BND:	3.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.34	0.33	-1.02					
166	25	O:	42- 4-11.50	0.50		50.02	COM:	1.5 SEC	0.0 CM	131.4643
		C:	42- 4-10.74	0.35			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.76	0.35	-2.14					
166	24	O:	31-26-30.30	0.50		58.80	COM:	1.0 SEC	0.0 CM	128.4777
		C:	31-26-29.69	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.61	0.38	-1.60					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	23	O:	24-28-57.80	0.50		56.63	COM:	-1.0 SEC	0.0 CM	125.4377
		C:	24-28-58.39	0.33			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.59	0.38	1.56					
166	22	O:	23-32-10.80	0.50		65.44	COM:	-0.9 SEC	0.0 CM	125.2572
		C:	23-32-11.39	0.29			BND:	2.6 SEC	0.0 CM	
		V=C-O:	0- 0- 0.59	0.40	1.47					
166	21	O:	22-28-14.10	0.50		57.09	COM:	-0.9 SEC	0.0 CM	126.2252
		C:	22-28-14.63	0.33			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.53	0.38	1.39					
166	13	O:	26-35-39.10	0.50		74.91	COM:	-0.1 SEC	0.0 CM	174.7750
		C:	26-35-39.18	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.08	0.43	0.19					
166	14	O:	31-29-32.60	0.50		75.30	COM:	0.5 SEC	0.0 CM	177.2425
		C:	31-29-32.19	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.41	0.43	-0.94					
166	15	O:	40- 7- 5.00	0.50		62.42	COM:	1.2 SEC	0.0 CM	177.8254
		C:	40- 7- 4.25	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.75	0.40	-1.91					
166	16	O:	41-30-51.00	0.50		58.80	COM:	0.4 SEC	0.0 CM	178.4191
		C:	41-30-50.75	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.25	0.38	-0.65					
166	17	O:	45-38-11.60	0.50		49.66	COM:	-0.6 SEC	0.0 CM	180.0479
		C:	45-38-11.89	0.35			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.29	0.35	0.83					
166	18	O:	49- 6-10.50	0.50		44.78	COM:	0.4 SEC	0.0 CM	182.0822
		C:	49- 6-10.30	0.37			BND:	3.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.20	0.33	-0.60					
166	165	O:	0- 0- 0.00	0.70		63.83	COM:	1.9 SEC	0.0 CM	288.1138
		C:	- 0- 0- 1.20	0.42			BND:	3.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.20	0.56	-2.15					
166	164	O:	32-56-28.10	0.70		65.92	COM:	-1.3 SEC	0.0 CM	273.8551
		C:	32-56-28.94	0.41			BND:	3.6 SEC	0.0 CM	
		V=C-O:	0- 0- 0.84	0.57	1.47					
166	163	O:	101-16-34.10	0.70		51.97	COM:	-0.9 SEC	0.0 CM	219.1263
		C:	101-16-34.59	0.49			BND:	4.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.49	0.50	0.98					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	161	O: 270-26-58.50	0.70		50.67	COM:	0.2 SEC	0.0 CM	136.8370
		C: 270-26-58.38	0.49			BND:	4.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.12	0.50	-0.25					

4.2 ANALYSIS OF AZIMUTH OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	164	O:	0- 0- 0.00	0.00		0.00	COM: NOT		273.8551
		C:	0- 0- 0.00	0.00			BND: CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00				

4.3 ANALYSIS OF HORIZONTAL DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	165	O:	159.91880	0.25		89.12	COM:	-0.1 CM	0.0 CM	159.9193
		C:	159.91928	0.08			BND:	1.1 CM	0.1 CM	
		V=C-O:	0.00048	0.23	0.21					
164	166	O:	273.85340	0.28		81.08	COM:	-0.2 CM	0.0 CM	273.8551
		C:	273.85507	0.12			BND:	1.3 CM	0.2 CM	
		V=C-O:	0.00167	0.25	0.66					
164	163	O:	280.54300	0.28		79.51	COM:	-0.1 CM	0.0 CM	280.5436
		C:	280.54363	0.13			BND:	1.3 CM	0.3 CM	
		V=C-O:	0.00063	0.25	0.25					
164	161	O:	366.03550	0.31		71.06	COM:	0.2 CM	0.1 CM	366.0341
		C:	366.03409	0.17			BND:	1.5 CM	0.4 CM	
		V=C-O:	-0.00141	0.26	-0.54					
164	162	O:	366.99990	0.31		71.20	COM:	0.1 CM	0.0 CM	366.9989
		C:	366.99889	0.17			BND:	1.5 CM	0.4 CM	
		V=C-O:	-0.00101	0.26	-0.38					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1169	LTH: 0.11 CM	0.03 CM	0.27 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10173.6756	AZI: 176-20-52	266-20-52			NORT.:	0.11 CM
		ELEV.:	1000.2730 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2167
12	FREE	EAST.:	9979.0441	LTH: 0.11 CM	0.03 CM	0.27 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10174.9235	AZI: 176-50-43	266-50-43			NORT.:	0.11 CM
		ELEV.:	1000.3150 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1944
1218	FREE	EAST.:	9846.9559	LTH: 0.21 CM	0.10 CM	0.51 CM	0.24 CM	EAST.:	0.12 CM
		NORT.:	10016.2053	AZI: 158- 2- 9	248- 2- 9			NORT.:	0.20 CM
		ELEV.:	1015.0000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4991
13	FREE	EAST.:	9980.7140	LTH: 0.11 CM	0.03 CM	0.26 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10173.6597	AZI: 175-52-36	265-52-36			NORT.:	0.11 CM
		ELEV.:	1000.1030 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2551
14	FREE	EAST.:	9995.5535	LTH: 0.11 CM	0.03 CM	0.28 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10177.1420	AZI: 178-36-47	268-36-47			NORT.:	0.11 CM
		ELEV.:	992.5700 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1030
15	FREE	EAST.:	10022.2508	LTH: 0.12 CM	0.03 CM	0.28 CM	0.08 CM	EAST.:	0.03 CM
		NORT.:	10176.3888	AZI: 180-57- 4	270-57- 4			NORT.:	0.12 CM
		ELEV.:	977.7050 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0535
16	FREE	EAST.:	10026.6318	LTH: 0.11 CM	0.03 CM	0.28 CM	0.09 CM	EAST.:	0.03 CM
		NORT.:	10176.3821	AZI: 181-37-32	271-37-32			NORT.:	0.11 CM
		ELEV.:	975.1380 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0846
161	FREE	EAST.:	9884.6199	LTH: 0.11 CM	0.04 CM	0.27 CM	0.09 CM	EAST.:	0.10 CM
		NORT.:	9926.4502	AZI: 246-12-29	336-12-29			NORT.:	0.06 CM
		ELEV.:	1001.4850 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.7173
162	FREE	EAST.:	10087.6880	LTH: 0.09 CM	0.06 CM	0.22 CM	0.14 CM	EAST.:	0.08 CM
		NORT.:	9917.4328	AZI: 125- 0-56	215- 0-56			NORT.:	0.07 CM
		ELEV.:	1014.9810 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3835
163	FREE	EAST.:	10203.6843	LTH: 0.13 CM	0.05 CM	0.33 CM	0.13 CM	EAST.:	0.12 CM
		NORT.:	10080.8534	AZI: 244-14- 2	334-14- 2			NORT.:	0.08 CM
		ELEV.:	925.3040 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.6307
164	FREE	EAST.:	10000.0376	LTH: 0.15 CM	0.00 CM	0.36 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8113	AZI: 180- 0- 0	270- 0- 0			NORT.:	0.15 CM
		ELEV.:	1006.4650 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3655	LTH: 0.18 CM	0.05 CM	0.44 CM	0.12 CM	EAST.:	0.10 CM
		NORT.:	10241.7483	AZI: 149- 4-13	239- 4-13			NORT.:	0.16 CM
		ELEV.:	1009.7800 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.8232

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
166	FIXED	EAST.:	10000.0376 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.:	9999.9562 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.:	1000.0000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.0000
17	FREE	EAST.:	10039.6041	LTH: 0.11 CM	0.04 CM	0.27 CM	0.10 CM	EAST.: 0.04 CM
		NORT.:	10175.6028	AZI: 184-42-54	274-42-54			NORT.: 0.11 CM
		ELEV.:	966.8130 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.1955
18	FREE	EAST.:	10050.7176	LTH: 0.11 CM	0.04 CM	0.27 CM	0.11 CM	EAST.: 0.05 CM
		NORT.:	10174.8432	AZI: 188-27-27	278-27-27			NORT.: 0.11 CM
		ELEV.:	960.3930 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.2956
21	FREE	EAST.:	9977.0972	LTH: 0.09 CM	0.03 CM	0.22 CM	0.07 CM	EAST.: 0.03 CM
		NORT.:	10124.0793	AZI: 173-38-38	263-38-38			NORT.: 0.09 CM
		ELEV.:	1000.1760 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.2776
22	FREE	EAST.:	9979.5681	LTH: 0.09 CM	0.03 CM	0.21 CM	0.07 CM	EAST.: 0.03 CM
		NORT.:	10123.5296	AZI: 172-45-14	262-45-14			NORT.: 0.09 CM
		ELEV.:	1000.3040 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.3287
23	FREE	EAST.:	9981.5853	LTH: 0.09 CM	0.03 CM	0.22 CM	0.07 CM	EAST.: 0.03 CM
		NORT.:	10124.0292	AZI: 171-42- 5	261-42- 5			NORT.: 0.09 CM
		ELEV.:	1000.1480 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.3519
24	FREE	EAST.:	9996.6736	LTH: 0.09 CM	0.03 CM	0.23 CM	0.07 CM	EAST.: 0.03 CM
		NORT.:	10128.3899	AZI: 176-15-54	266-15-54			NORT.: 0.09 CM
		ELEV.:	990.2490 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: -0.1797
25	FREE	EAST.:	10020.8925	LTH: 0.09 CM	0.03 CM	0.22 CM	0.08 CM	EAST.: 0.03 CM
		NORT.:	10129.7558	AZI: 183-43-36	273-43-36			NORT.: 0.09 CM
		ELEV.:	978.1230 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.1589
26	FREE	EAST.:	10028.1567	LTH: 0.10 CM	0.04 CM	0.23 CM	0.10 CM	EAST.: 0.04 CM
		NORT.:	10129.6706	AZI: 180-30-25	270-30-25			NORT.: 0.10 CM
		ELEV.:	973.9620 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.0170
27	FREE	EAST.:	10040.6849	LTH: 0.09 CM	0.04 CM	0.22 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10130.6476	AZI: 191-30-24	281-30-24			NORT.: 0.09 CM
		ELEV.:	965.8000 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.3856
28	FREE	EAST.:	10050.4811	LTH: 0.09 CM	0.04 CM	0.22 CM	0.09 CM	EAST.: 0.04 CM
		NORT.:	10130.9384	AZI: 195-49-50	285-49-50			NORT.: 0.09 CM
		ELEV.:	960.5700 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.4687
29	FREE	EAST.:	10075.9165	LTH: 0.09 CM	0.04 CM	0.22 CM	0.10 CM	EAST.: 0.05 CM
		NORT.:	10132.3596	AZI: 206-46-21	296-46-21			NORT.: 0.08 CM
		ELEV.:	946.6670 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.: 0.6075

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
31	FREE	EAST.:	9981.3272	LTH: 0.06 CM	0.03 CM	0.15 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10075.7311	AZI: 167-50-44	257-50-44			NORT.:	0.06 CM
		ELEV.:	1000.3780 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3723
32	FREE	EAST.:	9983.6938	LTH: 0.06 CM	0.03 CM	0.15 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10076.4467	AZI: 171-28-49	261-28-49			NORT.:	0.06 CM
		ELEV.:	1000.3840 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2760
33	FREE	EAST.:	9986.1794	LTH: 0.06 CM	0.03 CM	0.14 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10076.5789	AZI: 171-19-23	261-19-23			NORT.:	0.06 CM
		ELEV.:	1000.0010 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2510
34	FREE	EAST.:	10000.9450	LTH: 0.06 CM	0.03 CM	0.15 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10074.1701	AZI: 176-40-42	266-40-42			NORT.:	0.06 CM
		ELEV.:	992.0120 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1042
35	FREE	EAST.:	10025.8973	LTH: 0.06 CM	0.03 CM	0.15 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10077.3709	AZI: 194-47-41	284-47-41			NORT.:	0.06 CM
		ELEV.:	977.7070 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.3751
36	FREE	EAST.:	10032.7462	LTH: 0.06 CM	0.03 CM	0.15 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10077.9101	AZI: 199-30-43	289-30-43			NORT.:	0.06 CM
		ELEV.:	973.8690 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4557
37	FREE	EAST.:	10046.4007	LTH: 0.06 CM	0.03 CM	0.15 CM	0.07 CM	EAST.:	0.04 CM
		NORT.:	10079.8499	AZI: 207-47-13	297-47-13			NORT.:	0.06 CM
		ELEV.:	965.3180 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.5641
38	FREE	EAST.:	10055.2819	LTH: 0.07 CM	0.04 CM	0.17 CM	0.09 CM	EAST.:	0.05 CM
		NORT.:	10081.0760	AZI: 220-52-24	310-52-24			NORT.:	0.06 CM
		ELEV.:	960.5840 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.5848
39	FREE	EAST.:	10080.0112	LTH: 0.08 CM	0.05 CM	0.20 CM	0.13 CM	EAST.:	0.08 CM
		NORT.:	10084.1929	AZI: 240-47-43	330-47-43			NORT.:	0.06 CM
		ELEV.:	946.8710 FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.3718

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1218	LTH:	97.3373 M	0.21 CM	0.03 CM	0.52 CM	0.08 CM	13.5150	0.00	HOR.: 1 / 25769
		AZI:	112-45-52	156-35-50	246-35-50					VER.:
161	166	LTH:	136.8370 M	0.11 CM	0.04 CM	0.27 CM	0.09 CM	-1.4850	0.00	HOR.: 1 / 59469
		AZI:	32-29-30	246-12-29	336-12-29					VER.:
1218	166	LTH:	153.9417 M	0.21 CM	0.10 CM	0.51 CM	0.24 CM	-15.0000	0.00	HOR.: 1 / 31157
		AZI:	353-56-27	158- 2- 9	248- 2- 9					VER.:
161	162	LTH:	203.2682 M	0.13 CM	0.09 CM	0.32 CM	0.21 CM	13.4960	0.00	HOR.: 1 / 94540
		AZI:	357-27-26	258-23-19	348-23-19					VER.:
162	166	LTH:	120.3857 M	0.09 CM	0.06 CM	0.22 CM	0.14 CM	-14.9810	0.00	HOR.: 1 / 56152
		AZI:	136-43-32	125- 0-56	215- 0-56					VER.:
1218	31	LTH:	146.9659 M	0.21 CM	0.10 CM	0.52 CM	0.25 CM	-14.6220	0.00	HOR.: 1 / 34064
		AZI:	23-53-35	164-40-46	254-40-46					VER.:
31	166	LTH:	78.0507 M	0.06 CM	0.03 CM	0.15 CM	0.06 CM	-0.3780	0.00	HOR.: 1 / 88235
		AZI:	283-52-12	167-50-44	257-50-44					VER.:
162	39	LTH:	166.9366 M	0.11 CM	0.09 CM	0.27 CM	0.22 CM	-68.1100	0.00	HOR.: 1 / 61861
		AZI:	92-38- 8	96-29-22	186-29-22					VER.:
39	166	LTH:	116.1533 M	0.08 CM	0.05 CM	0.20 CM	0.13 CM	53.1290	0.00	HOR.: 1 / 59023
		AZI:	226-29-13	240-47-43	330-47-43					VER.:
1218	21	LTH:	169.0372 M	0.22 CM	0.11 CM	0.53 CM	0.26 CM	-14.8240	0.00	HOR.: 1 / 43341
		AZI:	39-39-19	168-49-25	258-49-25					VER.:
21	31	LTH:	48.5329 M	0.07 CM	0.03 CM	0.16 CM	0.07 CM	0.2020	0.00	HOR.: 1 / 61626
		AZI:	275- 0- 0	174-11-52	264-11-52					VER.:
31	34	LTH:	19.6798 M	0.05 CM	0.03 CM	0.13 CM	0.06 CM	-8.3660	0.00	HOR.: 1 / 15304
		AZI:	355-27- 1	158-11-53	248-11-53					VER.:
34	166	LTH:	74.2194 M	0.06 CM	0.03 CM	0.15 CM	0.07 CM	7.9880	0.00	HOR.: 1 / 111420
		AZI:	269-17-58	176-40-42	266-40-42					VER.:
162	163	LTH:	200.4031 M	0.14 CM	0.07 CM	0.33 CM	0.17 CM	-89.6770	0.00	HOR.: 1 / 61821
		AZI:	54-37-58	219-53-50	309-53-50					VER.:
163	39	LTH:	123.7182 M	0.10 CM	0.05 CM	0.24 CM	0.11 CM	21.5670	0.00	HOR.: 1 / 109986
		AZI:	178-27-11	266- 3- 0	356- 3- 0					VER.:
38	39	LTH:	24.9249 M	0.07 CM	0.03 CM	0.16 CM	0.08 CM	-13.7130	0.00	HOR.: 1 / 29762
		AZI:	7-11- 1	93-32-53	183-32-53					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
38	166	LTH: 98.1446 M AZI: 235-44-39	0.07 CM 220-52-24	0.04 CM 310-52-24	0.17 CM	0.09 CM	39.4160	0.00	HOR.: 1 / 58795 VER.:
165	1218	LTH: 225.5716 M AZI: 270-54-43	0.23 CM 171-46-13	0.07 CM 261-46-13	0.56 CM	0.17 CM	5.2200	0.00	HOR.: 1 / 116165 VER.:
165	21	LTH: 178.1296 M AZI: 318-39-20	0.12 CM 139- 7-12	0.05 CM 229- 7-12	0.31 CM	0.13 CM	-9.6040	0.00	HOR.: 1 / 58308 VER.:
21	22	LTH: 2.5313 M AZI: 347-27-22	0.06 CM 176-23-51	0.03 CM 266-23-51	0.15 CM	0.07 CM	0.1280	0.00	HOR.: 1 / 1693 VER.:
22	31	LTH: 47.8308 M AZI: 272- 6-27	0.06 CM 170-29-43	0.03 CM 260-29-43	0.15 CM	0.07 CM	0.0740	0.00	HOR.: 1 / 64779 VER.:
31	33	LTH: 4.9257 M AZI: 9-54-41	0.05 CM 158-51-19	0.02 CM 248-51-19	0.11 CM	0.06 CM	-0.3770	0.00	HOR.: 1 / 4867 VER.:
33	34	LTH: 14.9608 M AZI: 350-44- 3	0.04 CM 155-35-34	0.03 CM 245-35-34	0.11 CM	0.06 CM	-7.9890	0.00	HOR.: 1 / 14154 VER.:
34	35	LTH: 25.1567 M AZI: 7-18-35	0.04 CM 159- 6-42	0.03 CM 249- 6-42	0.11 CM	0.07 CM	-14.3050	0.00	HOR.: 1 / 25208 VER.:
35	166	LTH: 81.6196 M AZI: 251-31-42	0.06 CM 194-47-41	0.03 CM 284-47-41	0.15 CM	0.07 CM	22.2930	0.00	HOR.: 1 / 82582 VER.:
163	29	LTH: 137.7588 M AZI: 158- 2-40	0.09 CM 112-16-33	0.06 CM 202-16-33	0.23 CM	0.14 CM	21.3630	0.00	HOR.: 1 / 72569 VER.:
29	39	LTH: 48.3404 M AZI: 274-51-32	0.06 CM 118- 3-29	0.05 CM 208- 3-29	0.16 CM	0.12 CM	0.2040	0.00	HOR.: 1 / 31841 VER.:
28	38	LTH: 50.0930 M AZI: 275-29-58	0.06 CM 172-35-22	0.04 CM 262-35-22	0.14 CM	0.10 CM	0.0140	0.00	HOR.: 1 / 46958 VER.:
28	39	LTH: 55.2917 M AZI: 302-16-53	0.07 CM 126-19-59	0.05 CM 216-19-59	0.17 CM	0.12 CM	-13.6990	0.00	HOR.: 1 / 33015 VER.:
37	38	LTH: 8.9655 M AZI: 7-51-36	0.04 CM 258-36-48	0.03 CM 348-36-48	0.10 CM	0.09 CM	-4.7340	0.00	HOR.: 1 / 10259 VER.:
37	166	LTH: 92.3717 M AZI: 239-52-22	0.06 CM 207-47-13	0.03 CM 297-47-13	0.15 CM	0.07 CM	34.6820	0.00	HOR.: 1 / 68223 VER.:
165	11	LTH: 150.0777 M AZI: 333- 1-34	0.11 CM 122- 4-28	0.05 CM 212- 4-28	0.26 CM	0.12 CM	-9.5070	0.00	HOR.: 1 / 64473 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
11	21	LTH: 49.5963 M AZI: 269-58-38	0.06 CM 181-37- 6	0.03 CM 271-37- 6	0.16 CM	0.07 CM	-0.0970	0.00	HOR.: 1 / 67117 VER.:
21	23	LTH: 4.4884 M AZI: 359-21-38	0.06 CM 172-37-23	0.03 CM 262-37-23	0.16 CM	0.08 CM	-0.0280	0.00	HOR.: 1 / 2897 VER.:
22	23	LTH: 2.0783 M AZI: 13-54-43	0.06 CM 168-58-27	0.03 CM 258-58-27	0.15 CM	0.07 CM	-0.1560	0.00	HOR.: 1 / 1494 VER.:
22	32	LTH: 47.2633 M AZI: 275- 0-28	0.06 CM 173- 7- 8	0.03 CM 263- 7- 8	0.15 CM	0.07 CM	0.0800	0.00	HOR.: 1 / 66053 VER.:
31	32	LTH: 2.4724 M AZI: 16-49-25	0.05 CM 163-14-48	0.02 CM 253-14-48	0.12 CM	0.06 CM	0.0060	0.00	HOR.: 1 / 2316 VER.:
32	33	LTH: 2.4891 M AZI: 3- 2-46	0.05 CM 163-47-14	0.02 CM 253-47-14	0.11 CM	0.06 CM	-0.3830	0.00	HOR.: 1 / 2298 VER.:
24	33	LTH: 52.8630 M AZI: 258-32-59	0.07 CM 172-55-46	0.03 CM 262-55-46	0.17 CM	0.08 CM	9.7520	0.00	HOR.: 1 / 68382 VER.:
24	34	LTH: 54.3878 M AZI: 274-30-16	0.07 CM 170-23-15	0.03 CM 260-23-15	0.18 CM	0.07 CM	1.7630	0.00	HOR.: 1 / 67085 VER.:
24	35	LTH: 58.7959 M AZI: 299-48-14	0.07 CM 166-39-54	0.03 CM 256-39-54	0.18 CM	0.08 CM	-12.5420	0.00	HOR.: 1 / 44458 VER.:
35	36	LTH: 6.8701 M AZI: 4-30- 3	0.04 CM 164-38-52	0.02 CM 254-38-52	0.10 CM	0.06 CM	-3.8380	0.00	HOR.: 1 / 7483 VER.:
36	166	LTH: 84.5379 M AZI: 247-14-15	0.06 CM 199-30-43	0.03 CM 289-30-43	0.15 CM	0.07 CM	26.1310	0.00	HOR.: 1 / 75595 VER.:
163	18	LTH: 179.5353 M AZI: 148-25-53	0.12 CM 128-11-37	0.07 CM 218-11-37	0.29 CM	0.16 CM	35.0890	0.00	HOR.: 1 / 64133 VER.:
18	29	LTH: 49.3948 M AZI: 300-40-26	0.07 CM 155-35-33	0.03 CM 245-35-33	0.17 CM	0.08 CM	-13.7260	0.00	HOR.: 1 / 33192 VER.:
28	29	LTH: 25.4751 M AZI: 3-11-52	0.06 CM 164-48-55	0.04 CM 254-48-55	0.14 CM	0.09 CM	-13.9030	0.00	HOR.: 1 / 18557 VER.:
28	37	LTH: 51.2512 M AZI: 265-26- 0	0.06 CM 173-54- 0	0.03 CM 263-54- 0	0.14 CM	0.08 CM	4.7480	0.00	HOR.: 1 / 68076 VER.:
36	37	LTH: 13.7915 M AZI: 8- 5- 8	0.04 CM 165-51- 2	0.03 CM 255-51- 2	0.09 CM	0.06 CM	-8.5510	0.00	HOR.: 1 / 15792 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
164	165	LTH: 159.9193 M AZI: 191-33-57	0.10 CM 118-24-40	0.09 CM 208-24-40	0.26 CM	0.22 CM	3.3150	0.00	HOR.: 1 / 71786 VER.:
164	11	LTH: 102.7255 M AZI: 257- 6-26	0.08 CM 190-51-56	0.03 CM 280-51-56	0.20 CM	0.06 CM	-6.1920	0.00	HOR.: 1 / 103706 VER.:
11	13	LTH: 3.5972 M AZI: 359-44-47	0.05 CM 180-18-30	0.03 CM 270-18-30	0.12 CM	0.07 CM	-0.1700	0.00	HOR.: 1 / 3107 VER.:
13	21	LTH: 49.7121 M AZI: 265-49-39	0.06 CM 180-24-43	0.03 CM 270-24-43	0.15 CM	0.07 CM	0.0730	0.00	HOR.: 1 / 70429 VER.:
13	23	LTH: 49.6381 M AZI: 271- 0-20	0.06 CM 172- 0-16	0.03 CM 262- 0-16	0.15 CM	0.07 CM	0.0450	0.00	HOR.: 1 / 63906 VER.:
22	33	LTH: 47.4138 M AZI: 278- 0-55	0.06 CM 171- 1-55	0.03 CM 261- 1-55	0.14 CM	0.07 CM	-0.3030	0.00	HOR.: 1 / 61571 VER.:
23	33	LTH: 47.6722 M AZI: 275-31-48	0.06 CM 168-18-34	0.03 CM 258-18-34	0.15 CM	0.07 CM	-0.1470	0.00	HOR.: 1 / 58017 VER.:
23	24	LTH: 15.7057 M AZI: 16- 7-11	0.08 CM 169-56-59	0.03 CM 259-56-59	0.19 CM	0.08 CM	-9.8990	0.00	HOR.: 1 / 8872 VER.:
24	25	LTH: 24.2574 M AZI: 3-13-40	0.08 CM 170-59- 2	0.03 CM 260-59- 2	0.19 CM	0.08 CM	-12.1260	0.00	HOR.: 1 / 12726 VER.:
25	35	LTH: 52.6234 M AZI: 275-27-26	0.07 CM 171-31-43	0.03 CM 261-31-43	0.17 CM	0.07 CM	-0.4160	0.00	HOR.: 1 / 66419 VER.:
26	35	LTH: 52.3484 M AZI: 267-31-34	0.07 CM 165-16-23	0.03 CM 255-16-23	0.18 CM	0.08 CM	3.7450	0.00	HOR.: 1 / 59539 VER.:
26	36	LTH: 51.9636 M AZI: 275- 4- 1	0.07 CM 164- 3-49	0.03 CM 254- 3-49	0.18 CM	0.08 CM	-0.0930	0.00	HOR.: 1 / 52616 VER.:
163	164	LTH: 280.5436 M AZI: 136-32-37	0.16 CM 132-37-18	0.07 CM 222-37-18	0.38 CM	0.17 CM	81.1610	0.00	HOR.: 1 / 73998 VER.:
164	18	LTH: 111.1896 M AZI: 297- 6-58	0.09 CM 153-51-19	0.03 CM 243-51-19	0.21 CM	0.07 CM	-46.0720	0.00	HOR.: 1 / 63663 VER.:
18	28	LTH: 43.9055 M AZI: 269-41-29	0.07 CM 162-12- 9	0.03 CM 252-12- 9	0.18 CM	0.08 CM	0.1770	0.00	HOR.: 1 / 47804 VER.:
27	28	LTH: 9.8005 M AZI: 1-42- 1	0.06 CM 168-36-19	0.03 CM 258-36-19	0.16 CM	0.08 CM	-5.2300	0.00	HOR.: 1 / 6395 VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
27	37	LTH:	51.1183 M	0.06 CM	0.03 CM	0.15 CM	0.07 CM	-0.4820	0.00	HOR.: 1 / 63022
		AZI:	276-25-11	170-57-14	260-57-14					VER.:
26	37	LTH:	53.0560 M	0.07 CM	0.03 CM	0.18 CM	0.08 CM	-8.6440	0.00	HOR.: 1 / 40976
		AZI:	290- 6-44	161-15-31	251-15-31					VER.:
164	12	LTH:	101.0916 M	0.08 CM	0.03 CM	0.20 CM	0.06 CM	-6.1500	0.00	HOR.: 1 / 106560
		AZI:	258- 0-51	190- 7-54	280- 7-54					VER.:
11	12	LTH:	2.2960 M	0.05 CM	0.03 CM	0.12 CM	0.07 CM	0.0420	0.00	HOR.: 1 / 2131
		AZI:	32-55-27	181-39-26	271-39-26					VER.:
12	13	LTH:	2.0943 M	0.05 CM	0.03 CM	0.12 CM	0.07 CM	-0.2120	0.00	HOR.: 1 / 2076
		AZI:	322-52-52	180-17-29	270-17-29					VER.:
13	24	LTH:	48.0006 M	0.08 CM	0.03 CM	0.18 CM	0.07 CM	-9.8540	0.00	HOR.: 1 / 44990
		AZI:	289-25-11	172-11-24	262-11-24					VER.:
14	24	LTH:	48.7650 M	0.09 CM	0.03 CM	0.21 CM	0.07 CM	-2.3210	0.00	HOR.: 1 / 64108
		AZI:	271-18-58	174- 6-21	264- 6-21					VER.:
14	25	LTH:	53.7356 M	0.08 CM	0.03 CM	0.20 CM	0.08 CM	-14.4470	0.00	HOR.: 1 / 39138
		AZI:	298- 8- 5	170-57-33	260-57-33					VER.:
25	26	LTH:	7.2647 M	0.08 CM	0.03 CM	0.20 CM	0.08 CM	-4.1610	0.00	HOR.: 1 / 3715
		AZI:	359-19-40	164-38-39	254-38-39					VER.:
164	17	LTH:	105.8792 M	0.09 CM	0.03 CM	0.21 CM	0.07 CM	-39.6520	0.00	HOR.: 1 / 68275
		AZI:	291-56-37	158-32-41	248-32-41					VER.:
17	18	LTH:	11.1394 M	0.08 CM	0.03 CM	0.19 CM	0.07 CM	-6.4200	0.00	HOR.: 1 / 6285
		AZI:	356- 5-24	156-34-46	246-34-46					VER.:
18	27	LTH:	45.3201 M	0.07 CM	0.03 CM	0.18 CM	0.08 CM	5.4070	0.00	HOR.: 1 / 55155
		AZI:	257-12-37	164-23-36	254-23-36					VER.:
26	27	LTH:	12.5663 M	0.08 CM	0.03 CM	0.19 CM	0.08 CM	-8.1620	0.00	HOR.: 1 / 6923
		AZI:	4-27-33	163-12- 8	253-12- 8					VER.:
164	14	LTH:	96.7733 M	0.08 CM	0.03 CM	0.21 CM	0.06 CM	-13.8950	0.00	HOR.: 1 / 152571
		AZI:	267-20-39	180- 5- 5	270- 5- 5					VER.:
12	14	LTH:	16.6578 M	0.08 CM	0.03 CM	0.19 CM	0.07 CM	-7.7450	0.00	HOR.: 1 / 8791
		AZI:	7-39-11	179-40-32	269-40-32					VER.:
13	14	LTH:	15.2426 M	0.07 CM	0.03 CM	0.17 CM	0.07 CM	-7.5330	0.00	HOR.: 1 / 9120
		AZI:	13-12-22	177-20-43	267-20-43					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
14	15	LTH: 26.7079 M AZI: 358-23- 2	0.08 CM 169-17- 9	0.03 CM 259-17- 9	0.20 CM	0.08 CM	-14.8650	0.00	HOR.: 1 / 13442 VER.:
15	25	LTH: 46.6527 M AZI: 268-19-53	0.08 CM 168-48- 7	0.03 CM 258-48- 7	0.21 CM	0.07 CM	0.4180	0.00	HOR.: 1 / 58588 VER.:
16	25	LTH: 46.9782 M AZI: 262-58-57	0.08 CM 168-27-37	0.03 CM 258-27-37	0.20 CM	0.08 CM	2.9850	0.00	HOR.: 1 / 61423 VER.:
16	26	LTH: 46.7365 M AZI: 271-52-11	0.09 CM 163-11-44	0.03 CM 253-11-44	0.22 CM	0.08 CM	-1.1760	0.00	HOR.: 1 / 45289 VER.:
164	16	LTH: 100.9935 M AZI: 285-16- 2	0.09 CM 164-23-24	0.03 CM 254-23-24	0.22 CM	0.06 CM	-31.3270	0.00	HOR.: 1 / 80892 VER.:
16	17	LTH: 12.9957 M AZI: 356-33-43	0.08 CM 160-44-13	0.03 CM 250-44-13	0.20 CM	0.07 CM	-8.3250	0.00	HOR.: 1 / 6821 VER.:
17	27	LTH: 44.9682 M AZI: 271-22-37	0.08 CM 164-20-24	0.03 CM 254-20-24	0.19 CM	0.08 CM	-1.0130	0.00	HOR.: 1 / 49320 VER.:
17	26	LTH: 47.3372 M AZI: 256- 0-19	0.09 CM 162-15-42	0.03 CM 252-15-42	0.21 CM	0.09 CM	7.1490	0.00	HOR.: 1 / 54780 VER.:
164	15	LTH: 99.9228 M AZI: 282-50-39	0.09 CM 166-28-57	0.03 CM 256-28-57	0.22 CM	0.06 CM	-28.7600	0.00	HOR.: 1 / 88637 VER.:
15	16	LTH: 4.3810 M AZI: 359-54-48	0.08 CM 163-52-39	0.03 CM 253-52-39	0.20 CM	0.07 CM	-2.5670	0.00	HOR.: 1 / 2240 VER.:

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	121	0.778614D+02	0.500804D+02	1.24689
AZIMUTHS	1	0.000000D+00	-.444565D-16	1.00000
HORIZONTAL DISTANCE	5	0.751923D+00	0.391964D+01	0.43799
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
HEIGHT DIFFERENCE	0	0.000000D+00	0.000000D+00	1.00000
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	127	0.786134D+02	54	1.20657

STATIONS:	FIXED	1
	FREE	32
	WEIGHTED	0
	TOTAL	33

CONVERGENCE:	ITERATIONS USED	3
	TOLERANCE	0.001000
	COMPUTATION TIME	92.121 SEC

APPENDIX II E

Horizontal Adjustment:

Epoch 6

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 18:21:52 DATE: 3-OCT-87

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*                                                                                   *
*  BSC GROUP - BALL MOUNTAIN DAM - DEFORMATION ANALYSIS - PROJECT 1-1654.00 EPOCH 6  *
*                                                                                   *
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PROJECT INFORMATION:

HORIZONTAL ANALYSIS FOR SEPTEMBER 1987
DATABASE 11654006H.DBS;2
1165400H

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

O P T I O N S I N E F F E C T

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.001000
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.20000 CM
VARIABLE PART OF EDM MEASUREMENT	3.00000 PPM
ZENITH DISTANCE	10.00000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	2.00000 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6380.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT 0.130

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.0770		10173.6840		1000.2730	
12	9979.0050		10174.9320		1000.3150	
121B	9846.9510		10016.2120		1015.0000	
13	9980.6700		10173.6680		1000.1030	
14	9995.5090		10177.1540		992.5700	
15	10022.2080		10176.4060		977.7050	
16	10026.5880		10176.4010		975.1380	
161	9884.6305		9926.4204		1001.4850	
162	10087.7124		9917.4501		1014.9810	
163	10203.6805		10080.9074		925.3040	
164	9999.9740		10273.8263		1006.4650	
165	9843.3021		10241.7285		1009.7800	
17	10039.5620		10175.6260		966.8130	
18	10050.6770		10174.8670		960.3930	
19	10076.3950		10173.2010		946.7430	
21	9977.0700		10124.0820		1000.1760	
22	9979.5390		10123.5340		1000.3040	
23	9981.5520		10124.0340		1000.1480	
24	9996.6400		10128.3960		990.2490	
25	10020.8600		10129.7680		978.1230	
26	10028.1250		10129.6850		973.9620	
27	10040.6540		10130.6660		965.8000	
28	10050.4510		10130.9590		960.5700	
29	10075.8880		10132.3860		946.6670	
31	9981.3100		10075.7320		1000.3780	
32	9983.6690		10076.4470		1000.3840	
33	9986.1550		10076.5800		1000.0010	
34	10000.9250		10074.1730		992.0120	
35	10025.8770		10077.3820		977.7070	
36	10032.7260		10077.9220		973.8690	
37	10046.3820		10079.8650		965.3180	
38	10055.2650		10081.0940		960.5840	
39	10079.9950		10084.2180		946.8710	

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
161	165	0- 0- 0.000	0.300	0.000	
161	164	25-50- 2.200	0.500	-1.046	
161	11	27-58- 1.000	0.500	-0.361	
161	12	28-15-42.100	0.500	-1.406	
161	13	28-41-45.500	0.500	2.592	
161	23	33-35-39.600	0.500	3.172	
161	31	40-23-24.500	0.500	-1.249	
161	32	40-53-57.800	0.500	5.912	
161	33	41-31-55.600	0.500	6.133	
161	1218	344-41-16.500	0.300	-53.744	****
162	165	0- 0- 0.000	0.500	0.000	
162	31	3- 5-43.500	0.300	0.765	
162	32	3-48-27.300	0.300	6.282	
162	33	4-27-40.700	0.300	7.134	
162	34	8- 1-51.100	0.300	5.102	
162	35	15-52- 7.600	0.300	5.556	
162	36	18- 5-34.600	0.300	6.017	
162	37	22-43-47.000	0.300	5.262	
162	38	25-47-30.200	0.300	4.943	
162	28	27- 6-27.800	0.800	6.171	
162	26	21-19-27.500	0.800	5.343	
162	25	19-31-46.100	0.800	5.645	
162	24	13-39-19.700	0.800	5.124	
162	23	9-48-32.000	0.800	4.775	
162	22	9-18-39.200	0.800	1.224	
162	21	8-50-19.500	0.800	1.232	
162	11	13-39- 6.100	0.400	-1.246	
162	12	14- 6-57.600	0.400	-1.173	
162	13	14-19-55.500	0.400	2.515	
162	14	17-27-34.500	0.400	2.133	
162	16	23-43-31.300	0.400	4.278	
162	17	26-26-31.200	0.400	3.245	
162	18	28-49-10.000	0.400	3.853	
162	165	0- 0- 0.000	0.300	0.000	
162	164	23-10-29.100	0.300	0.567	
162	163	72-21-36.200	0.300	-0.125	
163	162	0- 0- 0.000	0.300	0.000	
163	34	52-44-38.500	0.200	3.390	
163	33	53-30-23.100	0.200	2.390	
163	35	53-30-36.000	0.200	1.629	
163	36	53-38-44.100	0.200	2.211	
163	37	54-16- 1.000	0.200	4.323	
163	38	54-43- 5.800	0.200	2.916	
163	39	56-10-44.800	0.200	1.626	
163	23	65-38- 2.000	0.600	3.911	
163	24	67-33-52.800	0.600	2.996	

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
163	25	69-36-34.200	0.600	3.312
163	26	70-10-26.300	0.600	2.660
163	27	71-37- 8.800	0.600	1.997
163	28	72-44- 9.500	0.600	4.286
163	29	76-35-16.500	0.600	5.224
163	13	77-13-51.100	0.300	2.509
163	14	79-27-32.000	0.300	1.208
163	15	82-24- 4.300	0.300	1.789
163	16	82-58-52.500	0.300	3.378
163	17	84-38-13.000	0.300	2.688
163	18	86-12- 2.000	0.300	3.592
163	162	0- 0- 0.000	0.200	0.000
163	166	32-58- 3.000	0.200	2.356
163	164	98- 5-16.200	0.200	1.351
164	165	0- 0- 0.000	0.400	0.000
164	39	258-41-46.700	0.400	-1.665
164	38	265-34-12.100	0.400	-3.547
164	37	268- 7-16.100	0.400	-4.045
164	36	272- 5- 8.600	0.400	-4.552
164	35	274- 3-54.700	0.400	-4.641
164	34	281-18-15.300	0.400	-3.476
164	33	285-35- 1.700	0.400	-6.821
164	32	286-17-55.700	0.400	-5.970
164	31	286-57-39.800	0.400	1.932
164	21	290-16-28.700	0.400	1.030
164	22	289-19-13.800	0.400	-2.015
164	23	288-35-14.700	0.400	-7.010
164	24	282-53-21.200	0.400	-7.869
164	25	273-19-36.600	0.400	-6.708
164	26	270-31-31.000	0.400	-7.218
164	27	265-42-48.500	0.400	-6.431
164	28	262- 7- 2.000	0.400	-6.784
164	29	253-21-12.600	0.400	-4.436
164	15	268-43-10.300	0.300	-8.362
164	16	266-17-46.500	0.300	-10.695
164	17	259-37-11.500	0.300	-7.802
164	18	254-26-49.700	0.300	-7.578
164	161	299-56-43.300	0.400	1.304
164	165	0- 0- 0.000	0.300	0.000
164	162	267-44-48.600	0.300	-1.317
164	161	299-56-42.600	0.300	0.604
165	164	0- 0- 0.000	0.400	0.000
165	12	37-47- 8.000	0.400	-0.664
165	13	37-56- 2.200	0.400	-2.974
165	11	38-32-18.500	0.400	0.772
165	22	52-31-16.600	0.400	-2.325

2.4 OBSERVED DIRECTIONS INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
165	21	52-54-32.100	0.400	-0.964	
165	33	60-43- 0.000	0.400	-6.357	
165	164	0- 0- 0.000	0.200	0.000	
165	162	64-34-20.100	0.200	-1.284	
165	166	68-37-25.000	0.200	-0.325	
165	161	94- 6-38.800	0.200	0.050	
165	1218	100-39-15.200	0.200	11.051	
166	165	0- 0- 0.000	0.500	0.000	
166	31	19- 4-22.700	0.300	2.598	
166	32	20-52-52.700	0.300	20.429	
166	33	22-41-27.700	0.300	21.514	
166	34	33-38-35.300	0.300	13.202	
166	35	51-24-49.000	0.300	13.410	
166	36	55-42-16.700	0.300	12.854	
166	37	63- 4- 8.200	0.300	8.048	
166	38	67-11-53.500	0.300	7.723	
166	39	76-27-15.100	0.300	4.397	
166	29	62-45-30.600	0.300	6.292	
166	28	54- 0-17.200	0.300	8.223	
166	27	50-13- 7.700	0.300	8.692	
166	26	45-10-25.200	0.300	9.966	
166	25	42- 4-11.200	0.300	8.916	
166	24	31-26-30.800	0.300	9.886	
166	23	24-29- 1.500	0.300	11.325	
166	22	23-32-13.600	0.300	3.339	
166	21	22-28-17.800	0.300	1.202	
166	11	25-25-31.200	0.200	-0.990	
166	12	26- 5-59.300	0.200	-1.394	
166	13	26-35-39.000	0.200	5.502	
166	14	31-29-31.600	0.200	5.975	
166	15	40- 7- 4.000	0.200	6.602	
166	16	41-30-49.700	0.200	7.345	
166	17	45-38-10.300	0.200	6.442	
166	18	49- 6- 9.800	0.200	6.273	
166	163	101-16-35.000	0.200	1.972	
166	1218	309- 0- 8.800	0.200	-47.998	****

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
166	164	0- 0- 0.000	0.001	47.900	****

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
164	166	273.8544	0.2822	-1.57
164	163	280.5416	0.2842	-1.86
164	161	366.0356	0.3098	-1.77
164	162	366.9997	0.3101	-1.80

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO ZENITH DISTANCE OBSERVATIONS

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HEIGHT DIFFERENCE OBSERVATIONS

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED
19	0

********** POINT 19 ONLY OTIMES OBSERVED

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	133
POINTS	1000	34
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	10
MATRIX ELEMENTS	99998	2145

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
161	165	O:	0- 0- 0.00	0.30		48.73	COM:	1.5 SEC	0.0 CM	317.9867
		C:	- 0- 0- 0.74	0.21			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.74	0.21	-3.55 ..					
161	164	O:	25-50- 2.20	0.50		82.43	COM:	-1.0 SEC	0.0 CM	366.0326
		C:	25-50- 3.00	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.80	0.45	1.77					
161	11	O:	27-58- 1.00	0.50		74.17	COM:	0.9 SEC	0.0 CM	263.9645
		C:	27-58- 0.36	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.64	0.43	-1.49					
161	12	O:	28-15-42.10	0.50		74.70	COM:	0.5 SEC	0.0 CM	265.8133
		C:	28-15-41.70	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.40	0.43	-0.93					
161	13	O:	28-41-45.50	0.50		77.24	COM:	-0.1 SEC	0.0 CM	265.2318
		C:	28-41-45.60	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.10	0.44	0.22					
161	23	O:	33-35-39.60	0.50		63.48	COM:	-1.3 SEC	0.0 CM	220.0945
		C:	33-35-40.43	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.83	0.40	2.09					
161	31	O:	40-23-24.50	0.50		35.62	COM:	0.5 SEC	0.0 CM	177.8708
		C:	40-23-24.31	0.40			BND:	3.5 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.19	0.30	-0.63					
161	32	O:	40-53-57.80	0.50		36.48	COM:	-1.0 SEC	-0.1 CM	179.7630
		C:	40-53-58.16	0.40			BND:	3.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.36	0.30	1.19					
161	33	O:	41-31-55.60	0.50		63.17	COM:	-0.4 SEC	0.0 CM	181.2550
		C:	41-31-55.87	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.27	0.40	0.67					
161	1218	O:	344-41-16.50	0.30		9.85	COM:	-3.4 SEC	-0.1 CM	97.3433
		C:	344-41-16.84	0.28			BND:	3.9 SEC	0.2 CM	
		V=C-O:	0- 0- 0.34	0.09	3.58 ..					
162	165	O:	0- 0- 0.00	0.50		82.58	COM:	-0.3 SEC	0.0 CM	406.0493
		C:	0- 0- 0.24	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.24	0.45	0.52					
162	31	O:	3- 5-43.50	0.30		47.47	COM:	-0.5 SEC	0.0 CM	190.7143
		C:	3- 5-43.72	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.22	0.21	1.04					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	32	O:	3-48-27.30	0.30		44.54	COM:	-1.0 SEC	-0.1 CM	190.0012
		C:	3-48-27.76	0.22			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.46	0.20	2.31					
162	33	O:	4-27-40.70	0.30		72.77	COM:	-0.2 SEC	0.0 CM	188.7637
		C:	4-27-40.86	0.16			BND:	1.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.16	0.26	0.62					
162	34	O:	8- 1-51.10	0.30		68.59	COM:	0.1 SEC	0.0 CM	179.1395
		C:	8- 1-51.01	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.09	0.25	-0.35					
162	35	O:	15-52- 7.60	0.30		62.76	COM:	0.5 SEC	0.0 CM	171.4596
		C:	15-52- 7.29	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.31	0.24	-1.33					
162	36	O:	18- 5-34.60	0.30		60.77	COM:	0.4 SEC	0.0 CM	169.6216
		C:	18- 5-34.33	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.27	0.23	-1.17					
162	37	O:	22-43-47.00	0.30		57.03	COM:	0.0 SEC	0.0 CM	167.5835
		C:	22-43-47.02	0.20			BND:	1.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.02	0.23	0.08					
162	38	O:	25-47-30.20	0.30		54.36	COM:	0.5 SEC	0.0 CM	166.8212
		C:	25-47-29.92	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.28	0.22	-1.29					
162	28	O:	27- 6-27.80	0.80		92.91	COM:	1.4 SEC	0.0 CM	216.7244
		C:	27- 6-26.54	0.21			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.26	0.77	-1.63					
162	26	O:	21-19-27.50	0.80		92.45	COM:	0.6 SEC	0.0 CM	220.4280
		C:	21-19-26.97	0.22			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.53	0.77	-0.69					
162	25	O:	19-31-46.10	0.80		91.92	COM:	1.2 SEC	0.0 CM	222.5819
		C:	19-31-44.96	0.23			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.14	0.77	-1.49					
162	24	O:	13-39-19.70	0.80		89.88	COM:	0.5 SEC	0.0 CM	229.7526
		C:	13-39-19.29	0.25			BND:	3.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.41	0.76	-0.54					
162	23	O:	9-48-32.00	0.80		91.10	COM:	-0.8 SEC	0.0 CM	232.2527
		C:	9-48-32.74	0.24			BND:	3.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.74	0.76	0.97					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
162	22	O:	9-18-39.20	0.80		92.80	COM:	0.0 SEC	0.0 CM	232.7367
		C:	9-18-39.20	0.21			BND:	3.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.00	0.77	0.01					
162	21	O:	8-50-19.50	0.80		92.98	COM:	1.2 SEC	0.0 CM	234.3784
		C:	8-50-18.40	0.21			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.10	0.77	-1.42					
162	11	O:	13-39- 6.10	0.40		83.45	COM:	-0.2 SEC	0.0 CM	279.0844
		C:	13-39- 6.24	0.16			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.14	0.37	0.39					
162	12	O:	14- 6-57.60	0.40		83.28	COM:	-0.1 SEC	0.0 CM	279.4766
		C:	14- 6-57.71	0.16			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.11	0.37	0.30					
162	13	O:	14-19-55.50	0.40		85.06	COM:	-0.3 SEC	0.0 CM	277.6636
		C:	14-19-55.74	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.24	0.37	0.65					
162	14	O:	17-27-34.50	0.40		82.63	COM:	-0.6 SEC	0.0 CM	275.5686
		C:	17-27-35.00	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.50	0.36	1.39					
162	16	O:	23-43-31.30	0.40		86.57	COM:	0.1 SEC	0.0 CM	266.0518
		C:	23-43-31.18	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.12	0.37	-0.32					
162	17	O:	26-26-31.20	0.40		85.91	COM:	-0.3 SEC	0.0 CM	262.6121
		C:	26-26-31.44	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.24	0.37	0.64					
162	18	O:	28-49-10.00	0.40		84.54	COM:	0.2 SEC	0.0 CM	260.0528
		C:	28-49- 9.84	0.16			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.16	0.37	-0.43					
162	165	O:	0- 0- 0.00	0.30		46.44	COM:	-0.1 SEC	0.0 CM	406.0493
		C:	0- 0- 0.05	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.05	0.20	0.26					
162	164	O:	23-10-29.10	0.30		56.23	COM:	1.0 SEC	0.0 CM	366.9982
		C:	23-10-28.56	0.20			BND:	1.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.54	0.22	-2.39					
162	163	O:	72-21-36.20	0.30		35.13	COM:	-1.4 SEC	-0.1 CM	200.4042
		C:	72-21-36.69	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.49	0.18	2.73 ..					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	162	O:	0- 0- 0.00	0.30		42.19	COM:	1.4 SEC	0.0 CM	200.4042
		C:	- 0- 0- 0.60	0.23			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.60	0.19	-3.07 ..					
163	34	O:	52-44-38.50	0.20		9.56	COM:	-0.2 SEC	0.0 CM	202.8523
		C:	52-44-38.52	0.19			BND:	2.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.02	0.06	0.34					
163	33	O:	53-30-23.10	0.20		15.76	COM:	0.2 SEC	0.0 CM	217.5496
		C:	53-30-23.07	0.18			BND:	2.1 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.03	0.08	-0.36					
163	35	O:	53-30-36.00	0.20		14.48	COM:	-0.6 SEC	0.0 CM	177.8239
		C:	53-30-36.09	0.18			BND:	2.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.09	0.08	1.22					
163	36	O:	53-38-44.10	0.20		15.53	COM:	-0.2 SEC	0.0 CM	170.9661
		C:	53-38-44.13	0.18			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.08	0.43					
163	37	O:	54-16- 1.00	0.20		16.23	COM:	0.5 SEC	0.0 CM	157.2891
		C:	54-16- 0.92	0.18			BND:	2.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.08	0.08	-0.94					
163	38	O:	54-43- 5.80	0.20		15.91	COM:	-0.2 SEC	0.0 CM	148.4034
		C:	54-43- 5.83	0.18			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.08	0.33					
163	39	O:	56-10-44.80	0.20		8.42	COM:	-0.4 SEC	0.0 CM	123.7210
		C:	56-10-44.83	0.19			BND:	2.8 SEC	0.2 CM	
		V=C-O:	0- 0- 0.03	0.06	0.52					
163	23	O:	65-38- 2.00	0.60		38.83	COM:	-1.0 SEC	-0.1 CM	226.2593
		C:	65-38- 2.40	0.47			BND:	4.0 SEC	0.3 CM	
		V=C-O:	0- 0- 0.40	0.37	1.07					
163	24	O:	67-33-52.80	0.60		7.42	COM:	0.2 SEC	0.0 CM	212.4005
		C:	67-33-52.79	0.58			BND:	9.1 SEC	0.9 CM	
		V=C-O:	- 0- 0- 0.01	0.16	-0.08					
163	25	O:	69-36-34.20	0.60		22.28	COM:	-0.7 SEC	-0.1 CM	189.2226
		C:	69-36-34.36	0.53			BND:	5.3 SEC	0.4 CM	
		V=C-O:	0- 0- 0.16	0.28	0.57					
163	26	O:	70-10-26.30	0.60		29.82	COM:	-0.1 SEC	0.0 CM	182.1909
		C:	70-10-26.34	0.50			BND:	4.5 SEC	0.3 CM	
		V=C-O:	0- 0- 0.04	0.33	0.12					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
163	27	O:	71-37- 8.80	0.60		38.30	COM:	-1.2 SEC	-0.1 CM	170.4372
		C:	71-37- 9.25	0.47			BND:	4.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.45	0.37	1.21					
163	28	O:	72-44- 9.50	0.60		44.47	COM:	-0.3 SEC	0.0 CM	161.1837
		C:	72-44- 9.64	0.45			BND:	3.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.14	0.40	0.36					
163	29	O:	76-35-16.50	0.60		45.62	COM:	1.5 SEC	0.1 CM	137.7605
		C:	76-35-15.82	0.44			BND:	3.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.68	0.41	-1.67					
163	13	O:	77-13-51.10	0.30		41.69	COM:	0.5 SEC	0.0 CM	241.5171
		C:	77-13-50.91	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.19	0.19	-1.00					
163	14	O:	79-27-32.00	0.30		3.86	COM:	2.1 SEC	0.2 CM	229.3278
		C:	79-27-31.92	0.29			BND:	6.3 SEC	0.7 CM	
		V=C-O:	- 0- 0- 0.08	0.06	-1.39					
163	15	O:	82-24- 4.30	0.30		18.23	COM:	-0.1 SEC	0.0 CM	205.0511
		C:	82-24- 4.33	0.27			BND:	2.9 SEC	0.2 CM	
		V=C-O:	0- 0- 0.03	0.13	0.20					
163	16	O:	82-58-52.50	0.30		24.60	COM:	-0.6 SEC	0.0 CM	201.1831
		C:	82-58-52.65	0.26			BND:	2.5 SEC	0.2 CM	
		V=C-O:	0- 0- 0.15	0.15	1.02					
163	17	O:	84-38-13.00	0.30		36.72	COM:	-0.5 SEC	0.0 CM	189.4760
		C:	84-38-13.17	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.17	0.18	0.93					
163	18	O:	86-12- 2.00	0.30		41.25	COM:	-0.4 SEC	0.0 CM	179.5375
		C:	86-12- 2.17	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.17	0.19	0.90					
163	162	O:	0- 0- 0.00	0.20		32.64	COM:	-0.7 SEC	0.0 CM	200.4042
		C:	0- 0- 0.24	0.16			BND:	1.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.24	0.11	2.09					
163	166	O:	32-58- 3.00	0.20		30.32	COM:	0.5 SEC	0.0 CM	219.1310
		C:	32-58- 2.86	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.14	0.11	-1.29					
163	164	O:	98- 5-16.20	0.20		26.99	COM:	0.4 SEC	0.0 CM	280.5459
		C:	98- 5-16.10	0.17			BND:	1.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.10	0.10	-0.92					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	165	O:	0- 0- 0.00	0.40		55.36	COM:	-1.3 SEC	0.0 CM	159.9179
		C:	0- 0- 0.73	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.73	0.30	2.44					
164	39	O:	258-41-46.70	0.40		61.34	COM:	-0.3 SEC	0.0 CM	205.7923
		C:	258-41-46.86	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.16	0.31	0.52					
164	38	O:	265-34-12.10	0.40		77.61	COM:	0.5 SEC	0.0 CM	200.4957
		C:	265-34-11.69	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.41	0.35	-1.17					
164	37	O:	268- 7-16.10	0.40		79.52	COM:	0.5 SEC	0.0 CM	199.4240
		C:	268- 7-15.66	0.18			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.44	0.36	-1.23					
164	36	O:	272- 5- 8.60	0.40		82.36	COM:	0.5 SEC	0.0 CM	198.6124
		C:	272- 5- 8.16	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.44	0.36	-1.20					
164	35	O:	274- 3-54.70	0.40		83.65	COM:	0.1 SEC	0.0 CM	198.1341
		C:	274- 3-54.65	0.16			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.05	0.37	-0.14					
164	34	O:	281-18-15.30	0.40		85.60	COM:	0.2 SEC	0.0 CM	199.6423
		C:	281-18-15.13	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.17	0.37	-0.46					
164	33	O:	285-35- 1.70	0.40		82.24	COM:	0.0 SEC	0.0 CM	197.7169
		C:	285-35- 1.67	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.03	0.36	-0.08					
164	32	O:	286-17-55.70	0.40		73.55	COM:	0.6 SEC	0.0 CM	198.0389
		C:	286-17-55.26	0.21			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.44	0.34	-1.29					
164	31	O:	286-57-39.80	0.40		71.05	COM:	1.0 SEC	0.0 CM	198.9582
		C:	286-57-39.09	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.71	0.34	-2.11					
164	21	O:	290-16-28.70	0.40		40.41	COM:	0.2 SEC	0.0 CM	151.4767
		C:	290-16-28.60	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.10	0.25	-0.39					
164	22	O:	289-19-13.80	0.40		44.11	COM:	-1.4 SEC	-0.1 CM	151.6663
		C:	289-19-14.44	0.30			BND:	2.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.64	0.27	2.39					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	23	O: 288-35-14.70	0.40		56.91	COM:	-0.4 SEC	0.0 CM	150.9093
		C: 288-35-14.91	0.26			BND:	2.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.21	0.30	0.70					
164	24	O: 282-53-21.20	0.40		61.48	COM:	-0.9 SEC	0.0 CM	145.4596
		C: 282-53-21.76	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.56	0.31	1.80					
164	25	O: 273-19-36.60	0.40		57.18	COM:	0.2 SEC	0.0 CM	145.5564
		C: 273-19-36.50	0.26			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.10	0.30	-0.32					
164	26	O: 270-31-31.00	0.40		52.85	COM:	0.1 SEC	0.0 CM	146.8578
		C: 270-31-30.93	0.27			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.07	0.29	-0.23					
164	27	O: 265-42-48.50	0.40		43.45	COM:	-0.7 SEC	0.0 CM	148.8216
		C: 265-42-48.82	0.30			BND:	2.5 SEC	0.1 CM	
		V=C-O: 0- 0- 0.32	0.26	1.21					
164	28	O: 262- 7- 2.00	0.40		42.89	COM:	0.2 SEC	0.0 CM	151.5151
		C: 262- 7- 1.92	0.30			BND:	2.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.08	0.26	-0.31					
164	29	O: 253-21-12.60	0.40		37.54	COM:	1.1 SEC	0.1 CM	160.5181
		C: 253-21-12.19	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.41	0.25	-1.67					
164	15	O: 268-43-10.30	0.30		32.36	COM:	-0.1 SEC	0.0 CM	99.9223
		C: 268-43-10.33	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.03	0.17	0.20					
164	16	O: 266-17-46.50	0.30		34.43	COM:	-0.4 SEC	0.0 CM	100.9911
		C: 266-17-46.65	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.15	0.18	0.88					
164	17	O: 259-37-11.50	0.30		33.92	COM:	-0.6 SEC	0.0 CM	105.8764
		C: 259-37-11.70	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.20	0.17	1.12					
164	18	O: 254-26-49.70	0.30		32.60	COM:	-0.4 SEC	0.0 CM	111.1886
		C: 254-26-49.83	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.13	0.17	0.75					
164	161	O: 299-56-43.30	0.40		70.81	COM:	0.1 SEC	0.0 CM	366.0326
		C: 299-56-43.22	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.08	0.34	-0.25					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	165	O:	0- 0- 0.00	0.30		46.20	COM:	0.2 SEC	0.0 CM	159.9179
		C:	- 0- 0- 0.08	0.22			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.08	0.20	-0.39					
164	162	O:	267-44-48.60	0.30		48.64	COM:	-0.6 SEC	0.0 CM	366.9982
		C:	267-44-48.87	0.22			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.27	0.21	1.28					
164	161	O:	299-56-42.60	0.30		48.13	COM:	0.4 SEC	0.0 CM	366.0326
		C:	299-56-42.41	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.19	0.21	-0.91					
165	164	O:	0- 0- 0.00	0.40		49.56	COM:	-0.1 SEC	0.0 CM	159.9179
		C:	0- 0- 0.04	0.28			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.04	0.28	0.13					
165	12	O:	37-47- 8.00	0.40		7.53	COM:	-1.3 SEC	-0.1 CM	151.2415
		C:	37-47- 8.10	0.38			BND:	6.0 SEC	0.4 CM	
		V=C-O:	0- 0- 0.10	0.11	0.92					
165	13	O:	37-56- 2.20	0.40		32.84	COM:	0.6 SEC	0.0 CM	153.2996
		C:	37-56- 2.00	0.33			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.20	0.23	-0.88					
165	11	O:	38-32-18.50	0.40		7.76	COM:	-2.0 SEC	-0.1 CM	150.0770
		C:	38-32-18.66	0.38			BND:	5.9 SEC	0.4 CM	
		V=C-O:	0- 0- 0.16	0.11	1.42					
165	22	O:	52-31-16.60	0.40		16.39	COM:	-2.1 SEC	-0.1 CM	180.3534
		C:	52-31-16.95	0.37			BND:	4.1 SEC	0.3 CM	
		V=C-O:	0- 0- 0.35	0.16	2.16					
165	21	O:	52-54-32.10	0.40		18.58	COM:	0.9 SEC	0.1 CM	178.1320
		C:	52-54-31.94	0.36			BND:	3.8 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.16	0.17	-0.96					
165	33	O:	60-43- 0.00	0.40		59.09	COM:	0.5 SEC	0.0 CM	218.3518
		C:	60-42-59.72	0.26			BND:	2.1 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.28	0.31	-0.90					
165	164	O:	0- 0- 0.00	0.20		25.70	COM:	0.7 SEC	0.0 CM	159.9179
		C:	- 0- 0- 0.19	0.17			BND:	1.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.19	0.10	-1.83					
165	162	O:	64-34-20.10	0.20		41.12	COM:	-0.4 SEC	0.0 CM	406.0493
		C:	64-34-20.25	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.15	0.13	1.18					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
165	166	O: 68-37-25.00	0.20		37.99	COM:	0.1 SEC	0.0 CM	288.1158
		C: 68-37-24.97	0.16			BND:	1.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.03	0.12	-0.23					
165	161	O: 94- 6-38.80	0.20		43.64	COM:	0.6 SEC	0.0 CM	317.9867
		C: 94- 6-38.56	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.24	0.13	-1.84					
165	1218	O: 100-39-15.20	0.20		18.31	COM:	-1.7 SEC	-0.1 CM	225.5683
		C: 100-39-15.51	0.18			BND:	1.9 SEC	0.2 CM	
		V=C-O: 0- 0- 0.31	0.09	3.58 ..					
166	165	O: 0- 0- 0.00	0.50		72.84	COM:	-0.3 SEC	0.0 CM	288.1158
		C: 0- 0- 0.20	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.20	0.43	0.46					
166	31	O: 19- 4-22.70	0.30		17.17	COM:	1.2 SEC	0.0 CM	78.0538
		C: 19- 4-22.49	0.27			BND:	3.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.21	0.12	-1.70					
166	32	O: 20-52-52.70	0.30		17.54	COM:	1.8 SEC	0.1 CM	78.2179
		C: 20-52-52.39	0.27			BND:	3.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.31	0.13	-2.48					
166	33	O: 22-41-27.70	0.30		19.29	COM:	0.7 SEC	0.0 CM	77.8670
		C: 22-41-27.56	0.27			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.14	0.13	-1.07					
166	34	O: 33-38-35.30	0.30		14.66	COM:	0.0 SEC	0.0 CM	74.2203
		C: 33-38-35.30	0.28			BND:	3.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.00	0.11	-0.03					
166	35	O: 51-24-49.00	0.30		18.45	COM:	-0.7 SEC	0.0 CM	81.6213
		C: 51-24-49.14	0.27			BND:	2.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.14	0.13	1.06					
166	36	O: 55-42-16.70	0.30		20.09	COM:	-0.1 SEC	0.0 CM	84.5394
		C: 55-42-16.73	0.27			BND:	2.8 SEC	0.1 CM	
		V=C-O: 0- 0- 0.03	0.13	0.21					
166	37	O: 63- 4- 8.20	0.30		24.52	COM:	0.6 SEC	0.0 CM	92.3747
		C: 63- 4- 8.06	0.26			BND:	2.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.14	0.15	-0.95					
166	38	O: 67-11-53.50	0.30		27.93	COM:	-0.2 SEC	0.0 CM	98.1480
		C: 67-11-53.57	0.25			BND:	2.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.07	0.16	0.42					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	39	O:	76-27-15.10	0.30		16.49	COM:	-0.4 SEC	0.0 CM	116.1558
		C:	76-27-15.16	0.27			BND:	3.1 SEC	0.2 CM	
		V=C-O:	0- 0- 0.06	0.12	0.52					
166	29	O:	62-45-30.60	0.30		7.98	COM:	1.8 SEC	0.1 CM	152.6081
		C:	62-45-30.46	0.29			BND:	4.4 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.14	0.08	-1.67					
166	28	O:	54- 0-17.20	0.30		13.60	COM:	-0.5 SEC	0.0 CM	140.3634
		C:	54- 0-17.27	0.28			BND:	3.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.07	0.11	0.61					
166	27	O:	50-13- 7.70	0.30		14.59	COM:	-0.9 SEC	-0.1 CM	136.8685
		C:	50-13- 7.84	0.28			BND:	3.2 SEC	0.2 CM	
		V=C-O:	0- 0- 0.14	0.11	1.21					
166	26	O:	45-10-25.20	0.30		19.30	COM:	0.0 SEC	0.0 CM	132.7283
		C:	45-10-25.21	0.27			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.01	0.13	0.06					
166	25	O:	42- 4-11.20	0.30		22.23	COM:	-0.2 SEC	0.0 CM	131.4656
		C:	42- 4-11.24	0.26			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.04	0.14	0.25					
166	24	O:	31-26-30.80	0.30		29.24	COM:	-1.1 SEC	0.0 CM	128.4782
		C:	31-26-31.11	0.25			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.31	0.16	1.91					
166	23	O:	24-29- 1.50	0.30		24.80	COM:	0.5 SEC	0.0 CM	125.4420
		C:	24-29- 1.38	0.26			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.12	0.15	-0.78					
166	22	O:	23-32-13.60	0.30		30.63	COM:	-1.3 SEC	0.0 CM	125.2594
		C:	23-32-13.99	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.39	0.17	2.33					
166	21	O:	22-28-17.80	0.30		30.87	COM:	0.1 SEC	0.0 CM	126.2265
		C:	22-28-17.78	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.02	0.17	-0.10					
166	11	O:	25-25-31.20	0.20		12.32	COM:	-0.5 SEC	0.0 CM	175.2286
		C:	25-25-31.26	0.19			BND:	2.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.06	0.07	0.92					
166	12	O:	26- 5-59.30	0.20		12.23	COM:	-0.3 SEC	0.0 CM	176.2269
		C:	26- 5-59.34	0.19			BND:	2.4 SEC	0.2 CM	
		V=C-O:	0- 0- 0.04	0.07	0.53					

4.1 ANALYSIS OF DIRECTION OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	13	O: 26-35-39.00	0.20		12.09	COM:	0.4 SEC	0.0 CM	174.7783
		C: 26-35-38.95	0.19			BND:	2.4 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.05	0.07	-0.67					
166	14	O: 31-29-31.60	0.20		5.43	COM:	1.2 SEC	0.1 CM	177.2441
		C: 31-29-31.54	0.19			BND:	3.5 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.06	0.05	-1.39					
166	15	O: 40- 7- 4.00	0.20		29.95	COM:	-0.1 SEC	0.0 CM	177.8266
		C: 40- 7- 4.02	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O: 0- 0- 0.02	0.11	0.20					
166	16	O: 41-30-49.70	0.20		28.17	COM:	-0.4 SEC	0.0 CM	178.4221
		C: 41-30-49.81	0.17			BND:	1.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.11	0.11	1.03					
166	17	O: 45-38-10.30	0.20		19.46	COM:	-0.3 SEC	0.0 CM	180.0518
		C: 45-38-10.36	0.18			BND:	1.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.06	0.09	0.72					
166	18	O: 49- 6- 9.80	0.20		14.09	COM:	-0.5 SEC	0.0 CM	182.0851
		C: 49- 6- 9.87	0.19			BND:	2.2 SEC	0.2 CM	
		V=C-O: 0- 0- 0.07	0.08	0.96					
166	163	O: 101-16-35.00	0.20		19.22	COM:	1.4 SEC	0.1 CM	219.1310
		C: 101-16-34.73	0.18			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.27	0.09	-3.09 ..					
166	1218	O: 309- 0- 8.80	0.20		1.54	COM:	5.8 SEC	0.4 CM	153.9472
		C: 309- 0- 8.71	0.20			BND:	6.7 SEC	0.5 CM	
		V=C-O: - 0- 0- 0.09	0.02	-3.58 ..					

4.2 ANALYSIS OF AZIMUTH OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY			HORIZONTAL DISTANCE (METERS)
								INTERNAL	EXTERNAL	
166	164	O:	0- 0- 0.00	0.00		0.00	COM:	NOT		273.8550
		C:	0- 0- 0.00	0.00			BND:	CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00					

4.3 ANALYSIS OF HORIZONTAL DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
164	166	O:	273.85440	0.28		79.66	COM:	-0.1 CM	0.0 CM	273.8550
		C:	273.85498	0.13			BND:	1.3 CM	0.3 CM	
		V=C-O:	0.00058	0.25	0.23					
164	163	O:	280.54160	0.28		78.87	COM:	-0.5 CM	-0.1 CM	280.5459
		C:	280.54589	0.13			BND:	1.3 CM	0.3 CM	
		V=C-O:	0.00429	0.25	1.70					
164	161	O:	366.03560	0.31		69.25	COM:	0.4 CM	0.1 CM	366.0326
		C:	366.03265	0.17			BND:	1.5 CM	0.5 CM	
		V=C-O:	-0.00295	0.26	-1.15					
164	162	O:	366.99970	0.31		69.70	COM:	0.2 CM	0.1 CM	366.9982
		C:	366.99822	0.17			BND:	1.5 CM	0.5 CM	
		V=C-O:	-0.00148	0.26	-0.57					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1173	LTH: 0.11 CM	0.03 CM	0.28 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10173.6793	AZI: 170-57-17	260-57-17			NORT.:	0.11 CM
		ELEV.:	1000.2730	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5017
12	FREE	EAST.:	9979.0449	LTH: 0.11 CM	0.03 CM	0.28 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10174.9282	AZI: 171-41- 7	261-41- 7			NORT.:	0.11 CM
		ELEV.:	1000.3150	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4695
1218	FREE	EAST.:	9846.9509	LTH: 0.09 CM	0.03 CM	0.23 CM	0.06 CM	EAST.:	0.09 CM
		NORT.:	10016.2114	AZI: 96-20-50	186-20-50			NORT.:	0.03 CM
		ELEV.:	1015.0000	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.3402
13	FREE	EAST.:	9980.7154	LTH: 0.11 CM	0.03 CM	0.27 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10173.6632	AZI: 171-35-50	261-35-50			NORT.:	0.11 CM
		ELEV.:	1000.1030	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4585
14	FREE	EAST.:	9995.5549	LTH: 0.12 CM	0.03 CM	0.28 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10177.1436	AZI: 175-46- 1	265-46- 1			NORT.:	0.12 CM
		ELEV.:	992.5700	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.2597
15	FREE	EAST.:	10022.2527	LTH: 0.11 CM	0.02 CM	0.27 CM	0.06 CM	EAST.:	0.02 CM
		NORT.:	10176.3897	AZI: 183-38-31	273-38-31			NORT.:	0.11 CM
		ELEV.:	977.7050	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.2765
16	FREE	EAST.:	10026.6334	LTH: 0.11 CM	0.02 CM	0.27 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10176.3850	AZI: 184-47-15	274-47-15			NORT.:	0.11 CM
		ELEV.:	975.1380	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.3350
161	FREE	EAST.:	9884.6196	LTH: 0.09 CM	0.06 CM	0.22 CM	0.14 CM	EAST.:	0.08 CM
		NORT.:	9926.4517	AZI: 231- 4-16	321- 4-16			NORT.:	0.07 CM
		ELEV.:	1001.4850	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4120
162	FREE	EAST.:	10087.6908	LTH: 0.08 CM	0.04 CM	0.19 CM	0.10 CM	EAST.:	0.06 CM
		NORT.:	9917.4341	AZI: 134-23-35	224-23-35			NORT.:	0.06 CM
		ELEV.:	1014.9810	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5627
163	FREE	EAST.:	10203.6888	LTH: 0.13 CM	0.03 CM	0.32 CM	0.07 CM	EAST.:	0.12 CM
		NORT.:	10080.8548	AZI: 245-31- 6	335-31- 6			NORT.:	0.06 CM
		ELEV.:	925.3040	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.8375
164	FREE	EAST.:	10000.0376	LTH: 0.16 CM	0.00 CM	0.38 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8112	AZI: 180- 0- 0	270- 0- 0			NORT.:	0.16 CM
		ELEV.:	1006.4650	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3663	LTH: 0.16 CM	0.04 CM	0.40 CM	0.10 CM	EAST.:	0.10 CM
		NORT.:	10241.7512	AZI: 147-35-59	237-35-59			NORT.:	0.14 CM
		ELEV.:	1009.7800	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.8581

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
166	FIXED	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.6057		LTH: 0.11 CM	0.03 CM	0.27 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10175.6064		AZI: 188-50-52	278-50-52			NORT.:	0.11 CM
		ELEV.:	966.8130		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4910
18	FREE	EAST.:	10050.7200		LTH: 0.11 CM	0.03 CM	0.27 CM	0.07 CM	EAST.:	0.04 CM
		NORT.:	10174.8455		AZI: 192-39-30	282-39-30			NORT.:	0.11 CM
		ELEV.:	960.3930		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.5913
19	FREE	EAST.:	10076.3950		LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.2010		AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.7430		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
21	FREE	EAST.:	9977.1003		LTH: 0.10 CM	0.02 CM	0.24 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10124.0811		AZI: 169-54-38	259-54-38			NORT.:	0.10 CM
		ELEV.:	1000.1760		ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5741
22	FREE	EAST.:	9979.5707		LTH: 0.10 CM	0.02 CM	0.24 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10123.5322		AZI: 170-45-39	260-45-39			NORT.:	0.10 CM
		ELEV.:	1000.3040		ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5456
23	FREE	EAST.:	9981.5879		LTH: 0.10 CM	0.02 CM	0.24 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10124.0340		AZI: 173-19-57	263-19-57			NORT.:	0.10 CM
		ELEV.:	1000.1480		ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.4151
24	FREE	EAST.:	9996.6759		LTH: 0.11 CM	0.02 CM	0.26 CM	0.06 CM	EAST.:	0.02 CM
		NORT.:	10128.3904		AZI: 177-43-42	267-43-42			NORT.:	0.11 CM
		ELEV.:	990.2490		ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.1709
25	FREE	EAST.:	10020.8945		LTH: 0.10 CM	0.02 CM	0.24 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10129.7568		AZI: 185-24-32	275-24-32			NORT.:	0.10 CM
		ELEV.:	978.1230		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.3294
26	FREE	EAST.:	10028.1597		LTH: 0.10 CM	0.03 CM	0.24 CM	0.06 CM	EAST.:	0.03 CM
		NORT.:	10129.6711		AZI: 188-11-33	278-11-33			NORT.:	0.10 CM
		ELEV.:	973.9620		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.4386
27	FREE	EAST.:	10040.6876		LTH: 0.09 CM	0.03 CM	0.23 CM	0.07 CM	EAST.:	0.03 CM
		NORT.:	10130.6489		AZI: 193-20- 1	283-20- 1			NORT.:	0.09 CM
		ELEV.:	965.8000		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.5700
28	FREE	EAST.:	10050.4845		LTH: 0.09 CM	0.03 CM	0.23 CM	0.07 CM	EAST.:	0.04 CM
		NORT.:	10130.9409		AZI: 197-15- 0	287-15- 0			NORT.:	0.09 CM
		ELEV.:	960.5700		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.6345

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
29	FREE	EAST.:	10075.9195	LTH: 0.09 CM	0.03 CM	0.23 CM	0.08 CM	EAST.:	0.05 CM
		NORT.:	10132.3616	AZI: 207-26-26	297-26-26			NORT.:	0.09 CM
		ELEV.:	946.6670	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.7208
31	FREE	EAST.:	9981.3287	LTH: 0.08 CM	0.02 CM	0.19 CM	0.04 CM	EAST.:	0.02 CM
		NORT.:	10075.7346	AZI: 166- 3-45	256- 3-45			NORT.:	0.08 CM
		ELEV.:	1000.3780	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.7402
32	FREE	EAST.:	9983.6949	LTH: 0.08 CM	0.02 CM	0.20 CM	0.04 CM	EAST.:	0.02 CM
		NORT.:	10076.4478	AZI: 167-42-13	257-42-13			NORT.:	0.08 CM
		ELEV.:	1000.3840	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.7042
33	FREE	EAST.:	9986.1812	LTH: 0.06 CM	0.02 CM	0.14 CM	0.04 CM	EAST.:	0.02 CM
		NORT.:	10076.5804	AZI: 168-34-50	258-34-50			NORT.:	0.05 CM
		ELEV.:	1000.0010	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.5294
34	FREE	EAST.:	10000.9467	LTH: 0.05 CM	0.02 CM	0.13 CM	0.04 CM	EAST.:	0.02 CM
		NORT.:	10074.1710	AZI: 179-19-57	269-19-57			NORT.:	0.05 CM
		ELEV.:	992.0120	ELEV. STD. DEV.:	0.00 CM			CORR.:	-0.0365
35	FREE	EAST.:	10025.8991	LTH: 0.05 CM	0.02 CM	0.13 CM	0.04 CM	EAST.:	0.02 CM
		NORT.:	10077.3721	AZI: 197-17-52	287-17-52			NORT.:	0.05 CM
		ELEV.:	977.7070	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.6373
36	FREE	EAST.:	10032.7481	LTH: 0.06 CM	0.02 CM	0.14 CM	0.04 CM	EAST.:	0.03 CM
		NORT.:	10077.9109	AZI: 201-42-51	291-42-51			NORT.:	0.05 CM
		ELEV.:	973.8690	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.7030
37	FREE	EAST.:	10046.4030	LTH: 0.06 CM	0.02 CM	0.14 CM	0.05 CM	EAST.:	0.03 CM
		NORT.:	10079.8520	AZI: 209-20-19	299-20-19			NORT.:	0.05 CM
		ELEV.:	965.3180	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.7709
38	FREE	EAST.:	10055.2856	LTH: 0.06 CM	0.02 CM	0.15 CM	0.05 CM	EAST.:	0.04 CM
		NORT.:	10081.0777	AZI: 213-38-36	303-38-36			NORT.:	0.05 CM
		ELEV.:	960.5840	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.7941
39	FREE	EAST.:	10080.0130	LTH: 0.07 CM	0.02 CM	0.18 CM	0.06 CM	EAST.:	0.05 CM
		NORT.:	10084.1946	AZI: 225-33-52	315-33-52			NORT.:	0.05 CM
		ELEV.:	946.8710	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.7938

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1218	LTH:	97.3433 M	0.09 CM	0.02 CM	0.21 CM	0.06 CM	13.5150	0.00	HOR.: 1 / 60563
		AZI:	112-45-57	155-40-21	245-40-21					VER.:
161	166	LTH:	136.8365 M	0.09 CM	0.06 CM	0.22 CM	0.14 CM	-1.4850	0.00	HOR.: 1 / 65548
		AZI:	32-29-28	231- 4-16	321- 4-16					VER.:
1218	166	LTH:	153.9472 M	0.09 CM	0.03 CM	0.23 CM	0.06 CM	-15.0000	0.00	HOR.: 1 / 193516
		AZI:	353-56-20	96-20-50	186-20-50					VER.:
161	162	LTH:	203.2713 M	0.12 CM	0.06 CM	0.30 CM	0.16 CM	13.4960	0.00	HOR.: 1 / 126107
		AZI:	357-27-26	95-11-26	185-11-26					VER.:
162	166	LTH:	120.3868 M	0.08 CM	0.04 CM	0.19 CM	0.10 CM	-14.9810	0.00	HOR.: 1 / 63573
		AZI:	136-43-37	134-23-35	224-23-35					VER.:
1218	31	LTH:	146.9707 M	0.09 CM	0.07 CM	0.22 CM	0.18 CM	-14.6220	0.00	HOR.: 1 / 71533
		AZI:	23-53-28	240-32- 7	330-32- 7					VER.:
31	166	LTH:	78.0538 M	0.08 CM	0.02 CM	0.19 CM	0.04 CM	-0.3780	0.00	HOR.: 1 / 80568
		AZI:	283-52- 6	166- 3-45	256- 3-45					VER.:
162	39	LTH:	166.9372 M	0.10 CM	0.05 CM	0.26 CM	0.11 CM	-68.1100	0.00	HOR.: 1 / 142157
		AZI:	92-38- 9	176-14-56	266-14-56					VER.:
39	166	LTH:	116.1558 M	0.07 CM	0.02 CM	0.18 CM	0.06 CM	53.1290	0.00	HOR.: 1 / 65045
		AZI:	226-29-13	225-33-52	315-33-52					VER.:
1218	21	LTH:	169.0407 M	0.11 CM	0.07 CM	0.26 CM	0.17 CM	-14.8240	0.00	HOR.: 1 / 64893
		AZI:	39-39- 8	217-13-33	307-13-33					VER.:
21	31	LTH:	48.5311 M	0.09 CM	0.02 CM	0.22 CM	0.06 CM	0.2020	0.00	HOR.: 1 / 59257
		AZI:	274-59-54	168-59-32	258-59-32					VER.:
31	34	LTH:	19.6802 M	0.07 CM	0.02 CM	0.16 CM	0.05 CM	-8.3660	0.00	HOR.: 1 / 12357
		AZI:	355-26-34	166-31-43	256-31-43					VER.:
34	166	LTH:	74.2203 M	0.05 CM	0.02 CM	0.13 CM	0.04 CM	7.9880	0.00	HOR.: 1 / 195833
		AZI:	269-17-53	179-19-57	269-19-57					VER.:
162	163	LTH:	200.4042 M	0.13 CM	0.03 CM	0.31 CM	0.08 CM	-89.6770	0.00	HOR.: 1 / 69519
		AZI:	54-37-56	210-58-59	300-58-59					VER.:
163	39	LTH:	123.7210 M	0.08 CM	0.03 CM	0.20 CM	0.07 CM	21.5670	0.00	HOR.: 1 / 172063
		AZI:	178-27-11	264-13-24	354-13-24					VER.:
38	39	LTH:	24.9231 M	0.04 CM	0.02 CM	0.09 CM	0.05 CM	-13.7130	0.00	HOR.: 1 / 43909
		AZI:	7-11- 3	254-54-55	344-54-55					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
38	166	LTH:	98.1480 M	0.06 CM	0.02 CM	0.15 CM	0.05 CM	39.4160	0.00	HOR.: 1 / 69648
		AZI:	235-44-35	213-38-36	303-38-36					VER.:
165	1218	LTH:	225.5683 M	0.13 CM	0.04 CM	0.33 CM	0.10 CM	5.2200	0.00	HOR.: 1 / 228445
		AZI:	270-54-37	179-54-59	269-54-59					VER.:
165	21	LTH:	178.1320 M	0.12 CM	0.05 CM	0.29 CM	0.12 CM	-9.6040	0.00	HOR.: 1 / 62074
		AZI:	318-39-21	139-22-26	229-22-26					VER.:
21	22	LTH:	2.5306 M	0.08 CM	0.03 CM	0.20 CM	0.06 CM	0.1280	0.00	HOR.: 1 / 1260
		AZI:	347-28-16	168-44- 3	258-44- 3					VER.:
22	31	LTH:	47.8299 M	0.09 CM	0.02 CM	0.22 CM	0.06 CM	0.0740	0.00	HOR.: 1 / 64812
		AZI:	272- 6-23	169-32-34	259-32-34					VER.:
31	33	LTH:	4.9257 M	0.06 CM	0.02 CM	0.16 CM	0.04 CM	-0.3770	0.00	HOR.: 1 / 3398
		AZI:	9-53-13	166-22-19	256-22-19					VER.:
33	34	LTH:	14.9608 M	0.03 CM	0.02 CM	0.08 CM	0.05 CM	-7.9890	0.00	HOR.: 1 / 18368
		AZI:	350-43-55	168-19-12	258-19-12					VER.:
34	35	LTH:	25.1568 M	0.03 CM	0.02 CM	0.08 CM	0.06 CM	-14.3050	0.00	HOR.: 1 / 33331
		AZI:	7-18-38	189-13-14	279-13-14					VER.:
35	166	LTH:	81.6213 M	0.05 CM	0.02 CM	0.13 CM	0.04 CM	22.2930	0.00	HOR.: 1 / 96442
		AZI:	251-31-39	197-17-52	287-17-52					VER.:
163	29	LTH:	137.7605 M	0.09 CM	0.05 CM	0.21 CM	0.12 CM	21.3630	0.00	HOR.: 1 / 85044
		AZI:	158- 2-40	105-43-49	195-43-49					VER.:
29	39	LTH:	48.3405 M	0.05 CM	0.04 CM	0.12 CM	0.09 CM	0.2040	0.00	HOR.: 1 / 53184
		AZI:	274-51-27	192-12-46	282-12-46					VER.:
28	38	LTH:	50.0938 M	0.05 CM	0.03 CM	0.13 CM	0.07 CM	0.0140	0.00	HOR.: 1 / 71588
		AZI:	275-29-59	184- 4- 8	274- 4- 8					VER.:
28	39	LTH:	55.2914 M	0.05 CM	0.04 CM	0.13 CM	0.09 CM	-13.6990	0.00	HOR.: 1 / 50177
		AZI:	302-16-46	172-33-31	262-33-31					VER.:
37	38	LTH:	8.9668 M	0.03 CM	0.02 CM	0.07 CM	0.05 CM	-4.7340	0.00	HOR.: 1 / 15070
		AZI:	7-51-24	228-21-24	318-21-24					VER.:
37	166	LTH:	92.3747 M	0.06 CM	0.02 CM	0.14 CM	0.05 CM	34.6820	0.00	HOR.: 1 / 73204
		AZI:	239-52-20	209-20-19	299-20-19					VER.:
165	11	LTH:	150.0770 M	0.10 CM	0.05 CM	0.24 CM	0.11 CM	-9.5070	0.00	HOR.: 1 / 70863
		AZI:	333- 1-35	122-23-43	212-23-43					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
11	21	LTH:	49.5981 M	0.08 CM	0.03 CM	0.19 CM	0.07 CM	-0.0970	0.00	HOR.: 1 / 64117
		AZI:	269-58-49	168- 2- 3	258- 2- 3					VER.:
21	23	LTH:	4.4879 M	0.09 CM	0.03 CM	0.22 CM	0.06 CM	-0.0280	0.00	HOR.: 1 / 2025
		AZI:	359-23-51	173- 5- 0	263- 5- 0					VER.:
22	23	LTH:	2.0787 M	0.09 CM	0.03 CM	0.22 CM	0.06 CM	-0.1560	0.00	HOR.: 1 / 982
		AZI:	13-58- 7	173-20-46	263-20-46					VER.:
22	32	LTH:	47.2647 M	0.09 CM	0.02 CM	0.23 CM	0.06 CM	0.0800	0.00	HOR.: 1 / 59217
		AZI:	275- 0-21	169-52-58	259-52-58					VER.:
31	32	LTH:	2.4714 M	0.08 CM	0.02 CM	0.19 CM	0.04 CM	0.0060	0.00	HOR.: 1 / 1485
		AZI:	16-46-18	167-16-20	257-16-20					VER.:
32	33	LTH:	2.4898 M	0.06 CM	0.02 CM	0.16 CM	0.04 CM	-0.3830	0.00	HOR.: 1 / 1620
		AZI:	3- 3-12	167-44-18	257-44-18					VER.:
24	33	LTH:	52.8623 M	0.08 CM	0.02 CM	0.21 CM	0.06 CM	9.7520	0.00	HOR.: 1 / 76336
		AZI:	258-32-56	178-43-40	268-43-40					VER.:
24	34	LTH:	54.3874 M	0.08 CM	0.02 CM	0.21 CM	0.06 CM	1.7630	0.00	HOR.: 1 / 88636
		AZI:	274-30-13	177-20-23	267-20-23					VER.:
24	35	LTH:	58.7951 M	0.08 CM	0.03 CM	0.20 CM	0.07 CM	-12.5420	0.00	HOR.: 1 / 44446
		AZI:	299-48-14	174- 7-52	264- 7-52					VER.:
35	36	LTH:	6.8702 M	0.03 CM	0.02 CM	0.07 CM	0.05 CM	-3.8380	0.00	HOR.: 1 / 10287
		AZI:	4-29-52	202-32-38	292-32-38					VER.:
36	166	LTH:	84.5394 M	0.06 CM	0.02 CM	0.14 CM	0.04 CM	26.1310	0.00	HOR.: 1 / 84784
		AZI:	247-14-11	201-42-51	291-42-51					VER.:
163	19	LTH:	157.2627 M	0.13 CM	0.03 CM	0.32 CM	0.07 CM	21.4390	0.00	HOR.: 1 / 162365
		AZI:	144- 2-26	245-31- 6	335-31- 6					VER.:
19	29	LTH:	40.8422 M	0.09 CM	0.03 CM	0.23 CM	0.08 CM	-0.0760	0.00	HOR.: 1 / 31400
		AZI:	269-19-58	207-26-26	297-26-26					VER.:
28	29	LTH:	25.4746 M	0.06 CM	0.04 CM	0.14 CM	0.09 CM	-13.9030	0.00	HOR.: 1 / 18802
		AZI:	3-11-48	189- 2-18	279- 2-18					VER.:
28	37	LTH:	51.2517 M	0.06 CM	0.03 CM	0.14 CM	0.07 CM	4.7480	0.00	HOR.: 1 / 72090
		AZI:	265-25-56	187-25-44	277-25-44					VER.:
36	37	LTH:	13.7922 M	0.03 CM	0.02 CM	0.07 CM	0.05 CM	-8.5510	0.00	HOR.: 1 / 21501
		AZI:	8- 5-25	216-56- 8	306-56- 8					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
164	165	LTH:	159.9179 M	0.10 CM	0.02 CM	0.24 CM	0.06 CM	3.3150	0.00	HOR.: 1 / 138204
		AZI:	191-33-53	255-47-29	345-47-29					VER.:
164	11	LTH:	102.7217 M	0.08 CM	0.03 CM	0.18 CM	0.08 CM	-6.1920	0.00	HOR.: 1 / 111131
		AZI:	257- 6-25	182-31- 9	272-31- 9					VER.:
11	13	LTH:	3.5982 M	0.06 CM	0.03 CM	0.14 CM	0.06 CM	-0.1700	0.00	HOR.: 1 / 2660
		AZI:	359-44-37	162-51-30	252-51-30					VER.:
13	21	LTH:	49.7137 M	0.08 CM	0.03 CM	0.19 CM	0.07 CM	0.0730	0.00	HOR.: 1 / 69017
		AZI:	265-49-47	168-17- 2	258-17- 2					VER.:
13	23	LTH:	49.6369 M	0.08 CM	0.03 CM	0.19 CM	0.07 CM	0.0450	0.00	HOR.: 1 / 68240
		AZI:	271- 0-25	173-27-59	263-27-59					VER.:
22	33	LTH:	47.4149 M	0.08 CM	0.02 CM	0.19 CM	0.05 CM	-0.3030	0.00	HOR.: 1 / 61316
		AZI:	278- 0-51	169-56- 7	259-56- 7					VER.:
23	33	LTH:	47.6754 M	0.07 CM	0.02 CM	0.18 CM	0.06 CM	-0.1470	0.00	HOR.: 1 / 75190
		AZI:	275-31-43	175- 9- 9	265- 9- 9					VER.:
23	24	LTH:	15.7043 M	0.10 CM	0.03 CM	0.24 CM	0.07 CM	-9.8990	0.00	HOR.: 1 / 6786
		AZI:	16- 6-19	177-16-48	267-16-48					VER.:
24	25	LTH:	24.2571 M	0.10 CM	0.03 CM	0.24 CM	0.07 CM	-12.1260	0.00	HOR.: 1 / 10186
		AZI:	3-13-45	179-31- 8	269-31- 8					VER.:
25	35	LTH:	52.6232 M	0.07 CM	0.02 CM	0.17 CM	0.06 CM	-0.4160	0.00	HOR.: 1 / 85317
		AZI:	275-27-25	181- 2- 1	271- 2- 1					VER.:
26	35	LTH:	52.3478 M	0.07 CM	0.02 CM	0.16 CM	0.06 CM	3.7450	0.00	HOR.: 1 / 84186
		AZI:	267-31-29	183-38-47	273-38-47					VER.:
26	36	LTH:	51.9632 M	0.07 CM	0.03 CM	0.16 CM	0.06 CM	-0.0930	0.00	HOR.: 1 / 82896
		AZI:	275- 3-57	182- 6-31	272- 6-31					VER.:
163	164	LTH:	280.5459 M	0.16 CM	0.05 CM	0.39 CM	0.12 CM	81.1610	0.00	HOR.: 1 / 71475
		AZI:	136-32-40	134-32-45	224-32-45					VER.:
164	19	LTH:	126.3046 M	0.16 CM	0.00 CM	0.38 CM	0.00 CM	-59.7220	0.00	HOR.: 1 / 54621
		AZI:	307-11-47	180- 0- 0	270- 0- 0					VER.:
18	19	LTH:	25.7276 M	0.11 CM	0.03 CM	0.27 CM	0.07 CM	-13.6500	0.00	HOR.: 1 / 9998
		AZI:	356-20- 6	192-39-30	282-39-30					VER.:
18	29	LTH:	49.3953 M	0.05 CM	0.03 CM	0.13 CM	0.08 CM	-13.7260	0.00	HOR.: 1 / 46277
		AZI:	300-40-28	165-38-36	255-38-36					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
18	28	LTH:	43.9052 M	0.06 CM	0.03 CM	0.14 CM	0.07 CM	0.1770	0.00	HOR.: 1 / 65383
		AZI:	269-41-33	179- 8-13	269- 8-13					VER.:
27	28	LTH:	9.8012 M	0.06 CM	0.03 CM	0.16 CM	0.07 CM	-5.2300	0.00	HOR.: 1 / 6236
		AZI:	1-42-26	186-12- 4	276-12- 4					VER.:
27	37	LTH:	51.1174 M	0.06 CM	0.03 CM	0.14 CM	0.07 CM	-0.4820	0.00	HOR.: 1 / 75184
		AZI:	276-25-10	183-34-32	273-34-32					VER.:
26	37	LTH:	53.0544 M	0.06 CM	0.03 CM	0.16 CM	0.07 CM	-8.6440	0.00	HOR.: 1 / 60926
		AZI:	290- 6-44	178-39-23	268-39-23					VER.:
164	12	LTH:	101.0867 M	0.07 CM	0.03 CM	0.18 CM	0.08 CM	-6.1500	0.00	HOR.: 1 / 112897
		AZI:	258- 0-50	182- 9-41	272- 9-41					VER.:
11	12	LTH:	2.2969 M	0.06 CM	0.03 CM	0.15 CM	0.06 CM	0.0420	0.00	HOR.: 1 / 2090
		AZI:	32-56-25	164-12-21	254-12-21					VER.:
12	13	LTH:	2.0955 M	0.06 CM	0.03 CM	0.14 CM	0.06 CM	-0.2120	0.00	HOR.: 1 / 1585
		AZI:	322-51-50	163-19-15	253-19-15					VER.:
13	24	LTH:	48.0037 M	0.09 CM	0.03 CM	0.22 CM	0.07 CM	-9.8540	0.00	HOR.: 1 / 42196
		AZI:	289-25-10	173-51- 1	263-51- 1					VER.:
14	24	LTH:	48.7661 M	0.09 CM	0.03 CM	0.23 CM	0.07 CM	-2.3210	0.00	HOR.: 1 / 65880
		AZI:	271-19- 1	175-37-30	265-37-30					VER.:
14	25	LTH:	53.7364 M	0.08 CM	0.03 CM	0.20 CM	0.08 CM	-14.4470	0.00	HOR.: 1 / 41234
		AZI:	298- 8- 6	174- 6-57	264- 6-57					VER.:
25	26	LTH:	7.2657 M	0.08 CM	0.03 CM	0.20 CM	0.07 CM	-4.1610	0.00	HOR.: 1 / 3623
		AZI:	359-19-26	182-36- 9	272-36- 9					VER.:
164	18	LTH:	111.1886 M	0.08 CM	0.02 CM	0.19 CM	0.05 CM	-46.0720	0.00	HOR.: 1 / 73407
		AZI:	297- 7- 4	154- 4-12	244- 4-12					VER.:
18	27	LTH:	45.3210 M	0.06 CM	0.03 CM	0.15 CM	0.07 CM	5.4070	0.00	HOR.: 1 / 59271
		AZI:	257-12-39	182-35-57	272-35-57					VER.:
26	27	LTH:	12.5661 M	0.07 CM	0.03 CM	0.18 CM	0.07 CM	-8.1620	0.00	HOR.: 1 / 7013
		AZI:	4-27-44	184-26-23	274-26-23					VER.:
164	14	LTH:	96.7714 M	0.08 CM	0.03 CM	0.19 CM	0.07 CM	-13.8950	0.00	HOR.: 1 / 131668
		AZI:	267-20-41	174-21-43	264-21-43					VER.:
12	14	LTH:	16.6580 M	0.07 CM	0.03 CM	0.18 CM	0.07 CM	-7.7450	0.00	HOR.: 1 / 9814
		AZI:	7-38-32	169-32-50	259-32-50					VER.:

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
13	14	LTH:	15.2422 M	0.06 CM	0.03 CM	0.15 CM	0.07 CM	-7.5330	0.00	HOR.: 1 / 10961
		AZI:	13-11-58	167-55-18	257-55-18					VER.:
14	15	LTH:	26.7084 M	0.06 CM	0.03 CM	0.15 CM	0.07 CM	-14.8650	0.00	HOR.: 1 / 17834
		AZI:	358-22-56	171- 7-54	261- 7-54					VER.:
15	25	LTH:	46.6526 M	0.08 CM	0.02 CM	0.19 CM	0.06 CM	0.4180	0.00	HOR.: 1 / 77869
		AZI:	268-19-53	179-10-17	269-10-17					VER.:
16	25	LTH:	46.9800 M	0.08 CM	0.02 CM	0.19 CM	0.06 CM	2.9850	0.00	HOR.: 1 / 73321
		AZI:	262-59- 0	179-43-51	269-43-51					VER.:
16	26	LTH:	46.7388 M	0.07 CM	0.02 CM	0.18 CM	0.06 CM	-1.1760	0.00	HOR.: 1 / 75786
		AZI:	271-52-16	178-43- 0	268-43- 0					VER.:
164	17	LTH:	105.8764 M	0.08 CM	0.02 CM	0.18 CM	0.05 CM	-39.6520	0.00	HOR.: 1 / 81281
		AZI:	291-56-42	158-51-28	248-51-28					VER.:
17	18	LTH:	11.1404 M	0.04 CM	0.02 CM	0.11 CM	0.05 CM	-6.4200	0.00	HOR.: 1 / 10465
		AZI:	356- 5- 0	165-26-31	255-26-31					VER.:
17	27	LTH:	44.9706 M	0.06 CM	0.03 CM	0.16 CM	0.07 CM	-1.0130	0.00	HOR.: 1 / 68563
		AZI:	271-22-43	179-12-57	269-12-57					VER.:
17	26	LTH:	47.3399 M	0.07 CM	0.03 CM	0.17 CM	0.06 CM	7.1490	0.00	HOR.: 1 / 61682
		AZI:	256- 0-29	181-28-17	271-28-17					VER.:
164	15	LTH:	99.9223 M	0.08 CM	0.02 CM	0.19 CM	0.04 CM	-28.7600	0.00	HOR.: 1 / 110234
		AZI:	282-50-44	166-57- 5	256-57- 5					VER.:
15	16	LTH:	4.3807 M	0.05 CM	0.02 CM	0.13 CM	0.05 CM	-2.5670	0.00	HOR.: 1 / 3373
		AZI:	359-56-19	170-40- 8	260-40- 8					VER.:
16	17	LTH:	12.9956 M	0.05 CM	0.02 CM	0.12 CM	0.05 CM	-8.3250	0.00	HOR.: 1 / 10819
		AZI:	356-33-55	168-20-16	258-20-16					VER.:
164	16	LTH:	100.9911 M	0.08 CM	0.02 CM	0.19 CM	0.04 CM	-31.3270	0.00	HOR.: 1 / 99523
		AZI:	285-16- 7	164-46-30	254-46-30					VER.:

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	128	0.855704D+02	0.560252D+02	1.23586
AZIMUTHS	1	0.000000D+00	-.111141D-15	1.00000
HORIZONTAL DISTANCE	4	0.345664D+01	0.297480D+01	1.07795
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
HEIGHT DIFFERENCE	0	0.000000D+00	0.000000D+00	1.00000
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	133	0.890271D+02	59	1.22839

STATIONS:	FIXED	1
	FREE	33
	WEIGHTED	0
	TOTAL	34

CONVERGENCE:	ITERATIONS USED	4
	TOLERANCE	0.001000
	COMPUTATION TIME	35.297 SEC

APPENDIX IIF

Vertical Adjustment:

Epoch 1

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 15:31:53 DATE: 9-JAN-87

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*                                                                       *
*  BOSTON SURVEY CONSULTANTS - BALL MOUNTAIN DAM - PROJECT 1-1654.00    *
*                                                                       *
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PROJECT INFORMATION:

EPOCH 1 ANALYSIS OF HEIGHTS
DATABASE BALLZALL.DBS
1165400Z

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

OPTIONS IN EFFECT

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.000100
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.22000 CM
VARIABLE PART OF EDM MEASUREMENT	4.00000 PPM
ZENITH DISTANCE	0.50000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	0.00000 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6378.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT ..... SOLVING FOR

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0377		9999.9561		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.1192	FIXED	10173.6777	FIXED	1000.3707	
12	9979.0467	FIXED	10174.9262	FIXED	1000.4116	
13	9980.7113	FIXED	10173.6617	FIXED	1000.1974	
14	9995.5502	FIXED	10177.1434	FIXED	992.6496	
15	10022.2472	FIXED	10176.3899	FIXED	977.7854	
16	10026.6273	FIXED	10176.3835	FIXED	975.2260	
161	9884.6202	FIXED	9926.4518	FIXED	1000.9763	
16111	9884.6202	FIXED	9926.4518	FIXED	1001.1973	
16121	9884.6202	FIXED	9926.4518	FIXED	1001.0233	
162	10087.6880	FIXED	9917.4346	FIXED	1014.7728	
16211	10087.6880	FIXED	9917.4346	FIXED	1014.9926	
16231	10087.6880	FIXED	9917.4346	FIXED	1015.0611	
163	10203.6869	FIXED	10080.8551	FIXED	925.0730	
16311	10203.6869	FIXED	10080.8551	FIXED	925.2987	
16321	10203.6869	FIXED	10080.8551	FIXED	925.1232	
16341	10203.6869	FIXED	10080.8551	FIXED	925.2958	
164	10000.0377	FIXED	10273.8091	FIXED	1006.1912	
16411	10000.0377	FIXED	10273.8091	FIXED	1006.4061	
16421	10000.0377	FIXED	10273.8091	FIXED	1006.2308	
16431	10000.0377	FIXED	10273.8091	FIXED	1006.4717	
16451	10000.0377	FIXED	10273.8091	FIXED	1006.1752	
165	9843.3682	FIXED	10241.7497	FIXED	1009.5775	
16511	9843.3682	FIXED	10241.7497	FIXED	1009.7971	
16521	9843.3682	FIXED	10241.7497	FIXED	1009.6185	
16611	10000.0377	FIXED	9999.9561	FIXED	1001.5565	
16621	10000.0377	FIXED	9999.9561	FIXED	1001.4410	
16631	10000.0377	FIXED	9999.9561	FIXED	1001.4725	
17	10039.5999	FIXED	10175.6059	FIXED	966.9011	
18	10050.7145	FIXED	10174.8444	FIXED	960.4798	
19	10076.4310	FIXED	10173.1724	FIXED	946.8272	
21	9977.1005	FIXED	10124.0793	FIXED	1000.2721	
22	9979.5689	FIXED	10123.5307	FIXED	1000.3990	
23	9981.5818	FIXED	10124.0299	FIXED	1000.2415	
24	9996.6703	FIXED	10128.3890	FIXED	991.8380	
25	10020.8889	FIXED	10129.7551	FIXED	978.2108	
26	10028.1531	FIXED	10129.6703	FIXED	974.0488	
27	10040.6822	FIXED	10130.6486	FIXED	965.8854	
28	10050.4780	FIXED	10130.9387	FIXED	960.6544	
29	10075.9146	FIXED	10132.3600	FIXED	946.7501	
31	9981.3281	FIXED	10075.7317	FIXED	1000.4713	
32	9983.6879	FIXED	10076.4455	FIXED	1000.4773	
33	9986.1737	FIXED	10076.5779	FIXED	1000.0987	
34	10000.9422	FIXED	10074.1680	FIXED	992.1019	
35	10025.8939	FIXED	10077.3707	FIXED	977.7919	
36	10032.7422	FIXED	10077.9094	FIXED	973.9531	
37	10046.3977	FIXED	10079.8491	FIXED	965.3939	
38	10055.2805	FIXED	10081.0761	FIXED	960.6659	
39	10080.0094	FIXED	10084.1935	FIXED	946.9513	

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO DIRECTION OBSERVATIONS

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO AZIMUTH OBSERVATIONS

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HORIZONTAL DISTANCE OBSERVATIONS

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
16111	16521	88-29- 2.600	0.500	-0.638
16111	16421	89-12-47.800	0.500	-1.059
16111	11	90-10-48.800	0.500	-0.828
16111	12	90-10-12.500	0.500	-0.926
16111	13	90-13- 0.500	0.500	-0.837
16111	21	90-14-36.800	0.500	-0.876
16111	22	90-12-34.800	0.500	-0.981
16111	23	90-14-58.300	0.500	-0.560
16111	31	90-14- 4.000	0.500	-0.406
16111	32	90-13-49.000	0.500	0.300
16111	33	90-20-53.500	0.500	0.733
16611	31	90-47-48.600	0.500	-0.156
16611	32	90-47-26.000	0.500	-0.850
16611	33	91- 4-21.600	0.500	-0.716
16611	34	97-15-35.700	0.500	-0.768
16611	35	106-14- 3.300	0.500	0.376
16611	36	108- 5- 0.800	0.500	-0.514
16611	37	111-22-51.000	0.500	0.648
16611	38	112-37- 7.800	0.500	-0.289
16611	29	109-45-21.200	0.500	0.102
16611	28	106-14-50.200	0.500	0.192
16611	27	104-36-30.400	0.500	0.272
16611	26	101-42-33.300	0.500	-0.487
16611	25	100- 4-13.100	0.500	-0.084
16611	24	94-19-34.000	0.500	-0.817
16611	23	90-36- 3.400	0.500	-0.598
16611	22	90-31-47.900	0.500	0.119
16611	12	90-22-21.200	0.500	-1.325
16611	13	90-26-45.500	0.500	-0.878
16611	14	92-52-38.600	0.500	-0.434
16611	15	97-36-52.100	0.500	-0.570
16611	16	98-23-43.400	0.500	-0.727
16611	17	100-53-44.600	0.500	0.597
16611	18	102-42-48.400	0.500	-0.111
16611	19	106- 7-30.300	0.500	0.553
16611	16341	109-11-22.000	0.500	-0.624
16631	16341	109-10-11.800	0.500	-0.288
16511	11	93-35-40.000	0.500	-0.688
16511	12	93-33- 5.100	0.500	-0.669
16511	13	93-35- 1.900	0.500	-0.277
16511	21	93- 3-40.800	0.500	-0.580
16511	22	92-59- 0.800	0.500	-0.514
16511	23	93- 0-49.100	0.500	0.219
16511	31	92-28-28.000	0.500	-0.817
16511	32	92-27-43.000	0.500	-0.297

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
16511	33	92-32-38.600	0.500	-0.221
16511	16231	89-15-30.600	0.500	-1.228
16411	19	115-14-47.000	0.500	-0.845
16411	18	112-26-37.600	0.500	-1.008
16411	17	110-27-45.300	0.500	-0.791
16411	16	107- 9-30.000	0.500	-0.077
16411	15	105-59- 3.000	0.500	-0.129
16411	14	98- 5-27.800	0.500	-0.379
16411	24	95-43-11.200	0.500	-0.138
16411	25	100-57-48.800	0.500	0.277
16411	26	102-25-34.800	0.500	0.197
16411	27	105-13-55.000	0.500	-0.205
16411	28	106-48-10.900	0.500	-0.267
16411	29	110-23-17.600	0.500	-0.522
16411	39	106- 6-55.000	0.500	-0.214
16411	38	102-51- 7.600	0.500	-0.196
16411	37	101-37-17.200	0.500	-1.460
16411	36	99-16-50.700	0.500	-0.505
16411	35	98-13- 6.300	0.500	-0.567
16411	34	94- 5-55.600	0.500	-0.631
16411	33	91-49-40.000	0.500	-0.607
16411	32	91-42-55.900	0.500	-0.082
16411	31	91-42-32.400	0.500	-1.300
16411	23	92-20-22.600	0.500	-0.547
16411	22	92-16- 7.400	0.500	-0.085
16411	21	92-19-10.000	0.500	-0.208
16411	13	93-29- 2.200	0.500	0.385
16411	12	93-23-39.400	0.500	0.620
16411	11	93-21-46.400	0.500	-0.300
16411	16121	90-50-37.300	0.500	-0.936
16411	16231	88-39- 0.500	0.500	-1.134
16411	16521	88-50-59.000	0.500	-0.351
16411	16321	106- 9-33.400	0.500	0.211
16311	16231	65-52-22.500	0.500	0.078
16311	39	80- 4-25.000	0.500	-0.390
16311	38	76-35-46.000	0.500	-0.609
16311	37	75-41-59.000	0.500	-0.916
16311	36	74- 6-55.600	0.500	-0.046
16311	35	73-33-15.000	0.500	-1.204
16311	34	71-46-24.000	0.500	0.129
16311	33	71- 1-36.200	0.500	-0.349
16311	23	71-40-29.500	0.500	-0.333
16311	24	72-36-23.800	0.500	-0.406
16311	25	74-22-41.800	0.500	-0.611
16311	26	75- 1-14.800	0.500	-0.567
16311	27	76-36-22.200	0.500	-0.728

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
16311	28	77-37-44.100	0.500	-0.248
16311	29	81- 8-59.800	0.500	0.076
16311	19	82-12-11.100	0.500	-0.478
16311	18	78-54-50.500	0.500	0.170
16311	17	77-37- 1.700	0.500	-0.407
16311	16	76- 3-48.500	0.500	-0.244
16311	15	75-38-36.000	0.500	-0.069
16311	14	73-38- 3.200	0.500	0.234
16311	13	72-46-16.400	0.500	-0.838
16311	16431	73-51-48.800	0.500	-0.457
16211	31	94-21-18.300	0.500	0.190
16211	32	94-22- 9.900	0.500	0.011
16211	33	94-30-43.500	0.500	-0.284
16211	34	97-16-58.100	0.500	0.522
16211	35	102-14-31.200	0.500	-0.628
16211	36	103-36- 6.600	0.500	-0.289
16211	37	106-29-15.400	0.500	-0.533
16211	38	108- 2-20.800	0.500	0.118
16211	29	107-35-28.400	0.500	-1.481
16211	28	104- 4-33.300	0.500	-1.380
16211	27	102-40-35.400	0.500	-0.902
16211	26	100-31-24.000	0.500	-0.452
16211	25	99-23- 1.600	0.500	-1.839
16211	24	95-45-20.800	0.500	-0.021
16211	23	93-38- 6.200	0.500	-0.163
16211	22	93-35-19.400	0.500	-0.783
16211	21	93-35-41.200	0.500	-0.074
16211	11	93- 0- 1.100	0.500	0.192
16211	12	92-59-15.200	0.500	-0.498
16211	13	93- 3- 3.500	0.500	-0.816
16211	14	94-38-10.800	0.500	-0.450
16211	15	97-55-52.200	0.500	-1.068
16211	16	98-30- 7.000	0.500	-0.584
16211	17	100-22-41.900	0.500	-0.668
16211	18	101-50-24.200	0.500	-0.180
16211	19	104-54-42.600	0.500	-0.838
16211	16421	91-22- 7.900	0.500	-0.784
16211	16321	114- 9-14.000	0.500	-0.925
16511	16231	89-15-30.900	0.500	-0.928
16411	16231	88-39- 1.100	0.500	-0.534
16511	16121	91-34-53.600	0.500	-0.660

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
166	16611	1.5570	0.1000	0.05
166	16621	1.4410	0.1000	0.00
166	16631	1.4720	0.1000	-0.05
165	16521	0.0410	0.1000	0.00
164	16411	0.2150	0.1000	0.01
164	16431	0.2810	0.1000	0.05
164	16421	0.0390	0.1000	-0.06
164	16451	-0.0160	0.1000	0.00
163	16311	0.2250	0.1000	-0.07
163	16321	0.0510	0.1000	0.08
162	16211	0.2190	0.1000	-0.08
162	16231	0.2890	0.1000	0.07
161	16111	0.2210	0.1000	0.00

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED
16621	1
16451	1
161	1
165	1

```
**********     POINT 16621     ONLY    1TIMES OBSERVED
**********     POINT 16451     ONLY    1TIMES OBSERVED
**********     POINT 161       ONLY    1TIMES OBSERVED
**********     POINT 165       ONLY    1TIMES OBSERVED
```

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	145
POINTS	1000	49
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	0
MATRIX ELEMENTS	99998	1275

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16111	16521	O: 88-29- 2.60	0.50		74.49	COM:	0.0 SEC	0.0 CM	317.9851
		C: 88-29- 2.56	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.04	0.43	-0.09					
16111	16421	O: 89-12-47.80	0.50		57.95	COM:	-0.5 SEC	0.0 CM	366.0305
		C: 89-12-48.08	0.32			BND:	2.7 SEC	0.2 CM	
		V=C-O: 0- 0- 0.28	0.38	0.73					
16111	11	O: 90-10-48.80	0.50		83.58	COM:	-0.3 SEC	0.0 CM	263.9635
		C: 90-10-49.05	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.25	0.46	0.55					
16111	12	O: 90-10-12.50	0.50		85.45	COM:	-0.4 SEC	0.0 CM	265.8118
		C: 90-10-12.87	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.37	0.46	0.80					
16111	13	O: 90-13- 0.50	0.50		85.97	COM:	-0.3 SEC	0.0 CM	265.2286
		C: 90-13- 0.80	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.30	0.46	0.64					
16111	21	O: 90-14-36.80	0.50		73.69	COM:	-0.6 SEC	0.0 CM	218.1954
		C: 90-14-37.23	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.43	0.43	1.00					
16111	22	O: 90-12-34.80	0.50		79.52	COM:	-0.7 SEC	0.0 CM	218.7587
		C: 90-12-35.36	0.23			BND:	2.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.56	0.45	1.26					
16111	23	O: 90-14-58.30	0.50		80.46	COM:	-0.2 SEC	0.0 CM	220.0878
		C: 90-14-58.45	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.15	0.45	0.32					
16111	31	O: 90-14- 4.00	0.50		74.31	COM:	0.0 SEC	0.0 CM	177.8677
		C: 90-14- 4.02	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.02	0.43	0.04					
16111	32	O: 90-13-49.00	0.50		74.79	COM:	0.9 SEC	0.0 CM	179.7568
		C: 90-13-48.36	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.64	0.43	-1.47					
16111	33	O: 90-20-53.50	0.50		75.57	COM:	1.4 SEC	0.0 CM	181.2483
		C: 90-20-52.44	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 1.06	0.43	-2.44					
16611	31	O: 90-47-48.60	0.50		34.96	COM:	0.5 SEC	0.0 CM	78.0512
		C: 90-47-48.44	0.40			BND:	3.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.16	0.30	-0.55					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16611	32	O:	90-47-26.00	0.50		35.01	COM:	-1.9 SEC	0.0 CM	78.2173
		C:	90-47-26.66	0.40			BND:	3.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.66	0.30	2.23					
16611	33	O:	91- 4-21.60	0.50		37.93	COM:	-1.5 SEC	0.0 CM	77.8660
		C:	91- 4-22.15	0.39			BND:	3.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.55	0.31	1.80					
16611	34	O:	97-15-35.70	0.50		27.49	COM:	-1.9 SEC	0.0 CM	74.2174
		C:	97-15-36.21	0.43			BND:	3.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.51	0.26	1.95					
16611	35	O:	106-14- 3.30	0.50		36.53	COM:	1.6 SEC	0.0 CM	81.6184
		C:	106-14- 2.72	0.40			BND:	3.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.58	0.30	-1.92					
16611	36	O:	108- 5- 0.80	0.50		39.72	COM:	-0.5 SEC	0.0 CM	84.5358
		C:	108- 5- 1.02	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.22	0.32	0.69					
16611	37	O:	111-22-51.00	0.50		47.30	COM:	2.0 SEC	0.1 CM	92.3696
		C:	111-22-50.05	0.36			BND:	3.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.95	0.34	-2.75 ..					
16611	38	O:	112-37- 7.80	0.50		52.06	COM:	-0.2 SEC	0.0 CM	98.1439
		C:	112-37- 7.91	0.35			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.11	0.36	0.31					
16611	29	O:	109-45-21.20	0.50		71.44	COM:	0.7 SEC	0.0 CM	152.6044
		C:	109-45-20.73	0.27			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.47	0.42	-1.11					
16611	28	O:	106-14-50.20	0.50		65.19	COM:	0.8 SEC	0.0 CM	140.3591
		C:	106-14-49.69	0.29			BND:	2.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.51	0.40	-1.27					
16611	27	O:	104-36-30.40	0.50		63.05	COM:	0.9 SEC	0.0 CM	136.8667
		C:	104-36-29.84	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.56	0.40	-1.41					
16611	26	O:	101-42-33.30	0.50		60.20	COM:	-0.4 SEC	0.0 CM	132.7262
		C:	101-42-33.53	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.23	0.39	0.60					
16611	25	O:	100- 4-13.10	0.50		59.05	COM:	0.5 SEC	0.0 CM	131.4631
		C:	100- 4-12.79	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.31	0.38	-0.80					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16611	24	O:	94-19-34.00	0.50		55.66	COM:	-0.9 SEC	0.0 CM	128.4770
		C:	94-19-34.48	0.33			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.48	0.37	1.28					
16611	23	O:	90-36- 3.40	0.50		63.23	COM:	-0.6 SEC	0.0 CM	125.4389
		C:	90-36- 3.75	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.35	0.40	0.88					
16611	22	O:	90-31-47.90	0.50		60.19	COM:	0.6 SEC	0.0 CM	125.2583
		C:	90-31-47.52	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.38	0.39	-0.98					
16611	12	O:	90-22-21.20	0.50		79.53	COM:	-1.2 SEC	0.0 CM	176.2247
		C:	90-22-22.12	0.23			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.92	0.45	2.06					
16611	13	O:	90-26-45.50	0.50		80.69	COM:	-0.6 SEC	0.0 CM	174.7774
		C:	90-26-45.99	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.49	0.45	1.10					
16611	14	O:	92-52-38.60	0.50		77.03	COM:	-0.1 SEC	0.0 CM	177.2441
		C:	92-52-38.67	0.24			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.07	0.44	0.16					
16611	15	O:	97-36-52.10	0.50		76.45	COM:	-0.2 SEC	0.0 CM	177.8262
		C:	97-36-52.24	0.24			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.14	0.44	0.33					
16611	16	O:	98-23-43.40	0.50		76.37	COM:	-0.4 SEC	0.0 CM	178.4198
		C:	98-23-43.72	0.24			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.32	0.44	0.73					
16611	17	O:	100-53-44.60	0.50		76.00	COM:	1.3 SEC	0.0 CM	180.0500
		C:	100-53-43.59	0.24			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.01	0.44	-2.31					
16611	18	O:	102-42-48.40	0.50		75.94	COM:	0.4 SEC	0.0 CM	182.0826
		C:	102-42-48.09	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.31	0.44	-0.72					
16611	19	O:	106- 7-30.30	0.50		76.94	COM:	1.3 SEC	0.0 CM	189.3141
		C:	106- 7-29.27	0.24			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.03	0.44	-2.35					
16611	16341	O:	109-11-22.00	0.50		13.09	COM:	-1.2 SEC	-0.1 CM	219.1293
		C:	109-11-22.15	0.47			BND:	5.7 SEC	0.6 CM	
		V=C-O:	0- 0- 0.15	0.18	0.85					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16631	16341	O: 109-10-11.80	0.50		13.08	COM:	1.2 SEC	0.1 CM	219.1293
		C: 109-10-11.65	0.47			BND:	5.7 SEC	0.6 CM	
		V=C-O: - 0- 0- 0.15	0.18	-0.85					
16511	11	O: 93-35-40.00	0.50		62.95	COM:	-0.4 SEC	0.0 CM	150.0771
		C: 93-35-40.25	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.25	0.40	0.63					
16511	12	O: 93-33- 5.10	0.50		66.73	COM:	-0.4 SEC	0.0 CM	151.2416
		C: 93-33- 5.38	0.29			BND:	2.5 SEC	0.1 CM	
		V=C-O: 0- 0- 0.28	0.41	0.68					
16511	13	O: 93-35- 1.90	0.50		68.14	COM:	0.1 SEC	0.0 CM	153.2942
		C: 93-35- 1.80	0.28			BND:	2.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.10	0.41	-0.24					
16511	21	O: 93- 3-40.80	0.50		65.40	COM:	-0.2 SEC	0.0 CM	178.1310
		C: 93- 3-40.93	0.29			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.13	0.40	0.32					
16511	22	O: 92-59- 0.80	0.50		74.07	COM:	-0.1 SEC	0.0 CM	180.3507
		C: 92-59- 0.89	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.09	0.43	0.22					
16511	23	O: 93- 0-49.10	0.50		75.42	COM:	0.8 SEC	0.0 CM	181.5515
		C: 93- 0-48.47	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.63	0.43	-1.46					
16511	31	O: 92-28-28.00	0.50		83.41	COM:	-0.3 SEC	0.0 CM	215.8585
		C: 92-28-28.26	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.26	0.46	0.57					
16511	32	O: 92-27-43.00	0.50		83.49	COM:	0.3 SEC	0.0 CM	216.8296
		C: 92-27-42.78	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.22	0.46	-0.47					
16511	33	O: 92-32-38.60	0.50		84.24	COM:	0.3 SEC	0.0 CM	218.3464
		C: 92-32-38.31	0.20			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.29	0.46	-0.62					
16511	16231	O: 89-15-30.60	0.50		83.12	COM:	-0.4 SEC	0.0 CM	406.0449
		C: 89-15-30.92	0.21			BND:	2.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.32	0.46	0.70					
16411	19	O: 115-14-47.00	0.50		61.72	COM:	-0.9 SEC	0.0 CM	126.3475
		C: 115-14-47.53	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.53	0.39	1.35					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16411	18	O:	112-26-37.60	0.50		51.04	COM:	-1.5 SEC	0.0 CM	111.1852
		C:	112-26-38.38	0.35			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.78	0.36	2.18					
16411	17	O:	110-27-45.30	0.50		46.32	COM:	-1.3 SEC	0.0 CM	105.8727
		C:	110-27-45.89	0.37			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.59	0.34	1.74					
16411	16	O:	107- 9-30.00	0.50		41.07	COM:	0.3 SEC	0.0 CM	100.9889
		C:	107- 9-29.89	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.11	0.32	-0.34					
16411	15	O:	105-59- 3.00	0.50		39.70	COM:	0.2 SEC	0.0 CM	99.9188
		C:	105-59- 2.91	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.09	0.32	-0.28					
16411	14	O:	98- 5-27.80	0.50		33.62	COM:	-0.8 SEC	0.0 CM	96.7698
		C:	98- 5-28.08	0.41			BND:	3.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.28	0.29	0.96					
16411	24	O:	95-43-11.20	0.50		64.80	COM:	0.3 SEC	0.0 CM	145.4591
		C:	95-43-11.01	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.19	0.40	-0.47					
16411	25	O:	100-57-48.80	0.50		66.23	COM:	1.0 SEC	0.0 CM	145.5552
		C:	100-57-48.15	0.29			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.65	0.41	-1.59					
16411	26	O:	102-25-34.80	0.50		67.13	COM:	0.7 SEC	0.0 CM	146.8553
		C:	102-25-34.35	0.29			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.45	0.41	-1.09					
16411	27	O:	105-13-55.00	0.50		68.53	COM:	0.1 SEC	0.0 CM	148.8184
		C:	105-13-54.93	0.28			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.07	0.41	-0.17					
16411	28	O:	106-48-10.90	0.50		69.97	COM:	0.1 SEC	0.0 CM	151.5130
		C:	106-48-10.86	0.27			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.04	0.42	-0.09					
16411	29	O:	110-23-17.60	0.50		74.33	COM:	-0.2 SEC	0.0 CM	160.5153
		C:	110-23-17.77	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.17	0.43	0.41					
16411	39	O:	106- 6-55.00	0.50		69.81	COM:	0.4 SEC	0.0 CM	205.7901
		C:	106- 6-54.76	0.27			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.24	0.42	-0.59					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16411	38	O: 102-51- 7.60	0.50		82.42	COM: 0.2 SEC	0.0 CM	200.4938
		C: 102-51- 7.40	0.21			BND: 2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.20	0.45	-0.43				
16411	37	O: 101-37-17.20	0.50		82.70	COM: -1.2 SEC	0.0 CM	199.4235
		C: 101-37-18.20	0.21			BND: 2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 1.00	0.45	2.20				
16411	36	O: 99-16-50.70	0.50		83.46	COM: -0.1 SEC	0.0 CM	198.6109
		C: 99-16-50.75	0.20			BND: 2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.05	0.46	0.10				
16411	35	O: 98-13- 6.30	0.50		83.81	COM: -0.2 SEC	0.0 CM	198.1328
		C: 98-13- 6.45	0.20			BND: 2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.15	0.46	0.33				
16411	34	O: 94- 5-55.60	0.50		85.12	COM: -0.2 SEC	0.0 CM	199.6431
		C: 94- 5-55.79	0.19			BND: 2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.19	0.46	0.40				
16411	33	O: 91-49-40.00	0.50		86.48	COM: -0.2 SEC	0.0 CM	197.7179
		C: 91-49-40.20	0.18			BND: 2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.20	0.46	0.44				
16411	32	O: 91-42-55.90	0.50		85.55	COM: 0.4 SEC	0.0 CM	198.0397
		C: 91-42-55.57	0.19			BND: 2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.33	0.46	-0.72				
16411	31	O: 91-42-32.40	0.50		85.63	COM: -1.0 SEC	0.0 CM	198.9591
		C: 91-42-33.23	0.19			BND: 2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.83	0.46	1.80				
16411	23	O: 92-20-22.60	0.50		73.89	COM: -0.4 SEC	0.0 CM	150.9120
		C: 92-20-22.88	0.26			BND: 2.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.28	0.43	0.65				
16411	22	O: 92-16- 7.40	0.50		72.01	COM: 0.3 SEC	0.0 CM	151.6660
		C: 92-16- 7.20	0.26			BND: 2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.20	0.42	-0.46				
16411	21	O: 92-19-10.00	0.50		58.16	COM: 0.2 SEC	0.0 CM	151.4765
		C: 92-19- 9.89	0.32			BND: 2.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.11	0.38	-0.30				
16411	13	O: 93-29- 2.20	0.50		49.33	COM: 1.1 SEC	0.0 CM	101.9952
		C: 93-29- 1.65	0.36			BND: 2.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.55	0.35	-1.56				

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16411	12	O:	93-23-39.40	0.50		46.13	COM:	1.8 SEC	0.0 CM	101.0863
		C:	93-23-38.59	0.37			BND:	3.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.81	0.34	-2.39					
16411	11	O:	93-21-46.40	0.50		38.33	COM:	-0.1 SEC	0.0 CM	102.7208
		C:	93-21-46.44	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.04	0.31	0.12					
16411	16121	O:	90-50-37.30	0.50		55.18	COM:	-0.2 SEC	0.0 CM	366.0305
		C:	90-50-37.41	0.33			BND:	2.8 SEC	0.2 CM	
		V=C-O:	0- 0- 0.11	0.37	0.30					
16411	16231	O:	88-39- 0.50	0.50		82.02	COM:	-0.4 SEC	0.0 CM	366.9950
		C:	88-39- 0.84	0.21			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.34	0.45	0.76					
16411	16521	O:	88-50-59.00	0.50		18.83	COM:	-0.1 SEC	0.0 CM	159.9160
		C:	88-50-59.02	0.45			BND:	4.8 SEC	0.3 CM	
		V=C-O:	0- 0- 0.02	0.22	0.09					
16411	16321	O:	106- 9-33.40	0.50		61.26	COM:	1.4 SEC	0.1 CM	280.5428
		C:	106- 9-32.55	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.85	0.39	-2.16					
16311	16231	O:	65-52-22.50	0.50		54.66	COM:	0.9 SEC	0.0 CM	200.4046
		C:	65-52-22.03	0.34			BND:	2.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.47	0.37	-1.28					
16311	39	O:	80- 4-25.00	0.50		22.83	COM:	-0.6 SEC	0.0 CM	123.7225
		C:	80- 4-25.14	0.44			BND:	4.3 SEC	0.2 CM	
		V=C-O:	0- 0- 0.14	0.24	0.59					
16311	38	O:	76-35-46.00	0.50		70.43	COM:	-0.5 SEC	0.0 CM	148.4066
		C:	76-35-46.37	0.27			BND:	2.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.37	0.42	0.89					
16311	37	O:	75-41-59.00	0.50		74.71	COM:	-0.8 SEC	0.0 CM	157.2924
		C:	75-41-59.57	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.57	0.43	1.31					
16311	36	O:	74- 6-55.60	0.50		80.30	COM:	0.4 SEC	0.0 CM	170.9701
		C:	74- 6-55.26	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.34	0.45	-0.75					
16311	35	O:	73-33-15.00	0.50		82.34	COM:	-1.0 SEC	0.0 CM	177.8271
		C:	73-33-15.85	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.85	0.45	1.88					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16311	34	O: 71-46-24.00	0.50		87.17	COM:	0.6 SEC	0.0 CM	202.8549
		C: 71-46-23.43	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.57	0.47	-1.21					
16311	33	O: 71- 1-36.20	0.50		89.13	COM:	0.1 SEC	0.0 CM	217.5552
		C: 71- 1-36.11	0.16			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.09	0.47	-0.19					
16311	23	O: 71-40-29.50	0.50		87.61	COM:	0.1 SEC	0.0 CM	226.2625
		C: 71-40-29.39	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.11	0.47	-0.24					
16311	24	O: 72-36-23.80	0.50		83.64	COM:	0.1 SEC	0.0 CM	212.4037
		C: 72-36-23.75	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.05	0.46	-0.12					
16311	25	O: 74-22-41.80	0.50		79.34	COM:	-0.2 SEC	0.0 CM	189.2256
		C: 74-22-41.97	0.23			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.17	0.45	0.39					
16311	26	O: 75- 1-14.80	0.50		77.45	COM:	-0.3 SEC	0.0 CM	182.1951
		C: 75- 1-15.04	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.24	0.44	0.55					
16311	27	O: 76-36-22.20	0.50		73.23	COM:	-0.6 SEC	0.0 CM	170.4404
		C: 76-36-22.62	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.42	0.43	0.98					
16311	28	O: 77-37-44.10	0.50		69.43	COM:	0.1 SEC	0.0 CM	161.1873
		C: 77-37-44.04	0.28			BND:	2.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.06	0.42	-0.14					
16311	29	O: 81- 8-59.80	0.50		56.68	COM:	0.6 SEC	0.0 CM	137.7625
		C: 81- 8-59.45	0.33			BND:	2.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.35	0.38	-0.92					
16311	19	O: 82-12-11.10	0.50		62.50	COM:	-0.2 SEC	0.0 CM	157.2150
		C: 82-12-11.22	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.12	0.40	0.30					
16311	18	O: 78-54-50.50	0.50		73.75	COM:	0.7 SEC	0.0 CM	179.5398
		C: 78-54-49.96	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.54	0.43	-1.25					
16311	17	O: 77-37- 1.70	0.50		77.61	COM:	0.0 SEC	0.0 CM	189.4789
		C: 77-37- 1.73	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.03	0.44	0.06					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16311	16	O:	76- 3-48.50	0.50		81.28	COM:	0.2 SEC	0.0 CM	201.1859
		C:	76- 3-48.34	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.16	0.45	-0.37					
16311	15	O:	75-38-36.00	0.50		82.22	COM:	0.4 SEC	0.0 CM	205.0543
		C:	75-38-35.63	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.37	0.45	-0.81					
16311	14	O:	73-38- 3.20	0.50		85.93	COM:	0.8 SEC	0.0 CM	229.3302
		C:	73-38- 2.52	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.68	0.46	-1.47					
16311	13	O:	72-46-16.40	0.50		88.50	COM:	-0.4 SEC	0.0 CM	241.5185
		C:	72-46-16.74	0.17			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.34	0.47	0.73					
16311	16431	O:	73-51-48.80	0.50		25.29	COM:	0.7 SEC	0.1 CM	280.5428
		C:	73-51-48.63	0.43			BND:	4.1 SEC	0.4 CM	
		V=C-O:	- 0- 0- 0.17	0.25	-0.69					
16211	31	O:	94-21-18.30	0.50		84.78	COM:	0.8 SEC	0.0 CM	190.7103
		C:	94-21-17.64	0.20			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.66	0.46	-1.43					
16211	32	O:	94-22- 9.90	0.50		84.63	COM:	0.5 SEC	0.0 CM	190.0013
		C:	94-22- 9.48	0.20			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.42	0.46	-0.92					
16211	33	O:	94-30-43.50	0.50		85.05	COM:	0.1 SEC	0.0 CM	188.7637
		C:	94-30-43.38	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.12	0.46	-0.25					
16211	34	O:	97-16-58.10	0.50		82.25	COM:	1.1 SEC	0.0 CM	179.1374
		C:	97-16-57.16	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.94	0.45	-2.08					
16211	35	O:	102-14-31.20	0.50		79.56	COM:	-0.3 SEC	0.0 CM	171.4586
		C:	102-14-31.45	0.23			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.25	0.45	0.57					
16211	36	O:	103-36- 6.60	0.50		78.80	COM:	0.2 SEC	0.0 CM	169.6208
		C:	103-36- 6.47	0.23			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.13	0.44	-0.29					
16211	37	O:	106-29-15.40	0.50		77.70	COM:	-0.2 SEC	0.0 CM	167.5809
		C:	106-29-15.52	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.12	0.44	0.28					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16211	38	O: 108- 2-20.80	0.50		77.38	COM:	0.6 SEC	0.0 CM	166.8196
		C: 108- 2-20.35	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.45	0.44	-1.02					
16211	29	O: 107-35-28.40	0.50		83.35	COM:	-1.2 SEC	0.0 CM	215.2476
		C: 107-35-29.40	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 1.00	0.46	2.18					
16211	28	O: 104- 4-33.30	0.50		82.83	COM:	-1.1 SEC	0.0 CM	216.7224
		C: 104- 4-34.21	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.91	0.46	1.99					
16211	27	O: 102-40-35.40	0.50		82.94	COM:	-0.5 SEC	0.0 CM	218.3340
		C: 102-40-35.84	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.44	0.46	0.97					
16211	26	O: 100-31-24.00	0.50		83.15	COM:	0.0 SEC	0.0 CM	220.4278
		C: 100-31-24.00	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.00	0.46	0.00					
16211	25	O: 99-23- 1.60	0.50		83.39	COM:	-1.6 SEC	0.0 CM	222.5806
		C: 99-23- 2.90	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 1.30	0.46	2.85 ..					
16211	24	O: 95-45-20.80	0.50		84.00	COM:	0.6 SEC	0.0 CM	229.7520
		C: 95-45-20.29	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.51	0.46	-1.11					
16211	23	O: 93-38- 6.20	0.50		87.08	COM:	0.4 SEC	0.0 CM	232.2502
		C: 93-38- 5.88	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.32	0.47	-0.69					
16211	22	O: 93-35-19.40	0.50		86.20	COM:	-0.3 SEC	0.0 CM	232.7345
		C: 93-35-19.69	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.29	0.46	0.62					
16211	21	O: 93-35-41.20	0.50		80.43	COM:	0.6 SEC	0.0 CM	234.3750
		C: 93-35-40.75	0.22			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.45	0.45	-1.01					
16211	11	O: 93- 0- 1.10	0.50		87.54	COM:	1.0 SEC	0.0 CM	279.0806
		C: 93- 0- 0.26	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.84	0.47	-1.79					
16211	12	O: 92-59-15.20	0.50		89.40	COM:	0.1 SEC	0.0 CM	279.4725
		C: 92-59-15.08	0.16			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.12	0.47	-0.26					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16211	13	O:	93- 3- 3.50	0.50		90.04	COM:	-0.2 SEC	0.0 CM	277.6623
		C:	93- 3- 3.71	0.16			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.21	0.47	0.45					
16211	14	O:	94-38-10.80	0.50		88.37	COM:	0.2 SEC	0.0 CM	275.5686
		C:	94-38-10.67	0.17			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.13	0.47	-0.28					
16211	15	O:	97-55-52.20	0.50		87.70	COM:	-0.5 SEC	0.0 CM	267.0961
		C:	97-55-52.66	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.46	0.47	0.99					
16211	16	O:	98-30- 7.00	0.50		87.54	COM:	0.0 SEC	0.0 CM	266.0506
		C:	98-30- 7.00	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.00	0.47	-0.01					
16211	17	O:	100-22-41.90	0.50		86.96	COM:	-0.1 SEC	0.0 CM	262.6117
		C:	100-22-41.99	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.09	0.47	0.19					
16211	18	O:	101-50-24.20	0.50		86.50	COM:	0.5 SEC	0.0 CM	260.0516
		C:	101-50-23.80	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.40	0.47	-0.86					
16211	19	O:	104-54-42.60	0.50		85.86	COM:	-0.3 SEC	0.0 CM	255.9854
		C:	104-54-42.84	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.24	0.46	0.51					
16211	16421	O:	91-22- 7.90	0.50		58.61	COM:	0.0 SEC	0.0 CM	366.9950
		C:	91-22- 7.88	0.32			BND:	2.7 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.02	0.38	-0.06					
16211	16321	O:	114- 9-14.00	0.50		42.63	COM:	-1.1 SEC	-0.1 CM	200.4046
		C:	114- 9-14.45	0.38			BND:	3.2 SEC	0.2 CM	
		V=C-O:	0- 0- 0.45	0.33	1.38					
16511	16231	O:	89-15-30.90	0.50		83.12	COM:	0.0 SEC	0.0 CM	406.0449
		C:	89-15-30.92	0.21			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.02	0.46	0.04					
16411	16231	O:	88-39- 1.10	0.50		82.02	COM:	0.3 SEC	0.0 CM	366.9950
		C:	88-39- 0.84	0.21			BND:	2.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.26	0.45	-0.57					
16511	16121	O:	91-34-53.60	0.50		41.69	COM:	0.2 SEC	0.0 CM	317.9851
		C:	91-34-53.50	0.38			BND:	3.2 SEC	0.3 CM	
		V=C-O:	- 0- 0- 0.10	0.32	-0.30					

4.7 ANALYSIS OF ELEVATION DIFFERENCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	16611	O:	1.55700	0.10		36.91	COM:	0.1 CM	0.1 CM	0.0000
		C:	1.55648	0.08			BND:	0.7 CM	0.4 CM	
		V=C-O:	-0.00052	0.06	-0.85					
166	16621	O:	1.44100	0.10		0.00	COM:	NOT		0.0000
		C:	1.44100	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
166	16631	O:	1.47200	0.10		36.91	COM:	-0.1 CM	-0.1 CM	0.0000
		C:	1.47252	0.08			BND:	0.7 CM	0.4 CM	
		V=C-O:	0.00052	0.06	0.85					
165	16521	O:	0.04100	0.10		0.00	COM:	NOT		0.0000
		C:	0.04100	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
164	16411	O:	0.21500	0.10		55.42	COM:	0.0 CM	0.0 CM	0.0000
		C:	0.21490	0.07			BND:	0.6 CM	0.2 CM	
		V=C-O:	-0.00010	0.07	-0.14					
164	16431	O:	0.28100	0.10		46.57	COM:	0.1 CM	0.1 CM	0.0000
		C:	0.28053	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00047	0.07	-0.69					
164	16421	O:	0.03900	0.10		48.55	COM:	-0.1 CM	-0.1 CM	0.0000
		C:	0.03957	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00057	0.07	0.82					
164	16451	O:	-0.01600	0.10		0.00	COM:	NOT		0.0000
		C:	-0.01600	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
163	16311	O:	0.22500	0.10		44.46	COM:	-0.2 CM	-0.1 CM	0.0000
		C:	0.22575	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00075	0.07	1.12					
163	16321	O:	0.05100	0.10		44.46	COM:	0.2 CM	0.1 CM	0.0000
		C:	0.05025	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00075	0.07	-1.12					
162	16211	O:	0.21900	0.10		43.87	COM:	-0.2 CM	-0.1 CM	0.0000
		C:	0.21976	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00076	0.07	1.15					
162	16231	O:	0.28900	0.10		43.87	COM:	0.2 CM	0.1 CM	0.0000
		C:	0.28824	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00076	0.07	-1.15					

4.7 ANALYSIS OF ELEVATION DIFFERENCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
161	16111	O:	0.22100	0.10		0.00	COM:	NOT		0.0000
		C:	0.22100	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
11	FREE	EAST.: 9977.1192	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10173.6777	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.3707		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
12	FREE	EAST.: 9979.0467	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10174.9262	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.4116		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
13	FREE	EAST.: 9980.7113	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10173.6617	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.1974		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
14	FREE	EAST.: 9995.5502	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10177.1434	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 992.6496		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
15	FREE	EAST.: 10022.2472	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10176.3899	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 977.7854		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
16	FREE	EAST.: 10026.6273	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10176.3835	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 975.2260		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
161	FREE	EAST.: 9884.6202	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9926.4518	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.9763		ELEV. STD. DEV.:	0.14 CM			CORR.: 0.0000
16111	FREE	EAST.: 9884.6202	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9926.4518	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1001.1973		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
16121	FREE	EAST.: 9884.6202	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9926.4518	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1001.0233		ELEV. STD. DEV.:	0.11 CM			CORR.: 0.0000
162	FREE	EAST.: 10087.6880	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9917.4346	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1014.7728		ELEV. STD. DEV.:	0.12 CM			CORR.: 0.0000
16211	FREE	EAST.: 10087.6880	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9917.4346	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1014.9926		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
16231	FREE	EAST.: 10087.6880	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9917.4346	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1015.0611		ELEV. STD. DEV.:	0.10 CM			CORR.: 0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)	STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
163	FREE	EAST.: 10203.6869 FIXED NORT.: 10080.8551 FIXED ELEV.: 925.0730	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.12 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16311	FREE	EAST.: 10203.6869 FIXED NORT.: 10080.8551 FIXED ELEV.: 925.2987	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16321	FREE	EAST.: 10203.6869 FIXED NORT.: 10080.8551 FIXED ELEV.: 925.1232	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.10 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16341	FREE	EAST.: 10203.6869 FIXED NORT.: 10080.8551 FIXED ELEV.: 925.2958	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
164	FREE	EAST.: 10000.0377 FIXED NORT.: 10273.8091 FIXED ELEV.: 1006.1912	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.11 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16411	FREE	EAST.: 10000.0377 FIXED NORT.: 10273.8091 FIXED ELEV.: 1006.4061	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16421	FREE	EAST.: 10000.0377 FIXED NORT.: 10273.8091 FIXED ELEV.: 1006.2308	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.11 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16431	FREE	EAST.: 10000.0377 FIXED NORT.: 10273.8091 FIXED ELEV.: 1006.4717	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.11 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16451	FREE	EAST.: 10000.0377 FIXED NORT.: 10273.8091 FIXED ELEV.: 1006.1752	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.16 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
165	FREE	EAST.: 9843.3682 FIXED NORT.: 10241.7497 FIXED ELEV.: 1009.5775	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.14 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16511	FREE	EAST.: 9843.3682 FIXED NORT.: 10241.7497 FIXED ELEV.: 1009.7971	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
16521	FREE	EAST.: 9843.3682 FIXED NORT.: 10241.7497 FIXED ELEV.: 1009.6185	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.10 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
166	FIXED	EAST.:	10000.0377	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9561	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
16611	FREE	EAST.:	10000.0377	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9561	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.5565		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
16621	FREE	EAST.:	10000.0377	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9561	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.4410		ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000
16631	FREE	EAST.:	10000.0377	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9561	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.4725		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.5999	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10175.6059	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	966.9011		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
18	FREE	EAST.:	10050.7145	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.8444	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.4798		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
19	FREE	EAST.:	10076.4310	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.1724	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.8272		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
21	FREE	EAST.:	9977.1005	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0793	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2721		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
22	FREE	EAST.:	9979.5689	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10123.5307	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3990		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
23	FREE	EAST.:	9981.5818	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0299	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2415		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
24	FREE	EAST.:	9996.6703	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10128.3890	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	991.8380		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
25	FREE	EAST.:	10020.8889	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.7551	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	978.2108		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)	STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
26	FREE	EAST.: 10028.1531 FIXED NORT.: 10129.6703 FIXED ELEV.: 974.0488	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
27	FREE	EAST.: 10040.6822 FIXED NORT.: 10130.6486 FIXED ELEV.: 965.8854	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
28	FREE	EAST.: 10050.4780 FIXED NORT.: 10130.9387 FIXED ELEV.: 960.6544	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
29	FREE	EAST.: 10075.9146 FIXED NORT.: 10132.3600 FIXED ELEV.: 946.7501	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
31	FREE	EAST.: 9981.3281 FIXED NORT.: 10075.7317 FIXED ELEV.: 1000.4713	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
32	FREE	EAST.: 9983.6879 FIXED NORT.: 10076.4455 FIXED ELEV.: 1000.4773	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
33	FREE	EAST.: 9986.1737 FIXED NORT.: 10076.5779 FIXED ELEV.: 1000.0987	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
34	FREE	EAST.: 10000.9422 FIXED NORT.: 10074.1680 FIXED ELEV.: 992.1019	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
35	FREE	EAST.: 10025.8939 FIXED NORT.: 10077.3707 FIXED ELEV.: 977.7919	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
36	FREE	EAST.: 10032.7422 FIXED NORT.: 10077.9094 FIXED ELEV.: 973.9531	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
37	FREE	EAST.: 10046.3977 FIXED NORT.: 10079.8491 FIXED ELEV.: 965.3939	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
38	FREE	EAST.: 10055.2805 FIXED NORT.: 10081.0761 FIXED ELEV.: 960.6659	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.09 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
39	FREE	EAST.:	10080.0094 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10084.1935 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.9513	ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000

5.2 ESTIMATED EDM QUANTITIES REPORT

FACTOR	ESTIMATED VALUE	STANDARD DEVIATION
ADDITIVE CONSTANT	NOT ESTIMATED	
SCALE OF DISTANCES	NOT ESTIMATED	
AMPLITUDE OF CYCLIC	NOT ESTIMATED	
PHASE OF CYCLIC	NOT ESTIMATED	
REFRACTION COEFFICIENT	0.26705	+/- 0.03741

CORRELATION COEFFICIENT MATRIX OF ESTIMATED EDM QUANTITIES:

ADDITIVE CONSTANT	0.000000	0.000000	0.000000	0.000000	0.000000
SCALE OF DISTANCES		0.000000	0.000000	0.000000	0.000000
AMPLITUDE OF CYCLIC			0.000000	0.000000	0.000000
PHASE OF CYCLIC				0.000000	0.000000
REFRACTION COEFFICIENT					1.000000

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION	
16611	16621	LTH:	0.0000 M	0.00 CM	0.00 CM	0.00 CM	0.00 CM	-0.1155	0.14	HOR.:	
		AZI:	315- 0- 0	0- 0- 0	90- 0- 0					VER.: 1 /	42

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	0	0.000000D+00	0.000000D+00	1.00000
AZIMUTHS	0	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	132	0.109791D+03	0.919897D+02	1.09248
HEIGHT DIFFERENCE	13	0.337395D+01	0.401033D+01	0.91723
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	145	0.113165D+03	96	1.08572

STATIONS:		
	FIXED	1
	FREE	48
	WEIGHTED	0
	TOTAL	49

CONVERGENCE:		
	ITERATIONS USED	2
	TOLERANCE	0.000100
	COMPUTATION TIME	124.941 SEC

APPENDIX II G

Vertical Adjustment:

Epoch 3

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC
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GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS

TIME: 15:40:27 DATE: 9-JAN-87

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*************************************************************************
*                                                                       *
*  BOSTON SURVEY CONSULTANTS - BALL MOUNTAIN DAM - PROJECT 1-1654.00    *
*                                                                       *
*************************************************************************
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PROJECT INFORMATION:

EPOCH 3 ANALYSIS OF HEIGHTS
DATABASE 11654003Z.DBS
1165400Z

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

O P T I O N S I N E F F E C T

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.000100
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.22000 CM
VARIABLE PART OF EDM MEASUREMENT	4.00000 PPM
ZENITH DISTANCE	0.60000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	0.00100 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6378.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT ..... SOLVING FOR

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.1172	FIXED	10173.6877	FIXED	1000.3732	
12	9979.0451	FIXED	10174.9374	FIXED	1000.4154	
12183	9846.9425	FIXED	10016.2121	FIXED	1010.9065	
13	9980.7103	FIXED	10173.6725	FIXED	1000.1998	
14	9995.5499	FIXED	10177.1530	FIXED	992.6504	
15	10022.2476	FIXED	10176.3998	FIXED	977.7869	
16	10026.6277	FIXED	10176.3942	FIXED	975.2279	
161	9884.6165	FIXED	9926.4538	FIXED	1000.9760	
16113	9884.6165	FIXED	9926.4538	FIXED	1001.2550	
16123	9884.6165	FIXED	9926.4538	FIXED	1001.1171	
16133	9884.6165	FIXED	9926.4538	FIXED	1001.1510	
162	10087.6923	FIXED	9917.4407	FIXED	1014.7738	
16213	10087.6923	FIXED	9917.4407	FIXED	1015.0483	
16223	10087.6923	FIXED	9917.4407	FIXED	1014.9146	
16233	10087.6923	FIXED	9917.4407	FIXED	1015.1510	
163	10203.6906	FIXED	10080.8608	FIXED	925.0741	
16313	10203.6906	FIXED	10080.8608	FIXED	925.3516	
16323	10203.6906	FIXED	10080.8608	FIXED	925.2176	
16333	10203.6906	FIXED	10080.8608	FIXED	925.0658	
164	10000.0376	FIXED	10273.8214	FIXED	1006.1901	
16413	10000.0376	FIXED	10273.8214	FIXED	1006.4631	
16423	10000.0376	FIXED	10273.8214	FIXED	1006.3269	
16433	10000.0376	FIXED	10273.8214	FIXED	1006.1760	
165	9843.3615	FIXED	10241.7614	FIXED	1009.5797	
16513	9843.3615	FIXED	10241.7614	FIXED	1009.8557	
16523	9843.3615	FIXED	10241.7614	FIXED	1009.7149	
16533	9843.3615	FIXED	10241.7614	FIXED	1009.5635	
16613	10000.0376	FIXED	9999.9562	FIXED	1001.6687	
16623	10000.0376	FIXED	9999.9562	FIXED	1001.5093	
17	10039.6007	FIXED	10175.6162	FIXED	966.9041	
18	10050.7168	FIXED	10174.8548	FIXED	960.4814	
19	10076.4323	FIXED	10173.1814	FIXED	946.8291	
21	9977.0994	FIXED	10124.0894	FIXED	1000.2752	
22	9979.5674	FIXED	10123.5400	FIXED	1000.4024	
23	9981.5825	FIXED	10124.0405	FIXED	1000.2441	
24	9996.6704	FIXED	10128.3981	FIXED	991.8396	
25	10020.8893	FIXED	10129.7642	FIXED	978.2128	
26	10028.1539	FIXED	10129.6781	FIXED	974.0533	
27	10040.6833	FIXED	10130.6563	FIXED	965.8881	
28	10050.4796	FIXED	10130.9475	FIXED	960.6558	
29	10075.9160	FIXED	10132.3685	FIXED	946.7550	
31	9981.3276	FIXED	10075.7375	FIXED	1000.4755	
32	9983.6881	FIXED	10076.4549	FIXED	1000.4806	
33	9986.1746	FIXED	10076.5864	FIXED	1000.1003	
34	10000.9424	FIXED	10074.1756	FIXED	992.1034	
35	10025.8948	FIXED	10077.3785	FIXED	977.7935	
36	10032.7426	FIXED	10077.9167	FIXED	973.9545	
37	10046.3985	FIXED	10079.8569	FIXED	965.3973	

2.2 FREE STATIONS INPUT REPORT (CON'D)

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
38	10055.2827	FIXED	10081.0833	FIXED	960.6688	
39	10080.0113	FIXED	10084.2006	FIXED	946.9522	

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO DIRECTION OBSERVATIONS

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO AZIMUTH OBSERVATIONS

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HORIZONTAL DISTANCE OBSERVATIONS

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
16113	16523	88-28-37.200	0.400	-1.125
16113	16423	89-12-26.300	0.400	-1.010
16113	11	90-11-31.500	0.400	-1.241
16113	12	90-10-53.800	0.400	-1.428
16113	13	90-13-43.000	0.400	-1.314
16113	21	90-15-29.000	0.400	-0.254
16113	22	90-13-26.500	0.400	-0.452
16113	23	90-15-49.500	0.400	-0.957
16113	31	90-15- 6.500	0.400	0.079
16113	32	90-14-50.200	0.400	-0.880
16113	33	90-21-56.200	0.400	-0.350
16113	12183	84-20-16.500	0.400	-0.699
16113	16623	89-53-38.200	0.400	-0.403
16613	31	90-52-32.700	0.600	-1.178
16613	32	90-52-14.000	0.600	0.394
16613	33	91- 9-14.000	0.600	-0.750
16613	34	97-20-36.300	0.600	-0.212
16613	35	106-18-14.800	0.600	-0.504
16613	36	108- 9- 0.700	0.600	0.114
16613	37	111-26-15.700	0.600	0.169
16613	38	112-40-18.500	0.600	0.109
16613	39	115-13-23.800	0.600	0.439
16613	28	106-17-15.200	0.600	-1.404
16613	27	104-39- 0.000	0.600	-1.816
16613	25	100- 6-58.500	0.600	0.155
16613	24	94-22-30.200	0.600	-0.062
16613	23	90-39- 2.700	0.600	-1.305
16613	22	90-34-45.500	0.600	-1.272
16613	13	90-28-55.700	0.600	-0.144
16613	16	98-25-45.700	0.600	-1.443
16613	17	100-55-41.800	0.500	-0.656
16613	18	102-44-44.800	0.600	-0.343
16613	19	106- 9-17.200	0.600	-0.902
16613	16323	109-13-59.300	0.600	-1.502
16613	12183	86-34- 0.800	0.600	0.313
16513	11	93-36-56.500	0.400	-0.558
16513	12	93-34-19.700	0.400	-0.111
16513	13	93-36-16.700	0.400	-0.335
16513	21	93- 4-44.200	0.400	-0.935
16513	22	93- 0- 3.500	0.400	-0.444
16513	23	93- 1-51.200	0.400	-0.746
16513	31	92-29-19.800	0.400	-0.550
16513	32	92-28-34.500	0.400	-1.050
16513	16123	91-34-30.200	0.400	-1.066
16513	12183	89-44- 1.500	0.400	-0.845
16513	16423	91-15-52.200	0.400	-0.683

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
16513	16223	89-17-14.800	0.400	-1.269
16513	16623	91-39-36.200	0.400	-1.217
16413	18	112-28- 4.400	0.500	-0.163
16413	16	107-11-12.000	0.500	0.160
16413	15	106- 0-47.600	0.500	-0.055
16413	14	98- 7-24.400	0.500	-0.380
16413	13	93-30-51.500	0.500	-0.118
16413	12	93-25-26.500	0.500	-0.281
16413	11	93-23-35.500	0.500	0.059
16413	21	92-20-22.900	0.500	-0.453
16413	22	92-17-19.600	0.500	-0.494
16413	23	92-21-37.100	0.500	-0.186
16413	24	95-44-27.800	0.500	-0.863
16413	25	100-59- 1.600	0.500	-1.181
16413	26	102-26-43.200	0.500	-0.366
16413	27	105-15- 3.900	0.500	0.307
16413	28	106-49-18.600	0.500	-0.469
16413	29	110-24-15.000	0.500	-0.237
16413	39	106- 7-44.500	0.500	-1.119
16413	38	102-51-58.500	0.500	-0.960
16413	37	101-38- 9.900	0.500	-1.010
16413	32	91-43-51.100	0.500	-0.672
16413	31	91-43-27.100	0.500	-1.087
16413	16523	88-50- 8.100	0.500	-0.625
16413	16323	106- 9- 6.400	0.500	0.014
16313	16223	65-55-12.400	0.600	-0.764
16313	39	80- 5-49.600	0.600	-0.431
16313	38	76-36-52.500	0.600	-0.343
16313	37	75-43- 1.900	0.600	0.124
16313	36	74- 7-53.200	0.600	-0.966
16313	35	73-34-12.000	0.600	0.189
16313	34	71-47-11.500	0.600	-0.563
16313	33	71- 2-19.900	0.600	-0.948
16313	23	71-41-11.800	0.400	-0.412
16313	24	72-37-10.000	0.400	-0.756
16313	25	74-23-34.000	0.400	-1.023
16313	26	75- 2- 6.900	0.400	-0.551
16313	27	76-37-20.900	0.400	-0.360
16313	28	77-38-47.900	0.400	-0.121
16313	29	81-10-10.000	0.400	-0.616
16313	19	82-13-17.400	0.500	-0.543
16313	18	78-55-47.100	0.500	-0.781
16313	17	77-37-54.200	0.500	-0.829
16313	16	76- 4-38.200	0.500	-1.065
16313	15	75-39-24.400	0.500	-1.374
16313	14	73-38-46.500	0.500	-0.888

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)
16313	13	72-46-56.500	0.500	-1.606
16313	16423	73-54- 4.500	0.500	-0.339
16213	31	94-22-13.400	0.500	0.112
16213	33	94-31-41.900	0.500	-0.302
16213	34	97-17-57.500	0.500	-1.002
16213	35	102-15-32.200	0.500	-1.078
16213	36	103-37- 7.400	0.500	-1.196
16213	37	106-30-13.100	0.500	-1.175
16213	38	108- 3-18.100	0.500	-1.059
16213	39	112-11-30.000	0.500	-1.094
16213	28	104- 5-21.900	0.600	-0.699
16213	27	102-41-22.800	0.600	-0.703
16213	25	99-23-51.800	0.600	0.524
16213	24	95-46- 7.800	0.600	-0.704
16213	23	93-38-52.800	0.600	-0.214
16213	22	93-36- 5.400	0.600	-0.645
16213	21	93-36-26.400	0.600	-0.647
16213	12	92-59-52.600	0.500	-1.029
16213	13	93- 3-42.400	0.500	-1.146
16213	14	94-38-51.800	0.500	0.019
16213	15	97-56-33.500	0.500	-0.336
16213	16	98-30-46.900	0.500	-0.872
16213	17	100-23-21.500	0.500	-0.452
16213	18	101-51- 3.200	0.500	-1.558
16213	19	104-55-22.600	0.500	-0.709
16213	16423	91-21-44.100	0.500	-1.796
16213	16323	114- 8-41.300	0.500	-0.719
16213	16523	90-45-14.200	0.500	-0.571

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)
166	16613	1.6680	0.1000	-0.07
166	16623	1.5100	0.1000	0.07
165	16513	0.2760	0.1000	0.00
16533	16523	0.1514	0.1000	0.00
164	16413	0.2730	0.1000	0.00
16433	16423	0.1509	0.1000	0.00
163	16313	0.2775	0.1000	0.00
16333	16323	0.1518	0.1000	0.00
162	16213	0.2745	0.1000	0.00
161	16113	0.2790	0.1000	0.00

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED
161	1
16123	1
16133	0
162	1
16233	0
163	1
16333	1
164	1
16433	1
165	1
16533	1

```
**********     POINT 161       ONLY    1TIMES OBSERVED
**********     POINT 16123     ONLY    1TIMES OBSERVED
**********     POINT 16133     ONLY    0TIMES OBSERVED
**********     POINT 162       ONLY    1TIMES OBSERVED
**********     POINT 16233     ONLY    0TIMES OBSERVED
**********     POINT 163       ONLY    1TIMES OBSERVED
**********     POINT 16333     ONLY    1TIMES OBSERVED
**********     POINT 164       ONLY    1TIMES OBSERVED
**********     POINT 16433     ONLY    1TIMES OBSERVED
**********     POINT 165       ONLY    1TIMES OBSERVED
**********     POINT 16533     ONLY    1TIMES OBSERVED
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3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	130
POINTS	1000	51
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	0
MATRIX ELEMENTS	99998	1275

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16113	16523	O:	88-28-37.20	0.40		69.92	COM:	-0.1 SEC	0.0 CM	317.9951
		C:	88-28-37.29	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.09	0.33	0.27					
16113	16423	O:	89-12-26.30	0.40		77.29	COM:	0.3 SEC	0.0 CM	366.0414
		C:	89-12-26.09	0.19			BND:	1.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.21	0.35	-0.61					
16113	11	O:	90-11-31.50	0.40		79.56	COM:	-0.5 SEC	0.0 CM	263.9716
		C:	90-11-31.86	0.18			BND:	1.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.36	0.36	1.01					
16113	12	O:	90-10-53.80	0.40		80.86	COM:	-0.7 SEC	0.0 CM	265.8211
		C:	90-10-54.34	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.54	0.36	1.50					
16113	13	O:	90-13-43.00	0.40		83.05	COM:	-0.5 SEC	0.0 CM	265.2378
		C:	90-13-43.40	0.16			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.40	0.36	1.10					
16113	21	O:	90-15-29.00	0.40		69.95	COM:	0.6 SEC	0.0 CM	218.2038
		C:	90-15-28.55	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.45	0.33	-1.36					
16113	22	O:	90-13-26.50	0.40		75.31	COM:	0.4 SEC	0.0 CM	218.7662
		C:	90-13-26.19	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.31	0.35	-0.88					
16113	23	O:	90-15-49.50	0.40		77.29	COM:	-0.2 SEC	0.0 CM	220.0975
		C:	90-15-49.68	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.18	0.35	0.50					
16113	31	O:	90-15- 6.50	0.40		69.98	COM:	0.9 SEC	0.0 CM	177.8726
		C:	90-15- 5.86	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.64	0.33	-1.92					
16113	32	O:	90-14-50.20	0.40		68.49	COM:	-0.5 SEC	0.0 CM	179.7652
		C:	90-14-50.52	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.32	0.33	0.96					
16113	33	O:	90-21-56.20	0.40		66.28	COM:	0.4 SEC	0.0 CM	181.2563
		C:	90-21-55.94	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.26	0.33	-0.81					
16113	12183	O:	84-20-16.50	0.40		20.76	COM:	-1.2 SEC	0.0 CM	97.3441
		C:	84-20-16.75	0.36			BND:	3.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.25	0.18	1.39					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16113	16623	O: 89-53-38.20	0.40		17.73	COM:	0.9 SEC	0.1 CM	136.8380
		C: 89-53-38.04	0.36			BND:	3.9 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.16	0.17	-0.98					
16613	31	O: 90-52-32.70	0.60		47.39	COM:	-1.9 SEC	0.0 CM	78.0568
		C: 90-52-33.59	0.44			BND:	3.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.89	0.41	2.15					
16613	32	O: 90-52-14.00	0.60		41.66	COM:	1.6 SEC	0.0 CM	78.2263
		C: 90-52-13.34	0.46			BND:	3.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.66	0.39	-1.71					
16613	33	O: 91- 9-14.00	0.60		38.79	COM:	-1.0 SEC	0.0 CM	77.8741
		C: 91- 9-14.38	0.47			BND:	4.0 SEC	0.1 CM	
		V=C-O: 0- 0- 0.38	0.37	1.01					
16613	34	O: 97-20-36.30	0.60		24.52	COM:	0.8 SEC	0.0 CM	74.2249
		C: 97-20-36.11	0.52			BND:	5.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.19	0.30	-0.63					
16613	35	O: 106-18-14.80	0.60		33.43	COM:	-0.1 SEC	0.0 CM	81.6260
		C: 106-18-14.85	0.49			BND:	4.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.05	0.35	0.14					
16613	36	O: 108- 9- 0.70	0.60		36.66	COM:	1.6 SEC	0.0 CM	84.5426
		C: 108- 9- 0.10	0.48			BND:	4.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.60	0.36	-1.65					
16613	37	O: 111-26-15.70	0.60		52.63	COM:	0.9 SEC	0.0 CM	92.3767
		C: 111-26-15.21	0.41			BND:	3.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.49	0.44	-1.12					
16613	38	O: 112-40-18.50	0.60		57.10	COM:	1.0 SEC	0.0 CM	98.1510
		C: 112-40-17.95	0.39			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.55	0.45	-1.21					
16613	39	O: 115-13-23.80	0.60		68.70	COM:	1.3 SEC	0.0 CM	116.1590
		C: 115-13-22.87	0.34			BND:	3.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.93	0.50	-1.86					
16613	28	O: 106-17-15.20	0.60		74.16	COM:	-1.2 SEC	0.0 CM	140.3678
		C: 106-17-16.06	0.30			BND:	2.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.86	0.52	1.67					
16613	27	O: 104-39- 0.00	0.60		72.05	COM:	-1.8 SEC	0.0 CM	136.8744
		C: 104-39- 1.31	0.32			BND:	2.9 SEC	0.1 CM	
		V=C-O: 0- 0- 1.31	0.51	2.58 ..					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16613	25	O:	100- 6-58.50	0.60		67.91	COM:	1.0 SEC	0.0 CM	131.4721
		C:	100- 6-57.79	0.34			BND:	3.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.71	0.49	-1.43					
16613	24	O:	94-22-30.20	0.60		64.25	COM:	0.8 SEC	0.0 CM	128.4860
		C:	94-22-29.71	0.36			BND:	3.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.49	0.48	-1.02					
16613	23	O:	90-39- 2.70	0.60		73.51	COM:	-1.0 SEC	0.0 CM	125.4492
		C:	90-39- 3.45	0.31			BND:	2.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.75	0.51	1.46					
16613	22	O:	90-34-45.50	0.60		70.47	COM:	-1.1 SEC	0.0 CM	125.2677
		C:	90-34-46.25	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.75	0.50	1.48					
16613	13	O:	90-28-55.70	0.60		86.38	COM:	0.6 SEC	0.0 CM	174.7882
		C:	90-28-55.18	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.52	0.56	-0.94					
16613	16	O:	98-25-45.70	0.60		81.48	COM:	-0.9 SEC	0.0 CM	178.4304
		C:	98-25-46.45	0.26			BND:	2.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.75	0.54	1.38					
16613	17	O:	100-55-41.80	0.50		55.47	COM:	-0.1 SEC	0.0 CM	180.0602
		C:	100-55-41.85	0.33			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.05	0.37	0.14					
16613	18	O:	102-44-44.80	0.60		81.29	COM:	0.5 SEC	0.0 CM	182.0931
		C:	102-44-44.43	0.26			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.37	0.54	-0.69					
16613	19	O:	106- 9-17.20	0.60		73.25	COM:	-0.3 SEC	0.0 CM	189.3228
		C:	106- 9-17.40	0.31			BND:	2.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.20	0.51	0.40					
16613	16323	O:	109-13-59.30	0.60		69.63	COM:	-1.2 SEC	0.0 CM	219.1349
		C:	109-14- 0.11	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.81	0.50	1.62					
16613	12183	O:	86-34- 0.80	0.60		77.26	COM:	1.2 SEC	0.0 CM	153.9557
		C:	86-33-59.85	0.29			BND:	2.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.95	0.53	-1.80					
16513	11	O:	93-36-56.50	0.40		54.18	COM:	-0.1 SEC	0.0 CM	150.0820
		C:	93-36-56.55	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.05	0.29	0.17					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16513	12	O:	93-34-19.70	0.40		56.68	COM:	0.7 SEC	0.0 CM	151.2464
		C:	93-34-19.30	0.26			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.40	0.30	-1.34					
16513	13	O:	93-36-16.70	0.40		61.02	COM:	0.4 SEC	0.0 CM	153.2997
		C:	93-36-16.47	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.23	0.31	-0.74					
16513	21	O:	93- 4-44.20	0.40		58.58	COM:	-0.6 SEC	0.0 CM	178.1363
		C:	93- 4-44.56	0.26			BND:	2.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.36	0.31	1.18					
16513	22	O:	93- 0- 3.50	0.40		66.27	COM:	0.3 SEC	0.0 CM	180.3562
		C:	93- 0- 3.30	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.20	0.33	-0.60					
16513	23	O:	93- 1-51.20	0.40		68.94	COM:	-0.1 SEC	0.0 CM	181.5579
		C:	93- 1-51.28	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.08	0.33	0.24					
16513	31	O:	92-29-19.80	0.40		77.87	COM:	0.2 SEC	0.0 CM	215.8670
		C:	92-29-19.65	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.15	0.35	-0.43					
16513	32	O:	92-28-34.50	0.40		76.63	COM:	-0.5 SEC	0.0 CM	216.8359
		C:	92-28-34.85	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.35	0.35	1.01					
16513	16123	O:	91-34-30.20	0.40		0.00	COM:	NOT		317.9951
		C:	91-34-30.20	0.40			BND:	CONTROLLED		
		V=C-O:	- 0- 0- 0.00	0.00	0.00					
16513	12183	O:	89-44- 1.50	0.40		72.74	COM:	-0.1 SEC	0.0 CM	225.5777
		C:	89-44- 1.54	0.21			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.04	0.34	0.11					
16513	16423	O:	91-15-52.20	0.40		25.87	COM:	-0.5 SEC	0.0 CM	159.9226
		C:	91-15-52.33	0.34			BND:	3.2 SEC	0.2 CM	
		V=C-O:	0- 0- 0.13	0.20	0.66					
16513	16223	O:	89-17-14.80	0.40		50.07	COM:	0.2 SEC	0.0 CM	406.0560
		C:	89-17-14.72	0.28			BND:	2.3 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.08	0.28	-0.29					
16513	16623	O:	91-39-36.20	0.40		69.60	COM:	-0.3 SEC	0.0 CM	288.1270
		C:	91-39-36.40	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.20	0.33	0.61					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16413	18	O:	112-28- 4.40	0.50		47.77	COM:	0.4 SEC	0.0 CM	111.1880
		C:	112-28- 4.19	0.36			BND:	3.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.21	0.35	-0.61					
16413	16	O:	107-11-12.00	0.50		37.62	COM:	1.3 SEC	0.0 CM	100.9906
		C:	107-11-11.52	0.39			BND:	3.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.48	0.31	-1.55					
16413	15	O:	106- 0-47.60	0.50		26.76	COM:	0.5 SEC	0.0 CM	99.9212
		C:	106- 0-47.47	0.43			BND:	4.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.13	0.26	-0.52					
16413	14	O:	98- 7-24.40	0.50		20.42	COM:	-1.3 SEC	0.0 CM	96.7725
		C:	98- 7-24.66	0.45			BND:	4.6 SEC	0.2 CM	
		V=C-O:	0- 0- 0.26	0.23	1.16					
16413	13	O:	93-30-51.50	0.50		52.08	COM:	0.3 SEC	0.0 CM	101.9968
		C:	93-30-51.34	0.35			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.16	0.36	-0.46					
16413	12	O:	93-25-26.50	0.50		44.75	COM:	-0.1 SEC	0.0 CM	101.0877
		C:	93-25-26.57	0.37			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.07	0.33	0.20					
16413	11	O:	93-23-35.50	0.50		42.61	COM:	0.6 SEC	0.0 CM	102.7234
		C:	93-23-35.23	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.27	0.33	-0.84					
16413	21	O:	92-20-22.90	0.50		63.70	COM:	-0.1 SEC	0.0 CM	151.4788
		C:	92-20-22.96	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.06	0.40	0.16					
16413	22	O:	92-17-19.60	0.50		71.29	COM:	0.0 SEC	0.0 CM	151.6691
		C:	92-17-19.63	0.27			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.42	0.08					
16413	23	O:	92-21-37.10	0.50		74.13	COM:	0.4 SEC	0.0 CM	150.9136
		C:	92-21-36.80	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.30	0.43	-0.69					
16413	24	O:	95-44-27.80	0.50		60.64	COM:	-0.7 SEC	0.0 CM	145.4623
		C:	95-44-28.21	0.31			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.41	0.39	1.05					
16413	25	O:	100-59- 1.60	0.50		63.20	COM:	-1.2 SEC	0.0 CM	145.5585
		C:	100-59- 2.33	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.73	0.40	1.83					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16413	26	O:	102-26-43.20	0.50		46.22	COM:	0.0 SEC	0.0 CM	146.8599
		C:	102-26-43.21	0.37			BND:	3.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.01	0.34	0.03					
16413	27	O:	105-15- 3.90	0.50		66.73	COM:	1.1 SEC	0.0 CM	148.8231
		C:	105-15- 3.18	0.29			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.72	0.41	-1.75					
16413	28	O:	106-49-18.60	0.50		68.76	COM:	0.0 SEC	0.0 CM	151.5168
		C:	106-49-18.62	0.28			BND:	2.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.02	0.41	0.05					
16413	29	O:	110-24-15.00	0.50		66.56	COM:	0.4 SEC	0.0 CM	160.5193
		C:	110-24-14.74	0.29			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.26	0.41	-0.63					
16413	39	O:	106- 7-44.50	0.50		78.65	COM:	-0.6 SEC	0.0 CM	205.7956
		C:	106- 7-44.96	0.23			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.46	0.44	1.04					
16413	38	O:	102-51-58.50	0.50		78.06	COM:	-0.4 SEC	0.0 CM	200.4994
		C:	102-51-58.83	0.23			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.33	0.44	0.74					
16413	37	O:	101-38- 9.90	0.50		78.28	COM:	-0.6 SEC	0.0 CM	199.4281
		C:	101-38-10.34	0.23			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.44	0.44	0.99					
16413	32	O:	91-43-51.10	0.50		82.90	COM:	-0.1 SEC	0.0 CM	198.0425
		C:	91-43-51.21	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.11	0.46	0.25					
16413	31	O:	91-43-27.10	0.50		84.25	COM:	-0.6 SEC	0.0 CM	198.9656
		C:	91-43-27.62	0.20			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.52	0.46	1.12					
16413	16523	O:	88-50- 8.10	0.50		31.71	COM:	-0.7 SEC	0.0 CM	159.9226
		C:	88-50- 8.33	0.41			BND:	3.7 SEC	0.2 CM	
		V=C-O:	0- 0- 0.23	0.28	0.81					
16413	16323	O:	106- 9- 6.40	0.50		69.49	COM:	1.2 SEC	0.1 CM	280.5501
		C:	106- 9- 5.55	0.28			BND:	2.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.85	0.42	-2.04					
16313	16223	O:	65-55-12.40	0.60		39.49	COM:	-0.3 SEC	0.0 CM	200.4039
		C:	65-55-12.51	0.47			BND:	3.9 SEC	0.3 CM	
		V=C-O:	0- 0- 0.11	0.38	0.29					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16313	39	O:	80- 5-49.60	0.60		60.37	COM:	0.0 SEC	0.0 CM	123.7244
		C:	80- 5-49.58	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.02	0.47	-0.05					
16313	38	O:	76-36-52.50	0.60		74.34	COM:	0.2 SEC	0.0 CM	148.4081
		C:	76-36-52.32	0.30			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.18	0.52	-0.35					
16313	37	O:	75-43- 1.90	0.60		78.13	COM:	0.8 SEC	0.0 CM	157.2953
		C:	75-43- 1.30	0.28			BND:	2.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.60	0.53	-1.13					
16313	36	O:	74- 7-53.20	0.60		80.31	COM:	-0.4 SEC	0.0 CM	170.9734
		C:	74- 7-53.54	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.34	0.54	0.64					
16313	35	O:	73-34-12.00	0.60		82.47	COM:	1.0 SEC	0.0 CM	177.8299
		C:	73-34-11.18	0.25			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.82	0.54	-1.50					
16313	34	O:	71-47-11.50	0.60		87.76	COM:	0.1 SEC	0.0 CM	202.8584
		C:	71-47-11.38	0.21			BND:	2.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.12	0.56	-0.22					
16313	33	O:	71- 2-19.90	0.60		90.31	COM:	-0.2 SEC	0.0 CM	217.5580
		C:	71- 2-20.12	0.19			BND:	2.6 SEC	0.0 CM	
		V=C-O:	0- 0- 0.22	0.57	0.39					
16313	23	O:	71-41-11.80	0.40		82.06	COM:	0.5 SEC	0.0 CM	226.2664
		C:	71-41-11.42	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.38	0.36	-1.04					
16313	24	O:	72-37-10.00	0.40		73.44	COM:	0.0 SEC	0.0 CM	212.4080
		C:	72-37-10.02	0.21			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.02	0.34	0.06					
16313	25	O:	74-23-34.00	0.40		67.18	COM:	-0.5 SEC	0.0 CM	189.2296
		C:	74-23-34.36	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.36	0.33	1.10					
16313	26	O:	75- 2- 6.90	0.40		47.53	COM:	0.0 SEC	0.0 CM	182.1984
		C:	75- 2- 6.89	0.29			BND:	2.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.01	0.28	-0.03					
16313	27	O:	76-37-20.90	0.40		59.15	COM:	0.3 SEC	0.0 CM	170.4435
		C:	76-37-20.70	0.26			BND:	2.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.20	0.31	-0.64					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
16313	28	O:	77-38-47.90	0.40		54.55	COM:	0.8 SEC	0.0 CM	161.1902
		C:	77-38-47.47	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.43	0.30	-1.45					
16313	29	O:	81-10-10.00	0.40		25.40	COM:	-0.5 SEC	0.0 CM	137.7657
		C:	81-10-10.13	0.35			BND:	3.3 SEC	0.2 CM	
		V=C-O:	0- 0- 0.13	0.20	0.63					
16313	19	O:	82-13-17.40	0.50		40.62	COM:	0.0 SEC	0.0 CM	157.2189
		C:	82-13-17.39	0.39			BND:	3.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.01	0.32	-0.04					
16313	18	O:	78-55-47.10	0.50		72.04	COM:	-0.2 SEC	0.0 CM	179.5435
		C:	78-55-47.22	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.12	0.42	0.28					
16313	17	O:	77-37-54.20	0.50		59.58	COM:	-0.4 SEC	0.0 CM	189.4837
		C:	77-37-54.44	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.24	0.39	0.62					
16313	16	O:	76- 4-38.20	0.50		80.18	COM:	-0.4 SEC	0.0 CM	201.1912
		C:	76- 4-38.55	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.35	0.45	0.79					
16313	15	O:	75-39-24.40	0.50		78.33	COM:	-0.9 SEC	0.0 CM	205.0592
		C:	75-39-25.11	0.23			BND:	2.3 SEC	0.1 CM	
		V=C-O:	0- 0- 0.71	0.44	1.60					
16313	14	O:	73-38-46.50	0.50		83.29	COM:	-0.2 SEC	0.0 CM	229.3354
		C:	73-38-46.66	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.16	0.46	0.35					
16313	13	O:	72-46-56.50	0.50		89.33	COM:	-0.9 SEC	0.0 CM	241.5248
		C:	72-46-57.28	0.16			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.78	0.47	1.65					
16313	16423	O:	73-54- 4.50	0.50		83.49	COM:	0.7 SEC	0.0 CM	280.5501
		C:	73-54- 3.91	0.20			BND:	2.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.59	0.46	-1.30					
16213	31	O:	94-22-13.40	0.50		82.70	COM:	0.9 SEC	0.0 CM	190.7127
		C:	94-22-12.68	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.72	0.45	-1.58					
16213	33	O:	94-31-41.90	0.50		80.08	COM:	0.4 SEC	0.0 CM	188.7676
		C:	94-31-41.57	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.33	0.45	-0.75					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16213	34	O:	97-17-57.50	0.50		75.53	COM:	-0.5 SEC	0.0 CM	179.1407
		C:	97-17-57.88	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.38	0.43	0.88					
16213	35	O:	102-15-32.20	0.50		71.78	COM:	-0.6 SEC	0.0 CM	171.4615
		C:	102-15-32.66	0.27			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.46	0.42	1.08					
16213	36	O:	103-37- 7.40	0.50		70.71	COM:	-0.8 SEC	0.0 CM	169.6232
		C:	103-37- 7.97	0.27			BND:	2.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.57	0.42	1.35					
16213	37	O:	106-30-13.10	0.50		72.69	COM:	-0.9 SEC	0.0 CM	167.5834
		C:	106-30-13.75	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.65	0.43	1.52					
16213	38	O:	108- 3-18.10	0.50		72.36	COM:	-0.7 SEC	0.0 CM	166.8211
		C:	108- 3-18.57	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.47	0.43	1.11					
16213	39	O:	112-11-30.00	0.50		73.72	COM:	-0.7 SEC	0.0 CM	166.9367
		C:	112-11-30.50	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.50	0.43	1.17					
16213	28	O:	104- 5-21.90	0.60		87.27	COM:	0.0 SEC	0.0 CM	216.7255
		C:	104- 5-21.86	0.21			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.04	0.56	-0.07					
16213	27	O:	102-41-22.80	0.60		87.12	COM:	0.0 SEC	0.0 CM	218.3363
		C:	102-41-22.78	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.02	0.56	-0.04					
16213	25	O:	99-23-51.80	0.60		87.07	COM:	1.5 SEC	0.0 CM	222.5846
		C:	99-23-50.50	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.30	0.56	-2.32					
16213	24	O:	95-46- 7.80	0.60		87.26	COM:	0.1 SEC	0.0 CM	229.7564
		C:	95-46- 7.70	0.21			BND:	2.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.10	0.56	-0.17					
16213	23	O:	93-38-52.80	0.60		90.63	COM:	0.7 SEC	0.0 CM	232.2558
		C:	93-38-52.20	0.18			BND:	2.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.60	0.57	-1.06					
16213	22	O:	93-36- 5.40	0.60		89.73	COM:	0.2 SEC	0.0 CM	232.7400
		C:	93-36- 5.24	0.19			BND:	2.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.16	0.57	-0.28					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
16213	21	O: 93-36-26.40	0.60		87.35	COM:	0.1 SEC	0.0 CM	234.3810
		C: 93-36-26.29	0.21			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.11	0.56	-0.20					
16213	12	O: 92-59-52.60	0.50		88.73	COM:	-0.1 SEC	0.0 CM	279.4795
		C: 92-59-52.70	0.17			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.10	0.47	0.20					
16213	13	O: 93- 3-42.40	0.50		90.19	COM:	-0.2 SEC	0.0 CM	277.6687
		C: 93- 3-42.59	0.16			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.19	0.47	0.41					
16213	14	O: 94-38-51.80	0.50		85.64	COM:	1.1 SEC	0.0 CM	275.5734
		C: 94-38-50.89	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.91	0.46	-1.97					
16213	15	O: 97-56-33.50	0.50		84.60	COM:	0.6 SEC	0.0 CM	267.1008
		C: 97-56-32.95	0.20			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.55	0.46	-1.19					
16213	16	O: 98-30-46.90	0.50		86.46	COM:	0.1 SEC	0.0 CM	266.0560
		C: 98-30-46.85	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.05	0.46	-0.12					
16213	17	O: 100-23-21.50	0.50		77.34	COM:	0.5 SEC	0.0 CM	262.6164
		C: 100-23-21.10	0.24			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.40	0.44	-0.91					
16213	18	O: 101-51- 3.20	0.50		85.32	COM:	-0.8 SEC	0.0 CM	260.0562
		C: 101-51- 3.84	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.64	0.46	1.39					
16213	19	O: 104-55-22.60	0.50		77.54	COM:	0.2 SEC	0.0 CM	255.9885
		C: 104-55-22.43	0.24			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.17	0.44	-0.38					
16213	16423	O: 91-21-44.10	0.50		85.98	COM:	-0.7 SEC	0.0 CM	367.0021
		C: 91-21-44.67	0.19			BND:	2.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.57	0.46	1.23					
16213	16323	O: 114- 8-41.30	0.50		53.13	COM:	-0.2 SEC	0.0 CM	200.4039
		C: 114- 8-41.42	0.34			BND:	2.8 SEC	0.1 CM	
		V=C-O: 0- 0- 0.12	0.36	0.33					
16213	16523	O: 90-45-14.20	0.50		83.95	COM:	0.9 SEC	0.0 CM	406.0560
		C: 90-45-13.44	0.20			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.76	0.46	-1.66					

4.7 ANALYSIS OF ELEVATION DIFFERENCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	16613	O:	1.66800	0.10		48.14	COM:	-0.1 CM	-0.1 CM	0.0000
		C:	1.66865	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00065	0.07	0.93					
166	16623	O:	1.51000	0.10		48.14	COM:	0.1 CM	0.1 CM	0.0000
		C:	1.50935	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00065	0.07	-0.93					
165	16513	O:	0.27600	0.10		0.00	COM:	NOT		0.0000
		C:	0.27600	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
16533	16523	O:	0.15140	0.10		0.00	COM:	NOT		0.0000
		C:	0.15140	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
164	16413	O:	0.27300	0.10		0.00	COM:	NOT		0.0000
		C:	0.27300	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
16433	16423	O:	0.15090	0.10		0.00	COM:	NOT		0.0000
		C:	0.15090	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
163	16313	O:	0.27750	0.10		0.00	COM:	NOT		0.0000
		C:	0.27750	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
16333	16323	O:	0.15180	0.10		0.00	COM:	NOT		0.0000
		C:	0.15180	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
162	16213	O:	0.27450	0.10		0.00	COM:	NOT		0.0000
		C:	0.27450	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
161	16113	O:	0.27900	0.10		0.00	COM:	NOT		0.0000
		C:	0.27900	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1172	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.6877	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3732		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
12	FREE	EAST.:	9979.0451	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.9374	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4154		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
12183	FREE	EAST.:	9846.9425	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10016.2121	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1010.9065		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
13	FREE	EAST.:	9980.7103	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.6725	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.1998		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
14	FREE	EAST.:	9995.5499	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10177.1530	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.6503		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
15	FREE	EAST.:	10022.2476	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10176.3998	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7869		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16	FREE	EAST.:	10026.6277	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10176.3942	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	975.2279		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
161	FREE	EAST.:	9884.6165	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4538	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.9760		ELEV. STD. DEV.:	0.13 CM			CORR.:	0.0000
16113	FREE	EAST.:	9884.6165	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4538	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.2550		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16123	FREE	EAST.:	9884.6165	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4538	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.1171		ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000
16133	FREE	EAST.:	9884.6165	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4538	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.1510		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
162	FREE	EAST.:	10087.6923	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4407	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.7738		ELEV. STD. DEV.:	0.13 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
16213	FREE	EAST.:	10087.6923	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4407	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1015.0483		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16223	FREE	EAST.:	10087.6923	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4407	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.9146		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
16233	FREE	EAST.:	10087.6923	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4407	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1015.1510		ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
163	FREE	EAST.:	10203.6906	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8608	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.0741		ELEV. STD. DEV.:	0.13 CM			CORR.:	0.0000
16313	FREE	EAST.:	10203.6906	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8608	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.3516		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16323	FREE	EAST.:	10203.6906	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8608	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.2175		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
16333	FREE	EAST.:	10203.6906	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8608	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.0657		ELEV. STD. DEV.:	0.14 CM			CORR.:	0.0000
164	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8214	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.1901		ELEV. STD. DEV.:	0.13 CM			CORR.:	0.0000
16413	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8214	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.4631		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16423	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8214	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.3269		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16433	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8214	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.1760		ELEV. STD. DEV.:	0.14 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3615	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7614	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.5797		ELEV. STD. DEV.:	0.13 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
16513	FREE	EAST.:	9843.3615	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7614	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.8557		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16523	FREE	EAST.:	9843.3615	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7614	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.7148		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
16533	FREE	EAST.:	9843.3615	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7614	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.5634		ELEV. STD. DEV.:	0.14 CM			CORR.:	0.0000
166	FIXED	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
16613	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.6686		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16623	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.5094		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.6007	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10175.6162	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	966.9041		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
18	FREE	EAST.:	10050.7168	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.8548	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.4814		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
19	FREE	EAST.:	10076.4323	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.1814	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.8291		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
21	FREE	EAST.:	9977.0994	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0894	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2752		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
22	FREE	EAST.:	9979.5674	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10123.5400	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4024		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
23	FREE	EAST.:	9981.5825	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0405	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2441		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
24	FREE	EAST.:	9996.6704	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10128.3981	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	991.8396		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
25	FREE	EAST.:	10020.8893	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.7642	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	978.2128		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
26	FREE	EAST.:	10028.1539	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.6781	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	974.0532		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
27	FREE	EAST.:	10040.6833	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.6563	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.8881		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
28	FREE	EAST.:	10050.4796	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.9475	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.6558		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
29	FREE	EAST.:	10075.9160	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10132.3685	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.7550		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
31	FREE	EAST.:	9981.3276	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10075.7375	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4755		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
32	FREE	EAST.:	9983.6881	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.4549	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4805		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
33	FREE	EAST.:	9986.1746	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.5864	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.1003		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
34	FREE	EAST.:	10000.9424	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10074.1756	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.1034		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
35	FREE	EAST.:	10025.8948	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.3785	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7935		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
36	FREE	EAST.:	10032.7426	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.9167	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	973.9545		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
37	FREE	EAST.:	10046.3985	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10079.8569	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.3973		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
38	FREE	EAST.:	10055.2827	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10081.0833	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.6688		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
39	FREE	EAST.:	10080.0113	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10084.2006	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.9522		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000

5.2 ESTIMATED EDM QUANTITIES REPORT

FACTOR	ESTIMATED VALUE	STANDARD DEVIATION
ADDITIVE CONSTANT	NOT ESTIMATED	
SCALE OF DISTANCES	NOT ESTIMATED	
AMPLITUDE OF CYCLIC	NOT ESTIMATED	
PHASE OF CYCLIC	NOT ESTIMATED	
REFRACTION COEFFICIENT	0.33596	+/- 0.03472

CORRELATION COEFFICIENT MATRIX OF ESTIMATED EDM QUANTITIES:

ADDITIVE CONSTANT	0.000000	0.000000	0.000000	0.000000	0.000000
SCALE OF DISTANCES		0.000000	0.000000	0.000000	0.000000
AMPLITUDE OF CYCLIC			0.000000	0.000000	0.000000
PHASE OF CYCLIC				0.000000	0.000000
REFRACTION COEFFICIENT					1.000000

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION	STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	16113	LTH: 0.0000 M	0.00 CM	0.00 CM	0.00 CM	0.00 CM	0.2790	0.13	HOR.:
		AZI: 315- 0- 0	0- 0- 0	90- 0- 0					VER.: 1 / 106

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	0	0.000000D+00	0.000000D+00	1.00000
AZIMUTHS	0	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	120	0.945190D+02	0.800372D+02	1.08671
HEIGHT DIFFERENCE	10	0.834129D+00	0.962835D+00	0.93077
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	130	0.953531D+02	81	1.08499

STATIONS:	FIXED	1
	FREE	50
	WEIGHTED	0
	TOTAL	51

CONVERGENCE:	ITERATIONS USED	2
	TOLERANCE	0.000100
	COMPUTATION TIME	133.980 SEC

APPENDIX II H

Vertical Adjustment:

Epoch 4

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC
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TIME: 17:37:33 DATE: 18-MAY-87

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*  BOSTON SURVEY CONSULTANTS - BALL MOUNTAIN DAM - PROJECT 1-1654.00    *
*                                                                       *
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PROJECT INFORMATION:

EPOCH 4 ANALYSIS OF HEIGHTS
DATABASE 11654004Z.DBS
1165400Z

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

O P T I O N S I N E F F E C T

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.000100
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.20000 CM
VARIABLE PART OF EDM MEASUREMENT	3.00000 PPM
ZENITH DISTANCE	0.60000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	0.00100 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6378.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT ..... SOLVING FOR

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.1193	FIXED	10173.6799	FIXED	1000.2730	
12	9979.0464	FIXED	10174.9304	FIXED	1000.3150	
1218	9846.9491	FIXED	10016.2071	FIXED	1015.0000	
13	9980.7175	FIXED	10173.6636	FIXED	1000.1030	
14	9995.5530	FIXED	10177.1459	FIXED	992.5700	
15	10022.2504	FIXED	10176.3908	FIXED	977.7050	
16	10026.6310	FIXED	10176.3859	FIXED	975.1380	
161	9884.6184	FIXED	9926.4499	FIXED	1001.4850	
1611	9884.6184	FIXED	9926.4499	FIXED	1001.2240	
1612	9884.6184	FIXED	9926.4499	FIXED	1001.1510	
162	10087.6890	FIXED	9917.4406	FIXED	1014.9810	
1621	10087.6890	FIXED	9917.4406	FIXED	1015.2220	
1622	10087.6890	FIXED	9917.4406	FIXED	1015.1510	
163	10203.6843	FIXED	10080.8588	FIXED	925.3040	
1631	10203.6843	FIXED	10080.8588	FIXED	925.2220	
1632	10203.6843	FIXED	10080.8588	FIXED	925.1520	
164	10000.0376	FIXED	10273.8108	FIXED	1006.4650	
1641	10000.0376	FIXED	10273.8108	FIXED	1006.2160	
1642	10000.0376	FIXED	10273.8108	FIXED	1006.1510	
165	9843.3671	FIXED	10241.7532	FIXED	1009.7800	
1651	9843.3671	FIXED	10241.7532	FIXED	1009.2180	
1652	9843.3671	FIXED	10241.7532	FIXED	1009.1510	
1661	10000.0376	FIXED	9999.9562	FIXED	1001.6120	
1662	10000.0376	FIXED	9999.9562	FIXED	1001.4790	
1663	10000.0376	FIXED	9999.9562	FIXED	1001.5560	
1664	10000.0376	FIXED	9999.9562	FIXED	1001.4780	
1665	10000.0376	FIXED	9999.9562	FIXED	1001.4790	
17	10039.6020	FIXED	10175.6079	FIXED	966.8130	
18	10050.7166	FIXED	10174.8460	FIXED	960.3930	
19	10076.4306	FIXED	10173.1735	FIXED	946.7430	
21	9977.1006	FIXED	10124.0821	FIXED	1000.1760	
22	9979.5709	FIXED	10123.5340	FIXED	1000.3040	
23	9981.5881	FIXED	10123.0341	FIXED	1000.1480	
24	9996.6754	FIXED	10128.3922	FIXED	990.2490	
25	10020.8923	FIXED	10129.7582	FIXED	978.1230	
26	10028.1583	FIXED	10129.6686	FIXED	973.9620	
27	10040.6848	FIXED	10130.6512	FIXED	965.8000	
28	10050.4805	FIXED	10130.9420	FIXED	960.5700	
29	10075.9150	FIXED	10132.3631	FIXED	946.6670	
31	9981.3302	FIXED	10075.7322	FIXED	1000.3780	
32	9983.6958	FIXED	10076.4502	FIXED	1000.3840	
33	9986.1828	FIXED	10076.5818	FIXED	1000.0010	
34	10000.9474	FIXED	10074.1725	FIXED	992.0120	
35	10025.8970	FIXED	10077.3750	FIXED	977.7070	
36	10032.7455	FIXED	10077.9130	FIXED	973.8690	
37	10046.4002	FIXED	10079.8541	FIXED	965.3180	
38	10055.2828	FIXED	10081.0799	FIXED	960.5840	
39	10080.0130	FIXED	10084.1971	FIXED	946.8710	

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO DIRECTION OBSERVATIONS

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO AZIMUTH OBSERVATIONS

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HORIZONTAL DISTANCE OBSERVATIONS

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1611	11	90-11-30.800	0.400	-56.023	****
1611	12	90-10-53.900	0.400	-55.187	****
1611	13	90-13-45.900	0.400	-49.592	****
1611	21	90-15-27.100	0.400	-66.636	****
1611	22	90-13-24.500	0.400	-66.004	****
1611	23	90-15-48.000	0.400	-67.582	****
1611	31	90-15- 5.000	0.400	-78.539	****
1611	32	90-14-50.100	0.400	-76.235	****
1611	33	90-22- 1.500	0.400	-72.747	****
1611	1218	84-19-57.200	0.400	8594.394	****
1661	35	106-16-26.800	0.700	-179.653	****
1661	36	108- 7-17.100	0.700	-168.582	****
1661	38	112-38-55.000	0.700	-135.724	****
1661	29	109-46-33.400	0.400	-92.356	****
1661	27	104-37-56.400	0.400	-111.338	****
1661	26	101-44- 7.400	0.400	-118.575	****
1661	25	100- 5-48.900	0.400	-121.251	****
1661	24	94-21-22.800	0.400	-2514.092	****
1664	23	90-34-50.000	0.500	-115.970	****
1661	15	97-38- 4.200	0.700	-83.136	****
1661	16	98-24-54.200	0.700	-91.791	****
1661	17	100-54-52.100	0.700	-90.012	****
1661	18	102-43-54.400	0.700	-86.977	****
1661	19	106- 8-28.900	0.700	-81.057	****
1661	1632	109-13-19.200	0.400	-51.000	****
1664	1622	83-38-51.200	0.400	457.302	****
1664	1632	109-11-49.900	0.400	-27.835	
1664	1612	90- 9-57.100	0.400	102.269	****
1664	1642	88-59-36.000	0.400	-108.533	****
1664	1218	86-30-20.500	0.600	5489.123	****
1664	1652	88-22-12.000	0.600	-380.202	****
1663	1622	83-40-54.600	0.600	448.747	****
1663	1218	86-31-57.900	0.600	5482.812	****
1663	1652	88-23- 2.900	0.600	-385.104	****
1663	1642	89- 0-31.100	0.600	-112.165	****
1663	12	90-22-52.000	0.600	-82.968	****
1663	11	90-23-49.900	0.600	-82.778	****
1663	13	90-27-22.500	0.600	-74.677	****
1663	14	92-53-16.200	0.600	-54.514	
1663	15	97-37-24.400	0.600	-59.131	
1663	16	98-24-15.200	0.600	-67.444	****
1663	17	100-54-12.900	0.600	-67.366	****
1663	18	102-43-16.600	0.600	-64.429	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1663	19	106- 7-53.600	0.600	-60.067	****
1663	1632	109-12-49.100	0.600	-34.105	
1651	11	93-36-57.900	0.500	736.510	****
1651	13	93-36-23.000	0.500	731.167	****
1651	21	93- 4-44.500	0.500	620.969	****
1651	22	93- 0- 3.500	0.500	614.561	****
1651	31	92-29-20.800	0.500	515.541	****
1651	32	92-28-36.000	0.500	514.214	****
1651	33	92-33-37.200	0.500	512.544	****
1651	1612	91-34-30.500	0.500	434.479	****
1651	1218	89-43-54.600	0.500	4317.316	****
1651	1642	91-15-53.600	0.500	595.936	****
1651	1662	91-38-39.400	0.500	376.280	****
1641	18	112-28-11.900	0.300	257.765	****
1641	17	110-29-25.600	0.300	274.344	****
1641	16	107-11-20.900	0.300	301.450	****
1641	15	106- 0-57.000	0.300	324.041	****
1641	14	98- 7-40.900	0.300	363.348	****
1641	13	93-31- 6.000	0.300	316.847	****
1641	12	93-25-32.400	0.300	303.462	****
1641	11	93-23-40.900	0.300	299.050	****
1641	1622	88-40-56.400	0.300	272.100	****
1641	1662	91- 1-13.800	0.300	102.438	****
1641	1612	90-50-16.900	0.300	157.744	****
1641	1218	89- 9- 1.000	0.300	2981.352	****
1641	1652	88-50-11.900	0.300	-405.133	****
1641	1632	106- 9- 7.100	0.400	121.796	****
1641	1662	91- 1-15.000	0.400	103.638	****
1641	1612	90-50-16.200	0.400	157.044	****
1641	21	92-20-25.200	0.400	202.725	****
1641	22	92-17-23.500	0.400	205.052	****
1641	24	95-44-40.400	0.400	-1873.234	****
1641	25	100-59-10.800	0.400	221.787	****
1641	27	105-15-10.900	0.400	210.774	****
1641	28	106-49-25.000	0.400	205.488	****
1641	29	110-24-22.500	0.400	184.796	****
1641	1632	106- 9- 8.500	0.500	123.196	****
1641	39	106- 7-49.200	0.500	155.492	****
1641	38	102-52- 2.800	0.500	160.522	****
1641	37	101-38-15.200	0.500	169.347	****
1641	36	99-17-50.800	0.500	166.610	****
1641	35	98-14- 7.200	0.500	167.305	****
1641	34	94- 6-59.200	0.500	165.764	****
1641	33	91-50-45.500	0.500	161.098	****
1641	32	91-43-54.800	0.500	159.438	****
1641	31	91-43-31.400	0.500	157.997	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1641	1662	91- 1-14.800	0.500	103.438	****
1641	1612	90-50-17.400	0.500	158.244	****
1631	39	80- 5-52.100	0.600	82.642	****
1631	38	76-36-55.100	0.600	63.188	****
1631	37	75-43- 3.500	0.600	66.173	****
1631	36	74- 7-56.000	0.600	53.968	
1631	35	73-34-13.500	0.600	50.346	
1631	34	71-47-15.400	0.600	41.782	
1631	33	71- 2-23.400	0.600	32.456	
1631	24	72-37-14.200	0.300	-1287.986	****
1631	25	74-23-37.900	0.300	45.949	****
1631	27	76-37-23.800	0.300	52.352	****
1631	28	77-38-50.100	0.300	57.682	****
1631	29	81-10-17.100	0.300	68.705	****
1631	1642	73-54- 3.900	0.300	-30.309	****
1631	19	82-13-17.100	0.300	56.447	****
1631	18	78-55-49.900	0.300	49.501	****
1631	17	77-37-56.500	0.300	43.675	****
1631	16	76- 4-39.800	0.300	41.619	****
1631	15	75-39-27.000	0.300	48.993	****
1631	14	73-38-49.500	0.300	45.447	****
1631	13	72-46-59.400	0.300	30.502	****
1621	31	94-22-13.900	0.700	-291.606	****
1621	32	94-23- 7.800	0.700	-290.743	****
1621	33	94-31-48.400	0.700	-291.087	****
1621	34	97-18- 4.400	0.700	-295.333	****
1621	35	102-15-36.600	0.700	-296.783	****
1621	36	103-37-11.500	0.700	-296.225	****
1621	37	106-30-15.200	0.700	-286.521	****
1621	38	108- 3-19.900	0.700	-289.473	****
1621	1632	114- 8-41.800	0.700	-206.482	****
1621	27	102-41-24.600	0.300	-235.438	****
1621	26	100-32-14.100	0.300	-237.740	****
1621	25	99-23-53.900	0.300	-236.132	****
1621	24	95-46-13.200	0.300	-1562.811	****
1621	21	93-36-26.500	0.300	-240.219	****
1621	1632	114- 8-40.500	0.300	-207.782	****
1621	11	93- 0-39.000	0.300	-203.110	****
1621	12	92-59-52.900	0.300	-202.780	****
1621	13	93- 3-46.100	0.300	-198.292	****
1621	14	94-38-54.800	0.300	-186.445	****
1621	15	97-56-35.400	0.300	-193.103	****
1621	16	98-30-49.000	0.300	-199.711	****
1621	17	100-23-22.900	0.300	-201.480	****
1621	19	104-55-21.600	0.300	-198.696	****
1621	1632	114- 8-40.500	0.300	-207.782	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1621	1642	91-21-45.000	0.600	-197.417	****
1621	1665	96-25-46.100	0.600	-301.794	****
1621	1632	114- 8-40.400	0.600	-207.882	****
1664	1652	88-22-11.900	0.500	-380.302	****
1664	31	90-45-43.800	0.500	-164.065	****
1664	32	90-45-23.900	0.500	-161.867	****
1664	33	91- 2-35.800	0.500	-157.253	****
1664	21	90-33-42.200	0.500	-107.064	****
1664	22	90-30-28.400	0.500	-106.506	****
1664	23	90-34-50.500	0.500	-115.470	****
1664	11	90-22-23.800	0.500	-77.068	****
1664	12	90-21-26.200	0.500	-77.478	****
1664	13	90-25-55.900	0.500	-69.231	****
1664	1642	88-59-37.100	0.500	-107.433	****

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)	
166	1661	1.6120	0.1000	0.00	
165	1651	0.2760	0.1000	83.80	****
164	1641	0.2750	0.1000	52.40	****
163	1631	0.2760	0.1000	35.80	****
162	1621	0.2740	0.1000	3.30	
161	1611	0.2760	0.1000	53.70	****
166	1663	1.5800	0.1000	2.40	
162	1622	0.1390	0.1000	-3.10	

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED
161	1
1665	1
163	1
164	1
165	1

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**********     POINT 161      ONLY    1TIMES OBSERVED
**********     POINT 1665     ONLY    1TIMES OBSERVED
**********     POINT 163      ONLY    1TIMES OBSERVED
**********     POINT 164      ONLY    1TIMES OBSERVED
**********     POINT 165      ONLY    1TIMES OBSERVED
```

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	157
POINTS	1000	49
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	0
MATRIX ELEMENTS	99998	1275

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1611	11	O:	90-11-30.80	0.40		86.20	COM:	-0.3 SEC	0.0 CM	263.9680
		C:	90-11-31.07	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.27	0.37	0.71					
1611	12	O:	90-10-53.90	0.40		85.64	COM:	0.4 SEC	0.0 CM	265.8180
		C:	90-10-53.54	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.36	0.37	-0.98					
1611	13	O:	90-13-45.90	0.40		86.82	COM:	-0.1 SEC	0.0 CM	265.2351
		C:	90-13-45.98	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.08	0.37	0.21					
1611	21	O:	90-15-27.10	0.40		78.67	COM:	0.1 SEC	0.0 CM	218.2005
		C:	90-15-27.03	0.18			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.07	0.35	-0.19					
1611	22	O:	90-13-24.50	0.40		76.11	COM:	-0.6 SEC	0.0 CM	218.7650
		C:	90-13-24.92	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.42	0.35	1.21					
1611	23	O:	90-15-48.00	0.40		72.31	COM:	3.1 SEC	0.1 CM	219.1996
		C:	90-15-45.77	0.21			BND:	1.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 2.23	0.34	-6.55 **					
1611	31	O:	90-15- 5.00	0.40		71.39	COM:	-1.0 SEC	0.0 CM	177.8718
		C:	90-15- 5.74	0.21			BND:	2.0 SEC	0.0 CM	
		V=C-O:	0- 0- 0.74	0.34	2.18					
1611	32	O:	90-14-50.10	0.40		71.83	COM:	-0.4 SEC	0.0 CM	179.7677
		C:	90-14-50.36	0.21			BND:	1.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.26	0.34	0.75					
1611	33	O:	90-22- 1.50	0.40		72.89	COM:	0.4 SEC	0.0 CM	181.2592
		C:	90-22- 1.19	0.21			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.31	0.34	-0.90					
1611	1218	O:	84-19-57.20	0.40		28.41	COM:	-1.6 SEC	-0.1 CM	97.3413
		C:	84-19-57.67	0.34			BND:	3.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.47	0.21	2.18					
1661	35	O:	106-16-26.80	0.70		43.84	COM:	-1.3 SEC	0.0 CM	81.6234
		C:	106-16-27.36	0.52			BND:	4.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.56	0.46	1.20					
1661	36	O:	108- 7-17.10	0.70		47.11	COM:	-1.4 SEC	0.0 CM	84.5403
		C:	108- 7-17.75	0.51			BND:	4.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.65	0.48	1.36					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	38	O: 112-38-55.00	0.70		59.42	COM:	1.5 SEC	0.0 CM	98.1483
		C: 112-38-54.13	0.45			BND:	3.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.87	0.54	-1.62					
1661	29	O: 109-46-33.40	0.40		69.03	COM:	0.9 SEC	0.0 CM	152.6072
		C: 109-46-32.81	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.59	0.33	-1.77					
1661	27	O: 104-37-56.40	0.40		63.91	COM:	-0.3 SEC	0.0 CM	136.8699
		C: 104-37-56.59	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.19	0.32	0.59					
1661	26	O: 101-44- 7.40	0.40		35.42	COM:	1.2 SEC	0.1 CM	132.7256
		C: 101-44- 6.96	0.32			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.44	0.24	-1.85					
1661	25	O: 100- 5-48.90	0.40		59.36	COM:	-1.2 SEC	0.0 CM	131.4666
		C: 100- 5-49.61	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.71	0.31	2.31					
1661	24	O: 94-21-22.80	0.40		55.59	COM:	1.2 SEC	0.0 CM	128.4800
		C: 94-21-22.16	0.27			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.64	0.30	-2.16					
1664	23	O: 90-34-50.00	0.50		59.11	COM:	-2.1 SEC	-0.1 CM	124.4530
		C: 90-34-51.24	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O: 0- 0- 1.24	0.38	3.22 ..					
1661	15	O: 97-38- 4.20	0.70		92.11	COM:	-0.6 SEC	0.0 CM	177.8274
		C: 97-38- 4.79	0.20			BND:	3.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.59	0.67	0.87					
1661	16	O: 98-24-54.20	0.70		92.15	COM:	-0.5 SEC	0.0 CM	178.4227
		C: 98-24-54.64	0.20			BND:	3.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.44	0.67	0.66					
1661	17	O: 100-54-52.10	0.70		92.22	COM:	0.6 SEC	0.0 CM	180.0524
		C: 100-54-51.51	0.20			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.59	0.67	-0.88					
1661	18	O: 102-43-54.40	0.70		91.62	COM:	-1.0 SEC	0.0 CM	182.0846
		C: 102-43-55.36	0.20			BND:	3.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.96	0.67	1.43					
1661	19	O: 106- 8-28.90	0.70		90.12	COM:	0.6 SEC	0.0 CM	189.3149
		C: 106- 8-28.40	0.22			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.50	0.66	-0.75					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	1632	O: 109-13-19.20	0.40		81.80	COM:	-0.1 SEC	0.0 CM	219.1283
		C: 109-13-19.30	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.10	0.36	0.29					
1664	1622	O: 83-38-51.20	0.40		34.23	COM:	-1.0 SEC	0.0 CM	120.3810
		C: 83-38-51.56	0.32			BND:	2.8 SEC	0.1 CM	
		V=C-O: 0- 0- 0.36	0.23	1.54					
1664	1632	O: 109-11-49.90	0.40		80.99	COM:	1.2 SEC	0.0 CM	219.1283
		C: 109-11-48.95	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.95	0.36	-2.63 ..					
1664	1612	O: 90- 9-57.10	0.40		29.34	COM:	1.2 SEC	0.1 CM	136.8385
		C: 90- 9-56.75	0.34			BND:	3.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.35	0.22	-1.63					
1664	1642	O: 88-59-36.00	0.40		78.80	COM:	-1.1 SEC	0.0 CM	273.8546
		C: 88-59-36.84	0.18			BND:	1.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.84	0.36	2.35					
1664	1218	O: 86-30-20.50	0.60		83.32	COM:	0.7 SEC	0.0 CM	153.9486
		C: 86-30-19.89	0.25			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.61	0.55	-1.11					
1664	1652	O: 88-22-12.00	0.60		91.21	COM:	-0.3 SEC	0.0 CM	288.1171
		C: 88-22-12.24	0.18			BND:	2.6 SEC	0.0 CM	
		V=C-O: 0- 0- 0.24	0.57	0.42					
1663	1622	O: 83-40-54.60	0.60		59.99	COM:	-0.4 SEC	0.0 CM	120.3810
		C: 83-40-54.84	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.24	0.46	0.52					
1663	1218	O: 86-31-57.90	0.60		77.46	COM:	1.0 SEC	0.0 CM	153.9486
		C: 86-31-57.12	0.28			BND:	2.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.78	0.53	-1.47					
1663	1652	O: 88-23- 2.90	0.60		90.54	COM:	-1.6 SEC	0.0 CM	288.1171
		C: 88-23- 4.35	0.18			BND:	2.6 SEC	0.0 CM	
		V=C-O: 0- 0- 1.45	0.57	2.53					
1663	1642	O: 89- 0-31.10	0.60		88.68	COM:	-0.7 SEC	0.0 CM	273.8546
		C: 89- 0-31.68	0.20			BND:	2.6 SEC	0.0 CM	
		V=C-O: 0- 0- 0.58	0.57	1.03					
1663	12	O: 90-22-52.00	0.60		86.56	COM:	1.0 SEC	0.0 CM	176.2288
		C: 90-22-51.13	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.87	0.56	-1.56					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1663	11	O: 90-23-49.90	0.60		86.85	COM:	1.5 SEC	0.0 CM	175.2289
		C: 90-23-48.62	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 1.28	0.56	-2.30					
1663	13	O: 90-27-22.50	0.60		87.27	COM:	0.6 SEC	0.0 CM	174.7785
		C: 90-27-21.99	0.21			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.51	0.56	-0.91					
1663	14	O: 92-53-16.20	0.60		86.67	COM:	0.3 SEC	0.0 CM	177.2464
		C: 92-53-15.94	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.26	0.56	-0.47					
1663	15	O: 97-37-24.40	0.60		86.92	COM:	-0.8 SEC	0.0 CM	177.8274
		C: 97-37-25.13	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.73	0.56	1.31					
1663	16	O: 98-24-15.20	0.60		86.98	COM:	-0.1 SEC	0.0 CM	178.4227
		C: 98-24-15.27	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.07	0.56	0.13					
1663	17	O: 100-54-12.90	0.60		87.13	COM:	-0.2 SEC	0.0 CM	180.0524
		C: 100-54-13.07	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.17	0.56	0.30					
1663	18	O: 102-43-16.60	0.60		86.57	COM:	-1.4 SEC	0.0 CM	182.0846
		C: 102-43-17.85	0.22			BND:	2.7 SEC	0.0 CM	
		V=C-O: 0- 0- 1.25	0.56	2.24					
1663	19	O: 106- 7-53.60	0.60		84.33	COM:	0.2 SEC	0.0 CM	189.3149
		C: 106- 7-53.41	0.24			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.19	0.55	-0.34					
1663	1632	O: 109-12-49.10	0.60		90.03	COM:	-1.1 SEC	0.0 CM	219.1283
		C: 109-12-50.10	0.19			BND:	2.6 SEC	0.0 CM	
		V=C-O: 0- 0- 1.00	0.57	1.75					
1651	11	O: 93-36-57.90	0.50		74.78	COM:	0.1 SEC	0.0 CM	150.0787
		C: 93-36-57.85	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.05	0.43	-0.12					
1651	13	O: 93-36-23.00	0.50		76.26	COM:	-0.2 SEC	0.0 CM	153.3014
		C: 93-36-23.12	0.24			BND:	2.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.12	0.44	0.27					
1651	21	O: 93- 4-44.50	0.50		77.68	COM:	-0.3 SEC	0.0 CM	178.1324
		C: 93- 4-44.75	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.25	0.44	0.58					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1651	22	O:	93- 0- 3.50	0.50		75.61	COM:	-0.3 SEC	0.0 CM	180.3531
		C:	93- 0- 3.73	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.23	0.43	0.53					
1651	31	O:	92-29-20.80	0.50		84.11	COM:	-0.3 SEC	0.0 CM	215.8629
		C:	92-29-21.04	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.24	0.46	0.52					
1651	32	O:	92-28-36.00	0.50		84.20	COM:	-0.1 SEC	0.0 CM	216.8346
		C:	92-28-36.10	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.10	0.46	0.21					
1651	33	O:	92-33-37.20	0.50		84.77	COM:	0.0 SEC	0.0 CM	218.3527
		C:	92-33-37.23	0.20			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.03	0.46	0.06					
1651	1612	O:	91-34-30.50	0.50		88.64	COM:	0.4 SEC	0.0 CM	317.9903
		C:	91-34-30.12	0.17			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.38	0.47	-0.80					
1651	1218	O:	89-43-54.60	0.50		83.94	COM:	0.0 SEC	0.0 CM	225.5745
		C:	89-43-54.57	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.03	0.46	-0.06					
1651	1642	O:	91-15-53.60	0.50		56.30	COM:	0.5 SEC	0.0 CM	159.9167
		C:	91-15-53.34	0.33			BND:	2.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.26	0.38	-0.69					
1651	1662	O:	91-38-39.40	0.50		81.60	COM:	0.7 SEC	0.0 CM	288.1171
		C:	91-38-38.86	0.21			BND:	2.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.54	0.45	-1.19					
1641	18	O:	112-28-11.90	0.30		37.42	COM:	1.0 SEC	0.0 CM	111.1863
		C:	112-28-11.54	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.36	0.18	-1.99					
1641	17	O:	110-29-25.60	0.30		39.07	COM:	0.9 SEC	0.0 CM	105.8733
		C:	110-29-25.24	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.36	0.19	-1.91					
1641	16	O:	107-11-20.90	0.30		33.74	COM:	0.8 SEC	0.0 CM	100.9892
		C:	107-11-20.62	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.28	0.17	-1.63					
1641	15	O:	106- 0-57.00	0.30		32.34	COM:	0.2 SEC	0.0 CM	99.9203
		C:	106- 0-56.93	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.07	0.17	-0.43					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	14	O: 98- 7-40.90	0.30		23.78	COM:	0.3 SEC	0.0 CM	96.7689
		C: 98- 7-40.83	0.26			BND:	2.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.07	0.15	-0.49					
1641	13	O: 93-31- 6.00	0.30		36.33	COM:	-0.3 SEC	0.0 CM	101.9938
		C: 93-31- 6.10	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.10	0.18	0.55					
1641	12	O: 93-25-32.40	0.30		25.58	COM:	-1.3 SEC	0.0 CM	101.0839
		C: 93-25-32.73	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.33	0.15	2.14					
1641	11	O: 93-23-40.90	0.30		32.05	COM:	-1.0 SEC	0.0 CM	102.7202
		C: 93-23-41.22	0.25			BND:	2.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.32	0.17	1.88					
1641	1622	O: 88-40-56.40	0.30		74.36	COM:	0.9 SEC	0.0 CM	366.9911
		C: 88-40-55.72	0.15			BND:	1.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.68	0.26	-2.63 ..					
1641	1662	O: 91- 1-13.80	0.30		55.16	COM:	-1.2 SEC	-0.1 CM	273.8546
		C: 91- 1-14.43	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.63	0.22	2.85 ..					
1641	1612	O: 90-50-16.90	0.30		77.32	COM:	-0.3 SEC	0.0 CM	366.0344
		C: 90-50-17.15	0.14			BND:	1.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.25	0.26	0.94					
1641	1218	O: 89- 9- 1.00	0.30		74.49	COM:	0.2 SEC	0.0 CM	299.6594
		C: 89- 9- 0.89	0.15			BND:	1.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.11	0.26	-0.44					
1641	1652	O: 88-50-11.90	0.30		19.14	COM:	1.6 SEC	0.1 CM	159.9167
		C: 88-50-11.60	0.27			BND:	2.8 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.30	0.13	-2.31					
1641	1632	O: 106- 9- 7.10	0.40		88.13	COM:	-0.7 SEC	0.0 CM	280.5396
		C: 106- 9- 7.71	0.14			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.61	0.38	1.61					
1641	1662	O: 91- 1-15.00	0.40		74.78	COM:	0.8 SEC	0.0 CM	273.8546
		C: 91- 1-14.43	0.20			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.57	0.35	-1.64					
1641	1612	O: 90-50-16.20	0.40		87.24	COM:	-1.1 SEC	0.0 CM	366.0344
		C: 90-50-17.15	0.14			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.95	0.37	2.54					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	21	O: 92-20-25.20	0.40		67.87	COM:	-1.0 SEC	0.0 CM	151.4754
		C: 92-20-25.88	0.23			BND:	2.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.68	0.33	2.06					
1641	22	O: 92-17-23.50	0.40		59.99	COM:	0.9 SEC	0.0 CM	151.6641
		C: 92-17-22.98	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.52	0.31	-1.66					
1641	24	O: 95-44-40.40	0.40		67.94	COM:	-0.5 SEC	0.0 CM	145.4575
		C: 95-44-40.75	0.23			BND:	2.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.35	0.33	1.06					
1641	25	O: 100-59-10.80	0.40		70.15	COM:	-0.1 SEC	0.0 CM	145.5544
		C: 100-59-10.84	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.04	0.34	0.11					
1641	27	O: 105-15-10.90	0.40		73.14	COM:	0.8 SEC	0.0 CM	148.8182
		C: 105-15-10.32	0.21			BND:	1.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.58	0.34	-1.69					
1641	28	O: 106-49-25.00	0.40		58.91	COM:	0.3 SEC	0.0 CM	151.5123
		C: 106-49-24.84	0.26			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.16	0.31	-0.53					
1641	29	O: 110-24-22.50	0.40		75.48	COM:	-0.6 SEC	0.0 CM	160.5143
		C: 110-24-22.92	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.42	0.35	1.21					
1641	1632	O: 106- 9- 8.50	0.50		92.41	COM:	0.9 SEC	0.0 CM	280.5396
		C: 106- 9- 7.71	0.14			BND:	2.1 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.79	0.48	-1.65					
1641	39	O: 106- 7-49.20	0.50		65.33	COM:	0.5 SEC	0.0 CM	205.7897
		C: 106- 7-48.90	0.29			BND:	2.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.30	0.40	-0.73					
1641	38	O: 102-52- 2.80	0.50		75.59	COM:	-0.8 SEC	0.0 CM	200.4925
		C: 102-52- 3.38	0.25			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.58	0.43	1.33					
1641	37	O: 101-38-15.20	0.50		61.63	COM:	0.3 SEC	0.0 CM	199.4209
		C: 101-38-15.03	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.17	0.39	-0.43					
1641	36	O: 99-17-50.80	0.50		76.28	COM:	-0.1 SEC	0.0 CM	198.6096
		C: 99-17-50.91	0.24			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.11	0.44	0.25					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	35	O: 98-14- 7.20	0.50		76.63	COM:	-0.1 SEC	0.0 CM	198.1306
		C: 98-14- 7.24	0.24			BND:	2.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.04	0.44	0.10					
1641	34	O: 94- 6-59.20	0.50		52.83	COM:	-1.6 SEC	-0.1 CM	199.6404
		C: 94- 7- 0.04	0.34			BND:	2.8 SEC	0.1 CM	
		V=C-O: 0- 0- 0.84	0.36	2.30					
1641	33	O: 91-50-45.50	0.50		87.22	COM:	-0.8 SEC	0.0 CM	197.7150
		C: 91-50-46.24	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.74	0.47	1.58					
1641	32	O: 91-43-54.80	0.50		86.58	COM:	0.0 SEC	0.0 CM	198.0360
		C: 91-43-54.84	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.04	0.47	0.09					
1641	31	O: 91-43-31.40	0.50		86.72	COM:	0.2 SEC	0.0 CM	198.9600
		C: 91-43-31.21	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.19	0.47	-0.40					
1641	1662	O: 91- 1-14.80	0.50		83.86	COM:	0.4 SEC	0.0 CM	273.8546
		C: 91- 1-14.43	0.20			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.37	0.46	-0.80					
1641	1612	O: 90-50-17.40	0.50		91.84	COM:	0.3 SEC	0.0 CM	366.0344
		C: 90-50-17.15	0.14			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.25	0.48	-0.53					
1631	39	O: 80- 5-52.10	0.60		30.75	COM:	-0.8 SEC	0.0 CM	123.7163
		C: 80- 5-52.34	0.50			BND:	4.5 SEC	0.2 CM	
		V=C-O: 0- 0- 0.24	0.33	0.73					
1631	38	O: 76-36-55.10	0.60		70.23	COM:	0.1 SEC	0.0 CM	148.4017
		C: 76-36-55.00	0.33			BND:	3.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.10	0.50	-0.19					
1631	37	O: 75-43- 3.50	0.60		59.30	COM:	0.2 SEC	0.0 CM	157.2873
		C: 75-43- 3.36	0.38			BND:	3.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.14	0.46	-0.31					
1631	36	O: 74- 7-56.00	0.60		80.23	COM:	0.7 SEC	0.0 CM	170.9642
		C: 74- 7-55.41	0.27			BND:	2.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.59	0.54	-1.10					
1631	35	O: 73-34-13.50	0.60		82.42	COM:	0.2 SEC	0.0 CM	177.8214
		C: 73-34-13.34	0.25			BND:	2.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.16	0.54	-0.30					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1631	34	O:	71-47-15.40	0.60		73.32	COM:	1.0 SEC	0.0 CM	202.8471
		C:	71-47-14.68	0.31			BND:	2.9 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.72	0.51	-1.40					
1631	33	O:	71- 2-23.40	0.60		92.88	COM:	0.4 SEC	0.0 CM	217.5435
		C:	71- 2-22.98	0.16			BND:	2.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.42	0.58	-0.72					
1631	24	O:	72-37-14.20	0.30		75.21	COM:	-0.2 SEC	0.0 CM	212.3961
		C:	72-37-14.36	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.16	0.26	0.63					
1631	25	O:	74-23-37.90	0.30		69.45	COM:	0.9 SEC	0.0 CM	189.2196
		C:	74-23-37.28	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.62	0.25	-2.48					
1631	27	O:	76-37-23.80	0.30		62.11	COM:	0.3 SEC	0.0 CM	170.4351
		C:	76-37-23.60	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.20	0.24	-0.83					
1631	28	O:	77-38-50.10	0.30		34.57	COM:	-0.3 SEC	0.0 CM	161.1823
		C:	77-38-50.19	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.09	0.18	0.53					
1631	29	O:	81-10-17.10	0.30		36.72	COM:	-0.2 SEC	0.0 CM	137.7595
		C:	81-10-17.19	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.09	0.18	0.48					
1631	1642	O:	73-54- 3.90	0.30		69.41	COM:	0.4 SEC	0.0 CM	280.5396
		C:	73-54- 3.63	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.27	0.25	-1.08					
1631	19	O:	82-13-17.10	0.30		34.19	COM:	0.3 SEC	0.0 CM	157.2117
		C:	82-13-16.99	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.11	0.18	-0.63					
1631	18	O:	78-55-49.90	0.30		64.75	COM:	-0.1 SEC	0.0 CM	179.5347
		C:	78-55-49.95	0.18			BND:	1.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.05	0.24	0.19					
1631	17	O:	77-37-56.50	0.30		72.28	COM:	-0.6 SEC	0.0 CM	189.4740
		C:	77-37-56.90	0.16			BND:	1.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.40	0.26	1.58					
1631	16	O:	76- 4-39.80	0.30		76.60	COM:	-0.6 SEC	0.0 CM	201.1798
		C:	76- 4-40.28	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.48	0.26	1.81					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1631	15	O: 75-39-27.00	0.30		77.73	COM:	0.1 SEC	0.0 CM	205.0479
		C: 75-39-26.95	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.05	0.26	-0.20					
1631	14	O: 73-38-49.50	0.30		81.74	COM:	-0.7 SEC	0.0 CM	229.3248
		C: 73-38-50.10	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.60	0.27	2.20					
1631	13	O: 72-46-59.40	0.30		84.80	COM:	0.2 SEC	0.0 CM	241.5097
		C: 72-46-59.21	0.12			BND:	1.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.19	0.28	-0.67					
1621	31	O: 94-22-13.90	0.70		91.24	COM:	0.0 SEC	0.0 CM	190.7051
		C: 94-22-13.94	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.04	0.67	0.06					
1621	32	O: 94-23- 7.80	0.70		91.15	COM:	1.0 SEC	0.0 CM	189.9964
		C: 94-23- 6.87	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.93	0.67	-1.39					
1621	33	O: 94-31-48.40	0.70		91.37	COM:	0.2 SEC	0.0 CM	188.7576
		C: 94-31-48.23	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.17	0.67	-0.25					
1621	34	O: 97-18- 4.40	0.70		69.45	COM:	1.0 SEC	0.0 CM	179.1340
		C: 97-18- 3.71	0.39			BND:	3.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.69	0.58	-1.19					
1621	35	O: 102-15-36.60	0.70		84.48	COM:	1.2 SEC	0.0 CM	171.4563
		C: 102-15-35.60	0.28			BND:	3.1 SEC	0.0 CM	
		V=C-O: - 0- 0- 1.00	0.64	-1.55					
1621	36	O: 103-37-11.50	0.70		83.98	COM:	0.8 SEC	0.0 CM	169.6177
		C: 103-37-10.84	0.28			BND:	3.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.66	0.64	-1.03					
1621	37	O: 106-30-15.20	0.70		73.68	COM:	-0.7 SEC	0.0 CM	167.5796
		C: 106-30-15.70	0.36			BND:	3.4 SEC	0.1 CM	
		V=C-O: 0- 0- 0.50	0.60	0.84					
1621	38	O: 108- 3-19.90	0.70		83.31	COM:	-0.7 SEC	0.0 CM	166.8172
		C: 108- 3-20.46	0.29			BND:	3.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.56	0.64	0.88					
1621	1632	O: 114- 8-41.80	0.70		95.22	COM:	1.2 SEC	0.0 CM	200.4006
		C: 114- 8-40.66	0.15			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 1.14	0.68	-1.67					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1621	27	O:	102-41-24.60	0.30		74.44	COM:	-0.7 SEC	0.0 CM	218.3304
		C:	102-41-25.15	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.55	0.26	2.12					
1621	26	O:	100-32-14.10	0.30		54.05	COM:	-0.8 SEC	0.0 CM	220.4192
		C:	100-32-14.51	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.41	0.22	1.85					
1621	25	O:	99-23-53.90	0.30		74.34	COM:	0.0 SEC	0.0 CM	222.5771
		C:	99-23-53.89	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.01	0.26	-0.04					
1621	24	O:	95-46-13.20	0.30		74.66	COM:	-0.2 SEC	0.0 CM	229.7478
		C:	95-46-13.38	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.18	0.26	0.68					
1621	21	O:	93-36-26.50	0.30		72.54	COM:	0.8 SEC	0.0 CM	234.3726
		C:	93-36-25.94	0.16			BND:	1.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.56	0.26	-2.21					
1621	1632	O:	114- 8-40.50	0.30		74.00	COM:	-0.2 SEC	0.0 CM	200.4006
		C:	114- 8-40.66	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.16	0.26	0.62					
1621	11	O:	93- 0-39.00	0.30		85.09	COM:	-0.1 SEC	0.0 CM	279.0775
		C:	93- 0-39.05	0.12			BND:	1.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.05	0.28	0.18					
1621	12	O:	92-59-52.90	0.30		84.45	COM:	0.2 SEC	0.0 CM	279.4713
		C:	92-59-52.74	0.12			BND:	1.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.16	0.28	-0.56					
1621	13	O:	93- 3-46.10	0.30		86.09	COM:	0.1 SEC	0.0 CM	277.6565
		C:	93- 3-46.03	0.11			BND:	1.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.07	0.28	-0.25					
1621	14	O:	94-38-54.80	0.30		84.28	COM:	0.4 SEC	0.0 CM	275.5647
		C:	94-38-54.44	0.12			BND:	1.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.36	0.28	-1.31					
1621	15	O:	97-56-35.40	0.30		83.91	COM:	0.2 SEC	0.0 CM	267.0907
		C:	97-56-35.21	0.12			BND:	1.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.19	0.27	-0.68					
1621	16	O:	98-30-49.00	0.30		83.73	COM:	0.1 SEC	0.0 CM	266.0465
		C:	98-30-48.94	0.12			BND:	1.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.06	0.27	-0.21					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1621	17	O:	100-23-22.90	0.30		83.04	COM:	-0.4 SEC	0.0 CM	262.6075
		C:	100-23-23.25	0.12			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.35	0.27	1.29					
1621	19	O:	104-55-21.60	0.30		73.09	COM:	-0.5 SEC	0.0 CM	255.9806
		C:	104-55-21.97	0.16			BND:	1.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.37	0.26	1.45					
1621	1632	O:	114- 8-40.50	0.30		74.00	COM:	-0.2 SEC	0.0 CM	200.4006
		C:	114- 8-40.66	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.16	0.26	0.62					
1621	1642	O:	91-21-45.00	0.60		94.07	COM:	0.7 SEC	0.0 CM	366.9911
		C:	91-21-44.38	0.15			BND:	2.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.62	0.58	-1.07					
1621	1665	O:	96-25-46.10	0.60		0.00	COM:	NOT		120.3810
		C:	96-25-46.10	0.60			BND:	CONTROLLED		
		V=C-O:	0- 0- 0.00	0.00	0.00					
1621	1632	O:	114- 8-40.40	0.60		93.50	COM:	-0.3 SEC	0.0 CM	200.4006
		C:	114- 8-40.66	0.15			BND:	2.6 SEC	0.0 CM	
		V=C-O:	0- 0- 0.26	0.58	0.45					
1664	1652	O:	88-22-11.90	0.50		87.35	COM:	-0.4 SEC	0.0 CM	288.1171
		C:	88-22-12.24	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.34	0.47	0.73					
1664	31	O:	90-45-43.80	0.50		34.96	COM:	1.5 SEC	0.0 CM	78.0511
		C:	90-45-43.27	0.40			BND:	3.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.53	0.30	-1.78					
1664	32	O:	90-45-23.90	0.50		34.93	COM:	0.1 SEC	0.0 CM	78.2201
		C:	90-45-23.87	0.40			BND:	3.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.03	0.30	-0.10					
1664	33	O:	91- 2-35.80	0.50		36.57	COM:	-0.1 SEC	0.0 CM	77.8681
		C:	91- 2-35.83	0.40			BND:	3.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.03	0.30	0.11					
1664	21	O:	90-33-42.20	0.50		67.96	COM:	0.2 SEC	0.0 CM	126.2274
		C:	90-33-42.04	0.28			BND:	2.5 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.16	0.41	-0.39					
1664	22	O:	90-30-28.40	0.50		61.96	COM:	-0.2 SEC	0.0 CM	125.2612
		C:	90-30-28.52	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.12	0.39	0.32					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1664	23	O:	90-34-50.50	0.50		59.11	COM:	-1.2 SEC	0.0 CM	124.4530
		C:	90-34-51.24	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.74	0.38	1.92					
1664	11	O:	90-22-23.80	0.50		85.94	COM:	1.1 SEC	0.0 CM	175.2289
		C:	90-22-22.88	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.92	0.46	-1.98					
1664	12	O:	90-21-26.20	0.50		85.08	COM:	0.4 SEC	0.0 CM	176.2288
		C:	90-21-25.88	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.32	0.46	-0.69					
1664	13	O:	90-25-55.90	0.50		86.62	COM:	-0.2 SEC	0.0 CM	174.7785
		C:	90-25-56.04	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.14	0.47	0.29					
1664	1642	O:	88-59-37.10	0.50		86.43	COM:	0.3 SEC	0.0 CM	273.8546
		C:	88-59-36.84	0.18			BND:	2.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.26	0.46	-0.57					

4.7 ANALYSIS OF ELEVATION DIFFERENCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	1661	O:	1.61200	0.10		49.09	COM:	-0.3 CM	-0.1 CM	0.0000
		C:	1.61340	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00140	0.07	2.00					
165	1651	O:	0.27600	0.10		0.00	COM:	NOT		0.0000
		C:	0.27600	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
164	1641	O:	0.27500	0.10		0.00	COM:	NOT		0.0000
		C:	0.27500	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
163	1631	O:	0.27600	0.10		0.00	COM:	NOT		0.0000
		C:	0.27600	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
162	1621	O:	0.27400	0.10		48.45	COM:	0.1 CM	0.1 CM	0.0000
		C:	0.27331	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00069	0.07	-1.00					
161	1611	O:	0.27600	0.10		0.00	COM:	NOT		0.0000
		C:	0.27600	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
166	1663	O:	1.58000	0.10		49.09	COM:	0.3 CM	0.1 CM	0.0000
		C:	1.57860	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00140	0.07	-2.00					
162	1622	O:	0.13900	0.10		48.45	COM:	-0.1 CM	-0.1 CM	0.0000
		C:	0.13969	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00069	0.07	1.00					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1193	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.6799	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3663		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
12	FREE	EAST.:	9979.0464	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.9304	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4085		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1218	FREE	EAST.:	9846.9491	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10016.2071	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1010.9078		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
13	FREE	EAST.:	9980.7175	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.6636	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.1886		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
14	FREE	EAST.:	9995.5530	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10177.1459	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.6391		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
15	FREE	EAST.:	10022.2504	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10176.3908	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7781		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
16	FREE	EAST.:	10026.6310	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10176.3859	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	975.2194		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
161	FREE	EAST.:	9884.6184	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4499	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.9715		ELEV. STD. DEV.:	0.17 CM			CORR.:	0.0000
1611	FREE	EAST.:	9884.6184	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4499	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.2475		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1612	FREE	EAST.:	9884.6184	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4499	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.1107		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
162	FREE	EAST.:	10087.6890	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4406	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.7683		ELEV. STD. DEV.:	0.14 CM			CORR.:	0.0000
1621	FREE	EAST.:	10087.6890	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4406	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1015.0416		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
1622	FREE	EAST.:	10087.6890	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4406	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.9080		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
163	FREE	EAST.:	10203.6843	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8588	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.0720		ELEV. STD. DEV.:	0.17 CM			CORR.:	0.0000
1631	FREE	EAST.:	10203.6843	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8588	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.3480		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1632	FREE	EAST.:	10203.6843	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8588	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.2128		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
164	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8108	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.1842		ELEV. STD. DEV.:	0.17 CM			CORR.:	0.0000
1641	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8108	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.4592		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1642	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8108	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.3201		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3671	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7532	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.5737		ELEV. STD. DEV.:	0.17 CM			CORR.:	0.0000
1651	FREE	EAST.:	9843.3671	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7532	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.8497		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1652	FREE	EAST.:	9843.3671	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7532	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.7080		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
166	FIXED	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
1661	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.6134		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
1662	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.5836		ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000
1663	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.5786		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1664	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.5058		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1665	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.4766		ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.6020	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10175.6079	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	966.8957		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
18	FREE	EAST.:	10050.7166	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.8460	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.4734		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
19	FREE	EAST.:	10076.4306	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.1735	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.8247		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
21	FREE	EAST.:	9977.1006	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0821	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2690		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
22	FREE	EAST.:	9979.5709	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10123.5340	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3960		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
23	FREE	EAST.:	9981.5881	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10123.0341	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2446		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
24	FREE	EAST.:	9996.6754	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10128.3922	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	991.8271		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
25	FREE	EAST.:	10020.8923	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.7582	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	978.2033		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
26	FREE	EAST.:	10028.1583	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.6686	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	974.0429		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
27	FREE	EAST.:	10040.6848	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.6512	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.8797		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
28	FREE	EAST.:	10050.4805	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.9420	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.6480		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
29	FREE	EAST.:	10075.9150	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10132.3631	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.7455		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
31	FREE	EAST.:	9981.3302	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10075.7322	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4679		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
32	FREE	EAST.:	9983.6958	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.4502	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4730		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
33	FREE	EAST.:	9986.1828	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.5818	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0880		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
34	FREE	EAST.:	10000.9474	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10074.1725	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.0922		ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000
35	FREE	EAST.:	10025.8970	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.3750	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7852		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
36	FREE	EAST.:	10032.7455	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.9130	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	973.9464		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
37	FREE	EAST.:	10046.4002	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10079.8541	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.3898		ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000
38	FREE	EAST.:	10055.2828	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10081.0799	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.6615		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
39	FREE	EAST.:	10080.0130 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10084.1971 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.9454	ELEV. STD. DEV.:	0.11 CM			CORR.:	0.0000

5.2 ESTIMATED EDM QUANTITIES REPORT

FACTOR	ESTIMATED VALUE	STANDARD DEVIATION
ADDITIVE CONSTANT	NOT ESTIMATED	
SCALE OF DISTANCES	NOT ESTIMATED	
AMPLITUDE OF CYCLIC	NOT ESTIMATED	
PHASE OF CYCLIC	NOT ESTIMATED	
REFRACTION COEFFICIENT	0.41630	+/- 0.03060

CORRELATION COEFFICIENT MATRIX OF ESTIMATED EDM QUANTITIES:

ADDITIVE CONSTANT	0.000000	0.000000	0.000000	0.000000	0.000000
SCALE OF DISTANCES		0.000000	0.000000	0.000000	0.000000
AMPLITUDE OF CYCLIC			0.000000	0.000000	0.000000
PHASE OF CYCLIC				0.000000	0.000000
REFRACTION COEFFICIENT					1.000000

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1611	LTH:	0.0000 M	0.00 CM	0.00 CM	0.00 CM	0.00 CM	0.2760	0.17	HOR.:
		AZI:	315- 0- 0	0- 0- 0	90- 0- 0					VER.: 1 / 82

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	0	0.000000D+00	0.000000D+00	1.00000
AZIMUTHS	0	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	149	0.200982D+03	0.106049D+03	1.37665
HEIGHT DIFFERENCE	8	0.488249D+01	0.195075D+01	1.58205
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	157	0.205865D+03	108	1.38064

STATIONS:		
	FIXED	1
	FREE	48
	WEIGHTED	0
	TOTAL	49

CONVERGENCE:		
	ITERATIONS USED	4
	TOLERANCE	0.000100
	COMPUTATION TIME	25.328 SEC

APPENDIX II I

Vertical Adjustment:

Epoch 5

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 14:59:58 DATE: 30-JUL-87

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*                                                                                   *
*  BSC GROUP - BALL MOUNTAIN DAM - DEFORMATION ANALYSIS - PROJECT 1-1654.00 EPOCH 5 *
*                                                                                   *
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PROJECT INFORMATION:

VERTICAL ANALYSIS FOR JULY 1987
DATABASE 11654005Z.DBS
1165400Z

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

OPTIONS IN EFFECT

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.001000
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	2.00000 SEC
AZIMUTHS	2.00000 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.50000 CM
VARIABLE PART OF EDM MEASUREMENT	5.00000 PPM
ZENITH DISTANCE	10.00000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	2.00000 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6380.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT ..... SOLVING FOR

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES					
	EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.1169	FIXED	10173.6762	FIXED	1000.2730	
12	9979.0443	FIXED	10174.9242	FIXED	1000.3150	
1218	9846.9552	FIXED	10016.2046	FIXED	1015.0000	
13	9980.7142	FIXED	10173.6602	FIXED	1000.1030	
14	9995.5536	FIXED	10177.1419	FIXED	992.5700	
15	10022.2509	FIXED	10176.3886	FIXED	977.7050	
16	10026.6319	FIXED	10176.3820	FIXED	975.1380	
161	9884.6187	FIXED	9926.4500	FIXED	1001.4850	
1611	9884.6187	FIXED	9926.4500	FIXED	1001.2240	
1612	9884.6187	FIXED	9926.4500	FIXED	1001.1510	
162	10087.6879	FIXED	9917.4328	FIXED	1014.9810	
1621	10087.6879	FIXED	9917.4328	FIXED	1015.2220	
1622	10087.6879	FIXED	9917.4328	FIXED	1015.1510	
163	10203.6849	FIXED	10080.8533	FIXED	925.3040	
1631	10203.6849	FIXED	10080.8533	FIXED	925.2220	
1632	10203.6849	FIXED	10080.8533	FIXED	925.1520	
164	10000.0376	FIXED	10273.8111	FIXED	1006.4650	
1641	10000.0376	FIXED	10273.8111	FIXED	1006.2160	
1642	10000.0376	FIXED	10273.8111	FIXED	1006.1510	
165	9843.3657	FIXED	10241.7499	FIXED	1009.7800	
1651	9843.3657	FIXED	10241.7499	FIXED	1009.2180	
1652	9843.3657	FIXED	10241.7499	FIXED	1009.1510	
1661	10000.0376	FIXED	9999.9562	FIXED	1001.6120	
1662	10000.0376	FIXED	9999.9562	FIXED	1001.4790	
1663	10000.0376	FIXED	9999.9562	FIXED	1001.5560	
17	10039.6043	FIXED	10175.6026	FIXED	966.8130	
18	10050.7177	FIXED	10174.8430	FIXED	960.3930	
21	9977.0976	FIXED	10124.0804·	FIXED	1000.1760	
22	9979.5682	FIXED	10123.5300	FIXED	1000.3040	
23	9981.5855	FIXED	10124.0297	FIXED	1000.1480	
24	9996.6738	FIXED	10128.3879··	FIXED	990.2490	
25	10020.8926	FIXED	10129.7556·	FIXED	978.1230	
26	10028.1573	FIXED	10129.6697·	FIXED	973.9620	
27	10040.6851	FIXED	10130.6474	FIXED	965.8000	
28	10050.4813	FIXED	10130.9382	FIXED	960.5700	
29	10075.9167	FIXED	10132.3594	FIXED	946.6670	
31	9981.3276	FIXED	10075.7314	FIXED	1000.3780	
32	9983.6936	FIXED	10076.4463·	FIXED	1000.3840	
33	9986.1802	FIXED	10076.5781	FIXED	1000.0010	
34	10000.9452	FIXED	10074.1698	FIXED	992.0120	
35	10025.8974	FIXED	10077.3707	FIXED	977.7070	
36	10032.7463	FIXED	10077.9098	FIXED	973.8690	
37	10046.4007	FIXED	10079.8497	FIXED	965.3180	
38	10055.2827	FIXED	10081.0759	FIXED	960.5840	
39	10080.0106	FIXED	10084.1929	FIXED	946.8710	

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO DIRECTION OBSERVATIONS

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO AZIMUTH OBSERVATIONS

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HORIZONTAL DISTANCE OBSERVATIONS

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1611	11	90-11-31.500	0.400	-55.334	****
1611	12	90-10-53.600	0.400	-55.503	****
1611	13	90-13-46.600	0.400	-48.906	****
1611	21	90-15-28.200	0.400	-65.549	****
1611	22	90-13-25.800	0.400	-64.723	****
1611	23	90-15-52.700	0.400	-58.790	****
1611	31	90-15- 7.100	0.400	-76.451	****
1611	32	90-14-52.200	0.400	-74.159	****
1611	33	90-22- 3.300	0.400	-70.983	****
1611	1218	84-19-42.100	0.400	8580.659	****
1611	1663	89-54-22.300	0.400	160.819	****
1661	32	90-53-47.800	0.700	-11.383	
1661	33	91-10-59.500	0.700	-8.539	
1661	34	97-22-23.600	0.700	10.203	
1661	1622	83-44-10.800	0.700	549.333	****
1661	1652	88-24-27.800	0.900	-340.228	****
1661	29	109-48-13.600	0.900	6.826	
1661	28	106-18- 7.000	0.900	7.808	
1661	27	104-39-54.700	0.900	5.656	
1661	26	101-46-12.100	0.900	6.394	
1661	25	100- 7-55.700	0.900	4.866	
1661	24	94-23-34.100	0.900	-2383.391	****
1661	21	90-38-51.500	0.900	-16.725	
1661	1622	83-44-11.200	0.900	549.733	****
1661	1652	88-24-27.000	0.800	-341.028	****
1661	11	90-26- 6.100	0.800	-12.522	
1661	13	90-29-38.200	0.800	-5.090	
1661	14	92-55-30.700	0.800	14.749	
1661	15	97-39-38.100	0.800	10.440	
1661	16	98-26-28.000	0.800	1.385	
1661	17	100-56-24.000	0.800	0.893	
1661	18	102-45-25.300	0.800	3.296	
1661	1622	83-44-10.600	0.800	549.133	****
1661	1622	83-44-12.300	0.700	550.833	****
1661	1642	89- 1-58.200	0.400	-67.234	****
1651	1642	91-15-53.500	1.700	595.888	****
1651	11	93-36-58.700	1.700	737.253	****
1651	12	93-34-20.600	1.700	730.557	****
1651	21	93- 4-45.100	1.700	621.438	****
1651	22	93- 0- 3.100	1.700	614.133	****
1651	23	93- 1-54.200	1.700	615.855	****
1651	31	92-29-20.600	1.700	515.237	****
1651	32	92-28-36.300	1.700	514.512	****
1651	33	92-33-36.700	1.700	512.025	****
1651	1612	91-34-28.600	1.700	432.529	****
1651	1218	89-43-45.700	1.700	4308.433	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1651	1622	89-17-13.700	1.700	441.629	****
1651	1663	91-39-56.200	1.700	508.128	****
1641	18	112-28-11.500	0.300	259.612	****
1641	17	110-29-25.200	0.300	277.799	****
1641	16	107-11-21.500	0.300	304.513	****
1641	15	106- 0-56.200	0.300	324.629	****
1641	14	98- 7-40.700	0.300	364.406	****
1641	13	93-31- 6.300	0.300	317.662	****
1641	12	93-25-34.200	0.300	306.069	****
1641	11	93-23-42.100	0.300	300.764	****
1641	1218	89- 8-54.100	0.500	2974.467	****
1641	1622	88-40-54.000	0.500	269.597	****
1641	1663	91- 2-36.200	0.500	242.821	****
1641	21	92-20-26.200	0.400	203.857	****
1641	22	92-17-24.000	0.400	205.798	****
1641	23	92-21-44.300	0.400	213.063	****
1641	24	95-44-40.700	0.400	-1872.220	****
1641	25	100-59-11.300	0.400	223.056	****
1641	26	102-26-55.100	0.400	219.883	****
1641	27	105-15- 9.800	0.400	211.085	****
1641	28	106-49-24.100	0.400	206.143	****
1641	29	110-24-23.100	0.400	187.210	****
1641	1218	89- 8-54.200	0.400	2974.567	****
1641	39	106- 7-45.600	0.400	152.750	****
1641	38	102-52- 0.700	0.400	159.337	****
1641	37	101-38-13.200	0.400	168.302	****
1641	36	99-17-48.800	0.400	165.201	****
1641	35	98-14- 5.500	0.400	166.282	****
1641	34	94- 6-58.800	0.400	165.584	****
1641	1612	90-50-18.000	0.100	158.847	****
1631	1662	70-48-51.200	0.600	5.274	
1631	1642	73-54- 5.000	0.600	-30.075	
1631	39	80- 5-55.300	0.300	84.984	****
1631	38	76-36-57.700	0.300	65.568	****
1631	37	75-43- 5.800	0.300	68.445	****
1631	36	74- 7-57.700	0.300	55.745	****
1631	35	73-34-14.600	0.300	51.391	****
1631	34	71-47-17.000	0.300	42.566	****
1631	33	71- 2-25.600	0.300	33.734	****
1631	23	71-41-16.300	0.700	34.106	
1631	24	72-37-17.500	0.700	-1285.341	****
1631	25	74-23-41.300	0.700	49.056	
1631	26	75- 2-16.600	0.700	52.161	
1631	27	76-37-28.500	0.700	56.839	
1631	28	77-38-54.700	0.700	62.193	
1631	29	81-10-23.800	0.700	75.485	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1631	1642	73-54- 5.800	0.700	-29.275	
1631	1622	65-55-15.200	0.700	315.977	****
1631	18	78-55-52.500	0.700	51.911	
1631	17	77-37-59.800	0.700	47.289	
1631	16	76- 4-43.700	0.700	45.401	
1631	15	75-39-30.300	0.700	51.901	
1631	14	73-38-52.700	0.700	48.495	
1631	13	72-47- 2.200	0.700	32.238	
1631	1622	65-55-15.200	0.700	315.977	****
1621	1652	90-45-14.100	0.400	-375.336	****
1621	31	94-22-18.200	0.400	-286.749	****
1621	32	94-23-11.600	0.400	-286.616	****
1621	33	94-31-52.300	0.400	-286.813	****
1621	34	97-18- 7.800	0.400	-291.200	****
1621	35	102-15-39.000	0.400	-293.698	****
1621	36	103-37-14.000	0.400	-292.678	****
1621	37	106-30-18.700	0.400	-282.044	****
1621	38	108- 3-23.500	0.400	-284.580	****
1621	1632	114- 8-41.100	0.400	-206.081	****
1621	1652	90-45-14.700	0.200	-374.736	****
1621	27	102-41-28.000	0.200	-231.304	****
1621	25	99-23-56.200	0.200	-233.149	****
1621	24	95-46-16.100	0.200	-1559.581	****
1621	23	93-38-57.600	0.200	-234.375	****
1621	22	93-36- 8.000	0.200	-238.465	****
1621	1632	114- 8-41.200	0.200	-205.981	****
1621	1652	90-45-14.200	0.300	-375.236	****
1621	12	92-59-55.700	0.300	-199.906	****
1621	14	94-38-56.500	0.300	-184.560	****
1621	15	97-56-37.000	0.300	-190.966	****
1621	16	98-30-51.000	0.300	-197.329	****
1621	18	101-51- 7.500	0.300	-197.075	****
1621	1632	114- 8-41.000	0.300	-206.181	****
1621	1652	90-45-15.100	0.300	-374.336	****
1621	1642	91-21-45.700	0.300	-196.610	****
1621	1662	96-22-24.700	0.300	-502.315	****
1621	1632	114- 8-41.500	0.300	-205.681	****

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)	
166	1662	1.6015	0.1000	12.25	****
166	1663	1.4750	0.1000	-8.10	
165	1651	0.2745	0.1000	83.65	****
164	1641	0.2740	0.1000	52.30	****
161	1611	0.2775	0.1000	53.85	****
163	1631	0.2785	0.1000	36.05	****
162	1621	0.2765	0.1000	3.55	
161	1612	0.1381	0.1000	47.21	****
162	1622	0.1369	0.1000	-3.31	
163	1632	0.1408	0.1000	29.28	****
164	1642	0.1323	0.1000	44.63	****
165	1652	0.1330	0.1000	76.20	****

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED

ALL STATIONS ARE INVOLVED IN AT LEAST TWO OBSERVATIONS

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	141
POINTS	1000	46
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	0
MATRIX ELEMENTS	99998	1128

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1611	11	O: 90-11-31.50	0.40		82.44	COM:	0.2 SEC	0.0 CM	263.9635
		C: 90-11-31.36	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.14	0.36	-0.39					
1611	12	O: 90-10-53.60	0.40		83.53	COM:	-0.6 SEC	0.0 CM	265.8113
		C: 90-10-54.14	0.16			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.54	0.37	1.48					
1611	13	O: 90-13-46.60	0.40		82.70	COM:	0.7 SEC	0.0 CM	265.2305
		C: 90-13-46.00	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.60	0.36	-1.66					
1611	21	O: 90-15-28.20	0.40		66.60	COM:	0.5 SEC	0.0 CM	218.1974
		C: 90-15-27.89	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.31	0.33	-0.94					
1611	22	O: 90-13-25.80	0.40		75.98	COM:	-0.1 SEC	0.0 CM	218.7600
		C: 90-13-25.91	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.11	0.35	0.33					
1611	23	O: 90-15-52.70	0.40		76.73	COM:	0.8 SEC	0.0 CM	220.0916
		C: 90-15-52.07	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.63	0.35	-1.81					
1611	31	O: 90-15- 7.10	0.40		42.53	COM:	-0.7 SEC	0.0 CM	177.8695
		C: 90-15- 7.42	0.30			BND:	2.5 SEC	0.1 CM	
		V=C-O: 0- 0- 0.32	0.26	1.21					
1611	32	O: 90-14-52.20	0.40		61.55	COM:	-0.8 SEC	0.0 CM	179.7630
		C: 90-14-52.68	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.48	0.31	1.53					
1611	33	O: 90-22- 3.30	0.40		66.75	COM:	0.7 SEC	0.0 CM	181.2545
		C: 90-22- 2.80	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.50	0.33	-1.53					
1611	1218	O: 84-19-42.10	0.40		11.38	COM:	-1.1 SEC	0.0 CM	97.3367
		C: 84-19-42.22	0.38			BND:	4.9 SEC	0.2 CM	
		V=C-O: 0- 0- 0.12	0.13	0.89					
1611	1663	O: 89-54-22.30	0.40		15.57	COM:	-0.3 SEC	0.0 CM	136.8382
		C: 89-54-22.34	0.37			BND:	4.2 SEC	0.2 CM	
		V=C-O: 0- 0- 0.04	0.16	0.27					
1661	32	O: 90-53-47.80	0.70		44.78	COM:	1.6 SEC	0.0 CM	78.2168
		C: 90-53-47.09	0.52			BND:	4.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.71	0.47	-1.52					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	33	O:	91-10-59.50	0.70		52.51	COM:	-0.3 SEC	0.0 CM	77.8649
		C:	91-10-59.66	0.48			BND:	4.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.16	0.51	0.31					
1661	34	O:	97-22-23.60	0.70		51.24	COM:	2.2 SEC	0.0 CM	74.2191
		C:	97-22-22.47	0.49			BND:	4.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.13	0.50	-2.25					
1661	1622	O:	83-44-10.80	0.70		75.65	COM:	-0.8 SEC	0.0 CM	120.3856
		C:	83-44-11.41	0.35			BND:	3.3 SEC	0.0 CM	
		V=C-O:	0- 0- 0.61	0.61	1.01					
1661	1652	O:	88-24-27.80	0.90		94.54	COM:	-0.6 SEC	0.0 CM	288.1150
		C:	88-24-28.33	0.21			BND:	3.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.53	0.88	0.61					
1661	29	O:	109-48-13.60	0.90		85.03	COM:	-0.1 SEC	0.0 CM	152.6049
		C:	109-48-13.72	0.35			BND:	4.0 SEC	0.0 CM	
		V=C-O:	0- 0- 0.12	0.83	0.14					
1661	28	O:	106-18- 7.00	0.90		82.10	COM:	0.5 SEC	0.0 CM	140.3597
		C:	106-18- 6.55	0.38			BND:	4.1 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.45	0.82	-0.55					
1661	27	O:	104-39-54.70	0.90		89.49	COM:	0.5 SEC	0.0 CM	136.8664
		C:	104-39-54.29	0.29			BND:	3.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.41	0.85	-0.48					
1661	26	O:	101-46-12.10	0.90		79.81	COM:	0.0 SEC	0.0 CM	132.7264
		C:	101-46-12.11	0.40			BND:	4.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.01	0.80	0.01					
1661	25	O:	100- 7-55.70	0.90		88.16	COM:	0.5 SEC	0.0 CM	131.4641
		C:	100- 7-55.30	0.31			BND:	4.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.40	0.85	-0.47					
1661	24	O:	94-23-34.10	0.90		87.01	COM:	0.4 SEC	0.0 CM	128.4757
		C:	94-23-33.75	0.32			BND:	4.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.35	0.84	-0.41					
1661	21	O:	90-38-51.50	0.90		80.02	COM:	-0.9 SEC	0.0 CM	126.2262
		C:	90-38-52.24	0.40			BND:	4.2 SEC	0.1 CM	
		V=C-O:	0- 0- 0.74	0.81	0.92					
1661	1622	O:	83-44-11.20	0.90		85.27	COM:	-0.3 SEC	0.0 CM	120.3856
		C:	83-44-11.41	0.35			BND:	4.0 SEC	0.0 CM	
		V=C-O:	0- 0- 0.21	0.83	0.26					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	1652	O:	88-24-27.00	0.80		93.10	COM:	-1.4 SEC	0.0 CM	288.1150
		C:	88-24-28.33	0.21			BND:	3.4 SEC	0.0 CM	
		V=C-O:	0- 0- 1.33	0.77	1.72					
1661	11	O:	90-26- 6.10	0.80		91.74	COM:	0.2 SEC	0.0 CM	175.2256
		C:	90-26- 5.96	0.23			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.14	0.77	-0.18					
1661	13	O:	90-29-38.20	0.80		91.83	COM:	-1.2 SEC	0.0 CM	174.7755
		C:	90-29-39.29	0.23			BND:	3.4 SEC	0.0 CM	
		V=C-O:	0- 0- 1.09	0.77	1.43					
1661	14	O:	92-55-30.70	0.80		92.45	COM:	-0.7 SEC	0.0 CM	177.2424
		C:	92-55-31.34	0.22			BND:	3.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.64	0.77	0.83					
1661	15	O:	97-39-38.10	0.80		92.30	COM:	0.1 SEC	0.0 CM	177.8253
		C:	97-39-38.00	0.22			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.10	0.77	-0.13					
1661	16	O:	98-26-28.00	0.80		92.29	COM:	-0.9 SEC	0.0 CM	178.4189
		C:	98-26-28.84	0.22			BND:	3.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.84	0.77	1.09					
1661	17	O:	100-56-24.00	0.80		91.14	COM:	-0.5 SEC	0.0 CM	180.0477
		C:	100-56-24.44	0.24			BND:	3.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.44	0.76	0.58					
1661	18	O:	102-45-25.30	0.80		92.14	COM:	0.7 SEC	0.0 CM	182.0820
		C:	102-45-24.66	0.22			BND:	3.4 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.64	0.77	-0.83					
1661	1622	O:	83-44-10.60	0.80		81.36	COM:	-1.0 SEC	0.0 CM	120.3856
		C:	83-44-11.41	0.35			BND:	3.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.81	0.72	1.13					
1661	1622	O:	83-44-12.30	0.70		75.65	COM:	1.2 SEC	0.0 CM	120.3856
		C:	83-44-11.41	0.35			BND:	3.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.89	0.61	-1.46					
1661	1642	O:	89- 1-58.20	0.40		62.97	COM:	-1.0 SEC	0.0 CM	273.8549
		C:	89- 1-58.83	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O:	0- 0- 0.63	0.32	1.97					
1651	1642	O:	91-15-53.50	1.70		83.83	COM:	0.6 SEC	0.0 CM	159.9187
		C:	91-15-53.01	0.68			BND:	7.7 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.49	1.56	-0.32					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1651	11	O:	93-36-58.70	1.70		86.54	COM:	1.4 SEC	0.0 CM	150.0780
		C:	93-36-57.45	0.62			BND:	7.5 SEC	0.1 CM	
		V=C-O:	- 0- 0- 1.25	1.58	-0.79					
1651	12	O:	93-34-20.60	1.70		86.86	COM:	-0.1 SEC	0.0 CM	151.2427
		C:	93-34-20.70	0.62			BND:	7.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.10	1.58	0.07					
1651	21	O:	93- 4-45.10	1.70		89.34	COM:	1.0 SEC	0.0 CM	178.1301
		C:	93- 4-44.20	0.56			BND:	7.4 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.90	1.61	-0.56					
1651	22	O:	93- 0- 3.10	1.70		90.37	COM:	-0.1 SEC	0.0 CM	180.3526
		C:	93- 0- 3.22	0.53			BND:	7.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.12	1.62	0.07					
1651	23	O:	93- 1-54.20	1.70		90.53	COM:	-0.1 SEC	0.0 CM	181.5565
		C:	93- 1-54.29	0.52			BND:	7.4 SEC	0.1 CM	
		V=C-O:	0- 0- 0.09	1.62	0.06					
1651	31	O:	92-29-20.60	1.70		91.97	COM:	0.3 SEC	0.0 CM	215.8602
		C:	92-29-20.34	0.48			BND:	7.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.26	1.63	-0.16					
1651	32	O:	92-28-36.30	1.70		92.87	COM:	0.5 SEC	0.0 CM	216.8345
		C:	92-28-35.84	0.45			BND:	7.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.46	1.64	-0.28					
1651	33	O:	92-33-36.70	1.70		93.22	COM:	0.3 SEC	0.0 CM	218.3522
		C:	92-33-36.40	0.44			BND:	7.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.30	1.64	-0.18					
1651	1612	O:	91-34-28.60	1.70		96.71	COM:	-2.6 SEC	0.0 CM	317.9872
		C:	91-34-31.16	0.31			BND:	7.1 SEC	0.0 CM	
		V=C-O:	0- 0- 2.56	1.67	1.53					
1651	1218	O:	89-43-45.70	1.70		93.18	COM:	0.2 SEC	0.0 CM	225.5739
		C:	89-43-45.56	0.44			BND:	7.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.14	1.64	-0.09					
1651	1622	O:	89-17-13.70	1.70		97.07	COM:	2.0 SEC	0.0 CM	406.0479
		C:	89-17-11.72	0.29			BND:	7.1 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.98	1.67	-1.18					
1651	1663	O:	91-39-56.20	1.70		95.08	COM:	0.3 SEC	0.0 CM	288.1150
		C:	91-39-55.91	0.38			BND:	7.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.29	1.66	-0.18					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	18	O: 112-28-11.50	0.30		25.78	COM:	1.4 SEC	0.1 CM	111.1897
		C: 112-28-11.14	0.26			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.36	0.15	-2.35					
1641	17	O: 110-29-25.20	0.30		10.74	COM:	1.4 SEC	0.1 CM	105.8793
		C: 110-29-25.05	0.28			BND:	3.8 SEC	0.2 CM	
		V=C-O: - 0- 0- 0.15	0.10	-1.55					
1641	16	O: 107-11-21.50	0.30		19.18	COM:	1.7 SEC	0.1 CM	100.9935
		C: 107-11-21.18	0.27			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.32	0.13	-2.45					
1641	15	O: 106- 0-56.20	0.30		18.35	COM:	-0.9 SEC	0.0 CM	99.9228
		C: 106- 0-56.37	0.27			BND:	2.9 SEC	0.1 CM	
		V=C-O: 0- 0- 0.17	0.13	1.28					
1641	14	O: 98- 7-40.70	0.30		14.88	COM:	-0.4 SEC	0.0 CM	96.7731
		C: 98- 7-40.76	0.28			BND:	3.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.06	0.12	0.50					
1641	13	O: 93-31- 6.30	0.30		12.26	COM:	-0.7 SEC	0.0 CM	101.9980
		C: 93-31- 6.39	0.28			BND:	3.5 SEC	0.2 CM	
		V=C-O: 0- 0- 0.09	0.11	0.86					
1641	12	O: 93-25-34.20	0.30		15.93	COM:	-0.4 SEC	0.0 CM	101.0907
		C: 93-25-34.27	0.28			BND:	3.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.07	0.12	0.58					
1641	11	O: 93-23-42.10	0.30		11.47	COM:	-0.6 SEC	0.0 CM	102.7247
		C: 93-23-42.17	0.28			BND:	3.7 SEC	0.2 CM	
		V=C-O: 0- 0- 0.07	0.10	0.69					
1641	1218	O: 89- 8-54.10	0.50		85.27	COM:	0.2 SEC	0.0 CM	299.6587
		C: 89- 8-53.94	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.16	0.46	-0.34					
1641	1622	O: 88-40-54.00	0.50		86.46	COM:	0.4 SEC	0.0 CM	366.9987
		C: 88-40-53.64	0.18			BND:	2.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.36	0.46	-0.78					
1641	1663	O: 91- 2-36.20	0.50		79.04	COM:	0.0 SEC	0.0 CM	273.8549
		C: 91- 2-36.22	0.23			BND:	2.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.02	0.44	0.05					
1641	21	O: 92-20-26.20	0.40		41.54	COM:	-0.2 SEC	0.0 CM	151.4778
		C: 92-20-26.28	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.08	0.26	0.31					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	22	O: 92-17-24.00	0.40		64.21	COM:	0.8 SEC	0.0 CM	151.6687
		C: 92-17-23.46	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.54	0.32	-1.68					
1641	23	O: 92-21-44.30	0.40		65.17	COM:	-0.4 SEC	0.0 CM	150.9137
		C: 92-21-44.53	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O: 0- 0- 0.23	0.32	0.73					
1641	24	O: 95-44-40.70	0.40		62.00	COM:	0.1 SEC	0.0 CM	145.4621
		C: 95-44-40.61	0.25			BND:	2.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.09	0.31	-0.28					
1641	25	O: 100-59-11.30	0.40		63.94	COM:	0.9 SEC	0.0 CM	145.5573
		C: 100-59-10.71	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.59	0.32	-1.85					
1641	26	O: 102-26-55.10	0.40		29.76	COM:	-0.4 SEC	0.0 CM	146.8586
		C: 102-26-55.21	0.34			BND:	3.0 SEC	0.2 CM	
		V=C-O: 0- 0- 0.11	0.22	0.51					
1641	27	O: 105-15- 9.80	0.40		66.58	COM:	-0.2 SEC	0.0 CM	148.8223
		C: 105-15- 9.92	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O: 0- 0- 0.12	0.33	0.37					
1641	28	O: 106-49-24.10	0.40		34.01	COM:	-0.6 SEC	0.0 CM	151.5164
		C: 106-49-24.31	0.32			BND:	2.8 SEC	0.1 CM	
		V=C-O: 0- 0- 0.21	0.23	0.92					
1641	29	O: 110-24-23.10	0.40		41.64	COM:	0.0 SEC	0.0 CM	160.5186
		C: 110-24-23.09	0.31			BND:	2.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.01	0.26	-0.03					
1641	1218	O: 89- 8-54.20	0.40		76.99	COM:	0.3 SEC	0.0 CM	299.6587
		C: 89- 8-53.94	0.19			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.26	0.35	-0.73					
1641	39	O: 106- 7-45.60	0.40		75.05	COM:	-0.7 SEC	0.0 CM	205.7930
		C: 106- 7-46.09	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.49	0.35	1.43					
1641	38	O: 102-52- 0.70	0.40		75.29	COM:	-0.9 SEC	0.0 CM	200.4966
		C: 102-52- 1.40	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.70	0.35	2.02					
1641	37	O: 101-38-13.20	0.40		74.13	COM:	0.0 SEC	0.0 CM	199.4256
		C: 101-38-13.19	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.01	0.34	-0.03					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	36	O:	99-17-48.80	0.40		72.31	COM:	-1.0 SEC	0.0 CM	198.6131
		C:	99-17-49.49	0.21			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.69	0.34	2.03					
1641	35	O:	98-14- 5.50	0.40		71.39	COM:	0.2 SEC	0.0 CM	198.1352
		C:	98-14- 5.37	0.21			BND:	2.0 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.13	0.34	-0.38					
1641	34	O:	94- 6-58.80	0.40		77.83	COM:	-0.9 SEC	0.0 CM	199.6434
		C:	94- 6-59.53	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	0- 0- 0.73	0.35	2.07					
1641	1612	O:	90-50-18.00	0.10		1.87	COM:	2.2 SEC	0.4 CM	366.0345
		C:	90-50-17.96	0.10			BND:	3.0 SEC	0.5 CM	
		V=C-O:	- 0- 0- 0.04	0.01	-2.95 ..					
1631	1662	O:	70-48-51.20	0.60		89.19	COM:	0.1 SEC	0.0 CM	219.1268
		C:	70-48-51.10	0.20			BND:	2.6 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.10	0.57	-0.17					
1631	1642	O:	73-54- 5.00	0.60		86.36	COM:	-0.7 SEC	0.0 CM	280.5440
		C:	73-54- 5.57	0.22			BND:	2.7 SEC	0.1 CM	
		V=C-O:	0- 0- 0.57	0.56	1.02					
1631	39	O:	80- 5-55.30	0.30		13.80	COM:	1.2 SEC	0.1 CM	123.7194
		C:	80- 5-55.14	0.28			BND:	3.3 SEC	0.2 CM	
		V=C-O:	- 0- 0- 0.16	0.11	-1.43					
1631	38	O:	76-36-57.70	0.30		37.15	COM:	-0.2 SEC	0.0 CM	148.4024
		C:	76-36-57.77	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O:	0- 0- 0.07	0.18	0.40					
1631	37	O:	75-43- 5.80	0.30		40.93	COM:	-0.2 SEC	0.0 CM	157.2874
		C:	75-43- 5.89	0.23			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.09	0.19	0.46					
1631	36	O:	74- 7-57.70	0.30		46.57	COM:	0.4 SEC	0.0 CM	170.9639
		C:	74- 7-57.51	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.19	0.20	-0.94					
1631	35	O:	73-34-14.60	0.30		49.00	COM:	-0.8 SEC	0.0 CM	177.8216
		C:	73-34-15.01	0.21			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.41	0.21	1.97					
1631	34	O:	71-47-17.00	0.30		67.67	COM:	-0.7 SEC	0.0 CM	202.8498
		C:	71-47-17.44	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.44	0.25	1.79					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1631	33	O:	71- 2-25.60	0.30		69.48	COM:	-0.3 SEC	0.0 CM	217.5467
		C:	71- 2-25.84	0.17			BND:	1.5 SEC	0.1 CM	
		V=C-O:	0- 0- 0.24	0.25	0.96					
1631	23	O:	71-41-16.30	0.70		94.55	COM:	1.3 SEC	0.0 CM	226.2573
		C:	71-41-15.08	0.16			BND:	3.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.22	0.68	-1.79					
1631	24	O:	72-37-17.50	0.70		93.69	COM:	0.6 SEC	0.0 CM	212.3985
		C:	72-37-16.97	0.18			BND:	3.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.53	0.68	-0.79					
1631	25	O:	74-23-41.30	0.70		91.93	COM:	1.2 SEC	0.0 CM	189.2207
		C:	74-23-40.19	0.20			BND:	3.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.11	0.67	-1.66					
1631	26	O:	75- 2-16.60	0.70		83.62	COM:	0.5 SEC	0.0 CM	182.1894
		C:	75- 2-16.16	0.28			BND:	3.2 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.44	0.64	-0.69					
1631	27	O:	76-37-28.50	0.70		89.45	COM:	1.2 SEC	0.0 CM	170.4359
		C:	76-37-27.42	0.23			BND:	3.1 SEC	0.0 CM	
		V=C-O:	- 0- 0- 1.08	0.66	-1.62					
1631	28	O:	77-38-54.70	0.70		76.89	COM:	0.5 SEC	0.0 CM	161.1826
		C:	77-38-54.33	0.34			BND:	3.3 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.37	0.61	-0.60					
1631	29	O:	81-10-23.80	0.70		65.49	COM:	0.1 SEC	0.0 CM	137.7592
		C:	81-10-23.76	0.41			BND:	3.6 SEC	0.1 CM	
		V=C-O:	- 0- 0- 0.04	0.57	-0.07					
1631	1642	O:	73-54- 5.80	0.70		89.98	COM:	0.3 SEC	0.0 CM	280.5440
		C:	73-54- 5.57	0.22			BND:	3.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.23	0.66	-0.35					
1631	1622	O:	65-55-15.20	0.70		91.30	COM:	-0.2 SEC	0.0 CM	200.4035
		C:	65-55-15.41	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O:	0- 0- 0.21	0.67	0.31					
1631	18	O:	78-55-52.50	0.70		90.61	COM:	-1.3 SEC	0.0 CM	179.5356
		C:	78-55-53.71	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O:	0- 0- 1.21	0.67	1.82					
1631	17	O:	77-37-59.80	0.70		91.12	COM:	-1.1 SEC	0.0 CM	189.4726
		C:	77-38- 0.80	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O:	0- 0- 1.00	0.67	1.50					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1631	16	O: 76- 4-43.70	0.70		93.62	COM:	0.1 SEC	0.0 CM	201.1803
		C: 76- 4-43.64	0.18			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.06	0.68	-0.09					
1631	15	O: 75-39-30.30	0.70		93.97	COM:	1.0 SEC	0.0 CM	205.0495
		C: 75-39-29.33	0.17			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.97	0.68	-1.43					
1631	14	O: 73-38-52.70	0.70		95.31	COM:	0.9 SEC	0.0 CM	229.3254
		C: 73-38-51.82	0.15			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.88	0.68	-1.28					
1631	13	O: 72-47- 2.20	0.70		95.33	COM:	0.7 SEC	0.0 CM	241.5141
		C: 72-47- 1.51	0.15			BND:	3.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.69	0.68	-1.01					
1631	1622	O: 65-55-15.20	0.70		91.30	COM:	-0.2 SEC	0.0 CM	200.4035
		C: 65-55-15.41	0.21			BND:	3.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.21	0.67	0.31					
1621	1652	O: 90-45-14.10	0.40		89.63	COM:	-0.4 SEC	0.0 CM	406.0479
		C: 90-45-14.49	0.13			BND:	1.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.39	0.38	1.03					
1621	31	O: 94-22-18.20	0.40		49.29	COM:	0.7 SEC	0.0 CM	190.7117
		C: 94-22-17.87	0.28			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.33	0.28	-1.17					
1621	32	O: 94-23-11.60	0.40		69.60	COM:	-0.1 SEC	0.0 CM	190.0003
		C: 94-23-11.68	0.22			BND:	2.0 SEC	0.1 CM	
		V=C-O: 0- 0- 0.08	0.33	0.24					
1621	33	O: 94-31-52.30	0.40		74.85	COM:	-0.1 SEC	0.0 CM	188.7619
		C: 94-31-52.38	0.20			BND:	1.9 SEC	0.0 CM	
		V=C-O: 0- 0- 0.08	0.35	0.22					
1621	34	O: 97-18- 7.80	0.40		73.25	COM:	0.6 SEC	0.0 CM	179.1390
		C: 97-18- 7.39	0.21			BND:	1.9 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.41	0.34	-1.19					
1621	35	O: 102-15-39.00	0.40		64.34	COM:	0.9 SEC	0.0 CM	171.4590
		C: 102-15-38.43	0.24			BND:	2.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.57	0.32	-1.78					
1621	36	O: 103-37-14.00	0.40		65.39	COM:	0.4 SEC	0.0 CM	169.6215
		C: 103-37-13.73	0.24			BND:	2.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.27	0.32	-0.85					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1621	37	O: 106-30-18.70	0.40		68.36	COM:	0.2 SEC	0.0 CM	167.5825
		C: 106-30-18.54	0.23			BND:	2.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.16	0.33	-0.49					
1621	38	O: 108- 3-23.50	0.40		70.37	COM:	1.1 SEC	0.0 CM	166.8207
		C: 108- 3-22.74	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.76	0.34	-2.28					
1621	1632	O: 114- 8-41.10	0.40		88.46	COM:	-0.1 SEC	0.0 CM	200.4035
		C: 114- 8-41.22	0.14			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.12	0.38	0.31					
1621	1652	O: 90-45-14.70	0.20		58.52	COM:	0.4 SEC	0.0 CM	406.0479
		C: 90-45-14.49	0.13			BND:	1.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.21	0.15	-1.37					
1621	27	O: 102-41-28.00	0.20		40.26	COM:	-0.2 SEC	0.0 CM	218.3340
		C: 102-41-28.10	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.10	0.13	0.79					
1621	25	O: 99-23-56.20	0.20		41.46	COM:	-0.9 SEC	-0.1 CM	222.5816
		C: 99-23-56.56	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.36	0.13	2.79 ..					
1621	24	O: 95-46-16.10	0.20		42.72	COM:	-0.3 SEC	0.0 CM	229.7512
		C: 95-46-16.21	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.11	0.13	0.83					
1621	23	O: 93-38-57.60	0.20		44.79	COM:	-0.4 SEC	0.0 CM	232.2499
		C: 93-38-57.77	0.15			BND:	1.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.17	0.13	1.26					
1621	22	O: 93-36- 8.00	0.20		43.04	COM:	-0.4 SEC	0.0 CM	232.7357
		C: 93-36- 8.17	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.17	0.13	1.33					
1621	1632	O: 114- 8-41.20	0.20		53.83	COM:	0.0 SEC	0.0 CM	200.4035
		C: 114- 8-41.22	0.14			BND:	1.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.02	0.15	0.13					
1621	1652	O: 90-45-14.20	0.30		81.57	COM:	-0.4 SEC	0.0 CM	406.0479
		C: 90-45-14.49	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.29	0.27	1.07					
1621	12	O: 92-59-55.70	0.30		82.17	COM:	0.6 SEC	0.0 CM	279.4732
		C: 92-59-55.18	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.52	0.27	-1.91					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1621	14	O: 94-38-56.50	0.30		82.06	COM:	0.2 SEC	0.0 CM	275.5677
		C: 94-38-56.38	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.12	0.27	-0.46					
1621	15	O: 97-56-37.00	0.30		80.89	COM:	0.2 SEC	0.0 CM	267.0957
		C: 97-56-36.83	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.17	0.27	-0.64					
1621	16	O: 98-30-51.00	0.30		80.58	COM:	-0.8 SEC	0.0 CM	266.0499
		C: 98-30-51.63	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.63	0.27	2.34					
1621	18	O: 101-51- 7.50	0.30		78.16	COM:	-0.7 SEC	0.0 CM	260.0515
		C: 101-51- 8.05	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.55	0.27	2.07					
1621	1632	O: 114- 8-41.00	0.30		79.48	COM:	-0.3 SEC	0.0 CM	200.4035
		C: 114- 8-41.22	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.22	0.27	0.82					
1621	1652	O: 90-45-15.10	0.30		81.57	COM:	0.7 SEC	0.0 CM	406.0479
		C: 90-45-14.49	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.61	0.27	-2.25					
1621	1642	O: 91-21-45.70	0.30		63.26	COM:	0.7 SEC	0.0 CM	366.9987
		C: 91-21-45.26	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.44	0.24	-1.85					
1621	1662	O: 96-22-24.70	0.30		6.75	COM:	0.1 SEC	0.0 CM	120.3856
		C: 96-22-24.69	0.29			BND:	4.8 SEC	0.3 CM	
		V=C-O: - 0- 0- 0.01	0.08	-0.12					
1621	1632	O: 114- 8-41.50	0.30		79.48	COM:	0.4 SEC	0.0 CM	200.4035
		C: 114- 8-41.22	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.28	0.27	-1.05					

4.7 ANALYSIS OF ELEVATION DIFFERENCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	1662	O:	1.60150	0.10		47.33	COM:	0.1 CM	0.0 CM	0.0000
		C:	1.60111	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00039	0.07	-0.57					
166	1663	O:	1.47500	0.10		47.33	COM:	-0.1 CM	0.0 CM	0.0000
		C:	1.47539	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00039	0.07	0.57					
165	1651	O:	0.27450	0.10		42.08	COM:	-0.3 CM	-0.2 CM	0.0000
		C:	0.27577	0.08			BND:	0.6 CM	0.4 CM	
		V=C-O:	0.00127	0.06	1.96					
164	1641	O:	0.27400	0.10		46.66	COM:	0.2 CM	0.1 CM	0.0000
		C:	0.27328	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00072	0.07	-1.05					
161	1611	O:	0.27750	0.10		46.15	COM:	-0.4 CM	-0.2 CM	0.0000
		C:	0.27920	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00170	0.07	2.50					
163	1631	O:	0.27850	0.10		48.85	COM:	0.1 CM	0.0 CM	0.0000
		C:	0.27808	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00042	0.07	-0.61					
162	1621	O:	0.27650	0.10		48.22	COM:	0.3 CM	0.1 CM	0.0000
		C:	0.27528	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00122	0.07	-1.76					
161	1612	O:	0.13810	0.10		46.15	COM:	0.4 CM	0.2 CM	0.0000
		C:	0.13640	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	-0.00170	0.07	-2.50					
162	1622	O:	0.13690	0.10		48.22	COM:	-0.3 CM	-0.1 CM	0.0000
		C:	0.13812	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00122	0.07	1.76					
163	1632	O:	0.14080	0.10		48.85	COM:	-0.1 CM	0.0 CM	0.0000
		C:	0.14122	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00042	0.07	0.61					
164	1642	O:	0.13230	0.10		46.66	COM:	-0.2 CM	-0.1 CM	0.0000
		C:	0.13302	0.07			BND:	0.6 CM	0.3 CM	
		V=C-O:	0.00072	0.07	1.05					
165	1652	O:	0.13300	0.10		42.08	COM:	0.3 CM	0.2 CM	0.0000
		C:	0.13173	0.08			BND:	0.6 CM	0.4 CM	
		V=C-O:	-0.00127	0.06	-1.96					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
11	FREE	EAST.: 9977.1169	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10173.6762	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.3677		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
12	FREE	EAST.: 9979.0443	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10174.9242	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.4095		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
1218	FREE	EAST.: 9846.9552	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10016.2046	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1010.9180		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
13	FREE	EAST.: 9980.7142	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10173.6602	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.1903		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
14	FREE	EAST.: 9995.5536	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10177.1419	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 992.6406		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
15	FREE	EAST.: 10022.2509	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10176.3886	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 977.7798		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
16	FREE	EAST.: 10026.6319	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 10176.3820	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 975.2199		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
161	FREE	EAST.: 9884.6187	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9926.4500	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1000.9718		ELEV. STD. DEV.:	0.12 CM			CORR.: 0.0000
1611	FREE	EAST.: 9884.6187	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9926.4500	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1001.2510		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
1612	FREE	EAST.: 9884.6187	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9926.4500	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1001.1082		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000
162	FREE	EAST.: 10087.6879	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9917.4328	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1014.7726		ELEV. STD. DEV.:	0.12 CM			CORR.: 0.0000
1621	FREE	EAST.: 10087.6879	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM
		NORT.: 9917.4328	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.: 0.00 CM
		ELEV.: 1015.0479		ELEV. STD. DEV.:	0.09 CM			CORR.: 0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
1622	FREE	EAST.:	10087.6879	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4328	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.9107		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
163	FREE	EAST.:	10203.6849	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8533	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.0748		ELEV. STD. DEV.:	0.12 CM			CORR.:	0.0000
1631	FREE	EAST.:	10203.6849	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8533	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.3529		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
1632	FREE	EAST.:	10203.6849	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10080.8533	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	925.2160		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
164	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8111	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.1882		ELEV. STD. DEV.:	0.12 CM			CORR.:	0.0000
1641	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8111	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.4615		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
1642	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10273.8111	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1006.3212		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
165	FREE	EAST.:	9843.3657	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7499	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.5755		ELEV. STD. DEV.:	0.12 CM			CORR.:	0.0000
1651	FREE	EAST.:	9843.3657	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7499	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.8513		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
1652	FREE	EAST.:	9843.3657	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10241.7499	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1009.7072		ELEV. STD. DEV.:	0.10 CM			CORR.:	0.0000
166	FIXED	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0000	FIXED	ELEV. STD. DEV.:	0.00 CM			CORR.:	0.0000
1661	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.6974		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
1662	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.6011		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
1663	FREE	EAST.:	10000.0376	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9999.9562	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.4754		ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
17	FREE	EAST.:	10039.6043	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10175.6026	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	966.8956		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
18	FREE	EAST.:	10050.7177	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.8430	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.4742		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
21	FREE	EAST.:	9977.0976	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0804	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2704		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
22	FREE	EAST.:	9979.5682	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10123.5300	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3972		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
23	FREE	EAST.:	9981.5855	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10124.0297	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2361		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
24	FREE	EAST.:	9996.6738	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10128.3879	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	991.8285		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
25	FREE	EAST.:	10020.8926	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.7556	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	978.2046		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
26	FREE	EAST.:	10028.1573	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10129.6697	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	974.0422		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
27	FREE	EAST.:	10040.6851	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.6474	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.8807		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
28	FREE	EAST.:	10050.4813	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.9382	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.6489		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)			STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
29	FREE	EAST.:	10075.9167	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10132.3594	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.7453		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
31	FREE	EAST.:	9981.3276	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10075.7314	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4691		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
32	FREE	EAST.:	9983.6936	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.4463	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4737		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
33	FREE	EAST.:	9986.1802	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.5781	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0893		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
34	FREE	EAST.:	10000.9452	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10074.1698	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.0938		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
35	FREE	EAST.:	10025.8974	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.3707	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7877		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
36	FREE	EAST.:	10032.7463	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.9098	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	973.9486		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
37	FREE	EAST.:	10046.4007	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10079.8497	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.3919		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
38	FREE	EAST.:	10055.2827	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10081.0759	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.6638		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000
39	FREE	EAST.:	10080.0106	FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10084.1929	FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.9487		ELEV. STD. DEV.:	0.09 CM			CORR.:	0.0000

5.2 ESTIMATED EDM QUANTITIES REPORT

FACTOR	ESTIMATED VALUE	STANDARD DEVIATION
ADDITIVE CONSTANT	NOT ESTIMATED	
SCALE OF DISTANCES	NOT ESTIMATED	
AMPLITUDE OF CYCLIC	NOT ESTIMATED	
PHASE OF CYCLIC	NOT ESTIMATED	
REFRACTION COEFFICIENT	0.74169	+/- 0.03214

CORRELATION COEFFICIENT MATRIX OF ESTIMATED EDM QUANTITIES:

ADDITIVE CONSTANT	0.000000	0.000000	0.000000	0.000000	0.000000
SCALE OF DISTANCES		0.000000	0.000000	0.000000	0.000000
AMPLITUDE OF CYCLIC			0.000000	0.000000	0.000000
PHASE OF CYCLIC				0.000000	0.000000
REFRACTION COEFFICIENT					1.000000

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1611	LTH:	0.0000 M	0.00 CM	0.00 CM	0.00 CM	0.00 CM	0.2792	0.12	HOR.:
		AZI:	315- 0- 0	0- 0- 0	90- 0- 0					VER.: 1 / 118

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	0	0.000000D+00	0.000000D+00	1.00000
AZIMUTHS	0	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	129	0.115919D+03	0.894143D+02	1.13860
HEIGHT DIFFERENCE	12	0.136895D+02	0.558569D+01	1.56551
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	141	0.129608D+03	95	1.16803

STATIONS:	FIXED	1
	FREE	45
	WEIGHTED	0
	TOTAL	46

CONVERGENCE:	ITERATIONS USED	4
	TOLERANCE	0.001000
	COMPUTATION TIME	209.121 SEC

APPENDIX II J

Vertical Adjustment:

Epoch 6

GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA GEODETIC NETWORK ANALYSIS GNA
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TIME: 17:40:03 DATE: 7-OCT-87

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*                                                                                   *
*  BSC GROUP - BALL MOUNTAIN DAM - DEFORMATION ANALYSIS - PROJECT 1-1654.00 EPOCH 6 *
*                                                                                   *
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PROJECT INFORMATION:

HEIGHT ANALYSIS FOR SEPTEMBER 1987
DATABASE 11654006Z.DBS;1
1165400Z

GEODETIC NETWORK ANALYSIS
SLAP #797
INTERGRAPH CORPORATION
ONE MADISON INDUSTRIAL PARK
HUNTSVILLE, ALABAMA USA 35805

1.0 OPTIONS REPORT

OPTIONS IN EFFECT

PROGRAM CONTROL:

- PREANALYSIS OR ADJUSTMENT ..... ADJUSTMENT
- PERFORM VARIANCE COMPONENT ESTIMATION ..... NO
- ANGULAR I/O IN DEGREES OF GRADS ..... DEGREES
- LINEAR I/O IN METERS OR FEET ..... METERS
- MAXIMUM CPU TIME ..... 9999.0 SECONDS
- MAXIMUM NUMBER OF LEAST-SQUARES ITERATIONS 10
- ITERATION CONVERGENCE BOUNDARY VALUE 0.001000
- NUMBER OF EIGENVALUES COMPUTED ..... NONE

DEFAULT STANDARD DEVIATIONS:

MEASUREMENT TYPE	STANDARD DEVIATION
DIRECTIONS	0.00100 SEC
AZIMUTHS	0.00100 SEC
ANGULAR TARGET ECCENTRICITY	0.00000 CM
CONSTANT PART OF EDM MEASUREMENT	0.20000 CM
VARIABLE PART OF EDM MEASUREMENT	3.00000 PPM
ZENITH DISTANCE	10.00000 SEC
HEIGHT DIFFERENCE	0.10000 CM
WEIGHTED STATIONS	2.00000 CM

EDM RELATED FACTORS:

- MEAN RADIUS OF EARTH ..... 6380.0 KM
- EDM PHASE SHIFT ..... 0.00000 DEG
- EDM WAVELENGTH ..... 10.00000 METERS
- EDM ZERO ERROR ..... 0.00000 CM
- NETWORK SCALE FACTOR ..... 0.00000 PPM
- EDM CYCLIC ERROR (AMPLITUDE) ..... 0.00000 CM
- REFRACTION COEFFICIENT ..... SOLVING FOR

2.1 FIXED STATIONS INPUT REPORT

STATION NAME	FIXED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
166	10000.0376		9999.9562		1000.0000	

2.2 FREE STATIONS INPUT REPORT

STATION NAME	PRELIMINARY COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)
11	9977.1173	FIXED	10173.6793	FIXED	1000.2730	
12	9979.0449	FIXED	10174.9282	FIXED	1000.3150	
Y218	9846.9509	FIXED	10016.2114	FIXED	1015.0000	
13	9980.7154	FIXED	10173.6632	FIXED	1000.1030	
14	9995.5549	FIXED	10177.1436	FIXED	992.5700	
15	10022.2527	FIXED	10176.3897	FIXED	977.7050	
16	10026.6334	FIXED	10176.3850	FIXED	975.1380	
161	9884.6196	FIXED	9926.4517	FIXED	1001.4850	
1611	9884.6196	FIXED	9926.4517	FIXED	1001.2240	
1612	9884.6196	FIXED	9926.4517	FIXED	1001.1510	
162	10087.6908	FIXED	9917.4341	FIXED	1014.9810	
1621	10087.6908	FIXED	9917.4341	FIXED	1015.2220	
1622	10087.6908	FIXED	9917.4341	FIXED	1015.1510	
163	10203.6849	FIXED	10080.8548	FIXED	925.3040	
1631	10203.6880	FIXED	10080.8548	FIXED	925.2220	
1632	10203.6880	FIXED	10080.8548	FIXED	925.1520	
164	10000.0376	FIXED	10273.8112	FIXED	1006.4650	
1641	10000.0376	FIXED	10273.8112	FIXED	1006.2160	
1642	10000.0376	FIXED	10273.8112	FIXED	1006.1510	
165	9843.3663	FIXED	10241.7512	FIXED	1009.7800	
1651	9843.3663	FIXED	10241.7512	FIXED	1009.2180	
1652	9843.3663	FIXED	10241.7512	FIXED	1009.1510	
1661	10000.0376	FIXED	9999.9562	FIXED	1001.6120	
1662	10000.0376	FIXED	9999.9562	FIXED	1001.4790	
1663	10000.0376	FIXED	9999.9562	FIXED	1001.5560	
1664	10000.0376	FIXED	9999.9562	FIXED	1001.5560	
17	10039.6057	FIXED	10175.6064	FIXED	966.8130	
18	10050.7200	FIXED	10174.8455	FIXED	960.3930	
21	9977.1003	FIXED	10124.0811	FIXED	1000.1760	
22	9979.5707	FIXED	10123.5322	FIXED	1000.3040	
23	9981.5879	FIXED	10124.0340	FIXED	1000.1480	
24	9996.6759	FIXED	10128.3904	FIXED	990.2490	
25	10020.8945	FIXED	10129.7568	FIXED	978.1230	
26	10028.1597	FIXED	10129.6711	FIXED	973.9620	
27	10040.6876	FIXED	10130.6489	FIXED	965.8000	
28	10050.4845	FIXED	10130.9409	FIXED	960.5700	
29	10075.9195	FIXED	10132.3616	FIXED	946.6670	
31	9981.3287	FIXED	10075.7346	FIXED	1000.3780	
32	9983.6449	FIXED	10076.4478	FIXED	1000.3840	
33	9986.1812	FIXED	10076.5804	FIXED	1000.0010	
34	10000.9467	FIXED	10074.1710	FIXED	992.0120	
35	10025.8991	FIXED	10077.3721	FIXED	977.7070	
36	10032.7481	FIXED	10077.9109	FIXED	973.8690	
37	10046.4030	FIXED	10079.8520	FIXED	965.3180	
38	10055.2856	FIXED	10081.0777	FIXED	960.5840	
39	10080.0130	FIXED	10084.1946	FIXED	946.8710	

2.3 WEIGHTED STATIONS INPUT REPORT

STATION NAME	WEIGHTED COORDINATES EASTING (METERS)	STD. DEV. (CM)	NORTHING (METERS)	STD. DEV. (CM)	ELEVATION (METERS)	STD. DEV. (CM)

THERE ARE NO WEIGHTED STATIONS

2.4 OBSERVED DIRECTIONS INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO DIRECTION OBSERVATIONS

2.5 OBSERVED AZIMUTH INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)

THERE ARE NO AZIMUTH OBSERVATIONS

2.6 OBSERVED HORIZONTAL DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO HORIZONTAL DISTANCE OBSERVATIONS

2.7 OBSERVED SLOPE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SLOPE DISTANCE OBSERVATIONS

2.8 OBSERVED SCALE DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)

THERE ARE NO SCALED DISTANCE OBSERVATIONS

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1611	11	90-11-32.500	0.400	-54.331	****
1611	12	90-10-54.600	0.400	-54.498	****
1611	13	90-13-47.000	0.400	-48.501	****
1611	21	90-15-28.700	0.400	-65.049	****
1611	22	90-13-26.300	0.400	-64.218	****
1611	23	90-15-53.300	0.400	-58.176	****
1611	31	90-15- 8.200	0.400	-75.343	****
1611	32	90-14-52.500	0.400	-74.006	****
1611	1218	84-19-58.700	0.400	8595.285	****
1611	1662	89-55-41.700	0.400	124.157	****
1661	31	90-51-31.000	0.200	-170.794	****
1661	32	90-51-11.100	0.200	-167.601	****
1661	33	91- 8-24.600	0.200	-163.325	****
1661	34	97-19-44.000	0.200	-148.967	****
1661	35	106-17-25.200	0.200	-122.674	****
1661	36	108- 8-11.200	0.200	-115.154	****
1661	37	111-25-30.600	0.200	-90.153	****
1661	38	112-39-37.800	0.200	-93.105	****
1661	39	115-12-51.000	0.200	-70.141	****
1661	1612	90-13-12.600	0.200	95.775	****
1661	29	109-47- 1.500	1.200	-63.852	
1661	28	106-16-45.700	1.200	-72.040	
1661	27	104-38-30.500	1.200	-77.741	
1661	25	100- 6-27.000	1.200	-83.431	
1661	24	94-22- 1.700	1.200	-2475.447	****
1661	23	90-38-27.500	1.200	-101.416	
1661	22	90-34- 6.100	1.200	-109.468	
1661	21	90-37-17.700	1.200	-110.521	
1661	1612	90-13-13.300	1.200	96.475	
1661	12	90-23-59.600	0.300	-80.925	****
1661	13	90-28-31.000	0.300	-72.261	****
1661	14	92-54-24.600	0.300	-51.253	****
1661	15	97-38-31.500	0.300	-55.958	****
1661	16	98-25-21.500	0.300	-64.579	****
1661	18	102-44-20.200	0.300	-61.062	****
1661	1612	90-13-12.000	0.300	95.175	****
1661	1642	89- 1-13.600	0.300	-111.836	****
1661	1632	109-13-39.100	0.300	-30.525	****
1661	1622	83-42-30.700	0.300	449.001	****
1661	1612	90-13-13.000	0.300	96.175	****
1651	11	93-36-54.800	0.500	733.271	****
1651	12	93-34-16.700	0.500	726.562	****
1651	13	93-36-18.800	0.500	726.818	****
1651	21	93- 4-41.100	0.500	617.553	****
1651	23	93- 1-51.000	0.500	612.622	****
1651	31	92-29-18.800	0.500	513.392	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1651	33	92-33-34.100	0.500	509.406	****
1651	1612	91-34-27.700	0.500	431.623	****
1651	1218	89-43-52.000	0.300	4314.863	****
1651	1664	91-37-51.600	0.300	383.543	****
1641	1652	88-50-10.100	0.400	-406.962	****
1641	18	112-28-10.700	0.400	258.101	****
1641	17	110-29-25.600	0.400	276.347	****
1641	16	107-11-21.000	0.400	302.633	****
1641	15	106- 0-56.200	0.400	324.316	****
1641	14	98- 7-42.500	0.400	365.718	****
1641	11	93-23-44.100	0.400	302.415	****
1641	1622	88-40-55.100	0.400	270.704	****
1641	1652	88-50-10.300	0.400	-406.762	****
1641	1632	106- 9- 7.700	0.400	123.517	****
1641	21	92-20-28.000	0.500	205.603	****
1641	22	92-17-24.600	0.500	206.270	****
1641	23	92-21-44.700	0.500	213.219	****
1641	24	95-44-42.500	0.500	-1870.797	****
1641	25	100-59-11.700	0.500	223.241	****
1641	26	102-26-55.300	0.500	219.843	****
1641	27	105-15-10.100	0.500	211.153	****
1641	28	106-49-24.500	0.500	206.022	****
1641	29	110-24-23.500	0.500	187.390	****
1641	1652	88-50-10.100	0.500	-406.962	****
1641	36	99-17-50.800	0.500	167.087	****
1641	35	98-14- 7.500	0.500	168.126	****
1641	33	91-50-47.000	0.500	162.661	****
1641	1652	88-50-10.200	0.500	-406.862	****
1631	1622	65-55-14.000	0.200	314.670	****
1631	1642	73-54- 4.000	0.400	-31.327	
1631	39	80- 5-55.700	0.400	85.184	****
1631	38	76-36-57.200	0.400	65.006	****
1631	37	75-43- 5.000	0.400	67.395	****
1631	36	74- 7-56.700	0.400	54.330	****
1631	35	73-34-15.600	0.400	51.949	****
1631	34	71-47-17.100	0.400	42.180	****
1631	33	71- 2-25.500	0.400	33.027	
1631	1622	65-55-13.100	0.400	313.770	****
1631	1622	65-55-13.200	0.300	313.870	****
1631	23	71-41-14.800	0.300	32.274	****
1631	24	72-37-18.000	0.300	-1285.167	****
1631	25	74-23-40.100	0.300	47.551	****
1631	26	75- 2-14.600	0.300	49.978	****
1631	27	76-37-25.300	0.300	53.482	****
1631	28	77-38-51.100	0.300	58.518	****
1631	29	81-10-20.200	0.300	71.762	****

2.9 OBSERVED ZENITH DISTANCE INPUT REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAND. DEV. (SEC)	MISCLOSURE (SEC)	
1631	1642	73-54- 4.800	0.300	-30.527	****
1631	1622	65-55-12.800	0.300	313.470	****
1631	17	77-37-59.000	0.300	45.891	****
1631	16	76- 4-42.300	0.300	43.493	****
1631	15	75-39-28.500	0.300	49.868	****
1631	14	73-38-51.600	0.300	46.977	****
1631	1622	65-55-12.800	0.300	313.470	****
1621	31	94-22-19.100	0.400	-285.633	****
1621	33	94-31-53.300	0.400	-285.650	****
1621	34	97-18- 8.600	0.400	-290.313	****
1621	35	102-15-40.300	0.400	-292.266	****
1621	36	103-37-15.600	0.400	-291.032	****
1621	37	106-30-20.200	0.400	-280.168	****
1621	38	108- 3-24.300	0.400	-283.600	****
1621	1663	96-20-13.600	0.400	-502.940	****
1621	29	107-36-19.700	0.200	-221.625	****
1621	28	104- 5-26.600	0.200	-228.520	****
1621	27	102-41-28.700	0.200	-230.546	****
1621	26	100-32-18.600	0.200	-231.754	****
1621	25	99-23-58.100	0.200	-231.218	****
1621	24	95-46-17.700	0.200	-1557.844	****
1621	23	93-38-58.700	0.200	-233.109	****
1621	22	93-36-10.000	0.200	-236.409	****
1621	21	93-36-30.200	0.200	-236.189	****
1621	1663	96-20-14.000	0.200	-502.540	****
1621	11	93- 0-43.200	0.300	-198.636	****
1621	12	92-59-56.100	0.300	-199.373	****
1621	13	93- 3-49.800	0.300	-194.304	****
1621	14	94-38-59.100	0.300	-181.904	****
1621	15	97-56-38.000	0.300	-189.958	****
1621	16	98-30-51.700	0.300	-196.403	****
1621	18	101-51- 8.500	0.300	-195.871	****
1621	1632	114- 8-43.700	0.300	-203.374	****
1621	1663	96-20-13.800	0.300	-502.740	****

2.10 OBSERVED HEIGHT DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (METERS)	STAN. DEV. (CM)	MISCLOSURE (CM)	
166	1661	1.5690	0.1000	-4.30	
166	1662	1.3526	0.1000	-12.64	****
166	1664	1.5805	0.1000	2.45	
165	1651	0.2720	0.1000	83.40	****
164	1641	0.2740	0.1000	52.30	****
161	1611	0.2790	0.1000	54.00	****
163	1631	0.2795	0.1000	36.15	****
162	1621	0.2765	0.1000	3.55	

2.11 OBSERVED RELATIVE POSITIONS INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUE (DEG-MIN-SEC)	STAN. DEV. (SEC)

THERE ARE NO RELATIVE POSITION OBSERVATIONS

2.12 OBSERVED COORDINATE DIFFERENCE INPUT REPORT

FROM STATION	TO STATION	OBSERVED VALUES (METERS) DX	DY	DZ	COVARIANCES (CM SQUARED) XX	XY	YY	XZ	YZ	ZZ

THERE ARE NO COORDINATE DIFFERENCE OBSERVATIONS

3.0 SOLVABILITY OF NETWORK REPORT

STATION NAME	NUMBER OF TIMES OBSERVED
161	1
162	1
163	1
164	1
165	1

```
**********     POINT 161     ONLY    1TIMES OBSERVED
**********     POINT 162     ONLY    1TIMES OBSERVED
**********     POINT 163     ONLY    1TIMES OBSERVED
**********     POINT 164     ONLY    1TIMES OBSERVED
**********     POINT 165     ONLY    1TIMES OBSERVED
```

3.1 ARRAY USAGE REPORT

FACTOR	MAXIMUM ALLOWED	ACTUAL
OBSERVATIONS	9000	134
POINTS	1000	47
FIXED & WEIGHTED POINTS	99	1
ORIENTATION UNKNOWNS	1500	0
MATRIX ELEMENTS	99998	1176

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1611	11	O:	90-11-32.50	0.40		81.72	COM:	-0.4 SEC	0.0 CM	263.9646
		C:	90-11-32.85	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.35	0.36	0.96					
1611	12	O:	90-10-54.60	0.40		81.40	COM:	0.0 SEC	0.0 CM	265.8133
		C:	90-10-54.58	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.02	0.36	-0.04					
1611	13	O:	90-13-47.00	0.40		81.39	COM:	0.0 SEC	0.0 CM	265.2318
		C:	90-13-47.04	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.04	0.36	0.11					
1611	21	O:	90-15-28.70	0.40		76.70	COM:	0.0 SEC	0.0 CM	218.1973
		C:	90-15-28.68	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.02	0.35	-0.07					
1611	22	O:	90-13-26.30	0.40		74.54	COM:	-0.8 SEC	0.0 CM	218.7611
		C:	90-13-26.87	0.20			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.57	0.35	1.65					
1611	23	O:	90-15-53.30	0.40		78.86	COM:	1.1 SEC	0.0 CM	220.0946
		C:	90-15-52.44	0.18			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.86	0.36	-2.42					
1611	31	O:	90-15- 8.20	0.40		77.99	COM:	1.0 SEC	0.0 CM	177.8708
		C:	90-15- 7.46	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.74	0.35	-2.10					
1611	32	O:	90-14-52.50	0.40		77.87	COM:	0.2 SEC	0.0 CM	179.7355
		C:	90-14-52.37	0.19			BND:	1.9 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.13	0.35	-0.38					
1611	1218	O:	84-19-58.70	0.40		16.84	COM:	-2.6 SEC	-0.1 CM	97.3434
		C:	84-19-59.14	0.36			BND:	4.0 SEC	0.2 CM	
		V=C-O:	0- 0- 0.44	0.16	2.71 ..					
1611	1662	O:	89-55-41.70	0.40		4.29	COM:	-1.3 SEC	-0.1 CM	136.8365
		C:	89-55-41.76	0.39			BND:	8.0 SEC	0.5 CM	
		V=C-O:	0- 0- 0.06	0.08	0.67					
1661	31	O:	90-51-31.00	0.20		8.40	COM:	-1.7 SEC	-0.1 CM	78.0538
		C:	90-51-31.14	0.19			BND:	2.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.14	0.06	2.48					
1661	32	O:	90-51-11.10	0.20		3.69	COM:	-0.4 SEC	0.0 CM	78.2284
		C:	90-51-11.11	0.20			BND:	4.3 SEC	0.2 CM	
		V=C-O:	0- 0- 0.01	0.04	0.38					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	33	O: 91- 8-24.60	0.20		8.95	COM:	0.7 SEC	0.0 CM	77.8670
		C: 91- 8-24.54	0.19			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.06	0.06	-1.07					
1661	34	O: 97-19-44.00	0.20		6.20	COM:	1.3 SEC	0.0 CM	74.2204
		C: 97-19-43.92	0.19			BND:	3.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.08	0.05	-1.58					
1661	35	O: 106-17-25.20	0.20		11.52	COM:	0.6 SEC	0.0 CM	81.6213
		C: 106-17-25.13	0.19			BND:	2.4 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.07	0.07	-1.02					
166	36	O: 108- 8-11.20	0.20		13.03	COM:	0.5 SEC	0.0 CM	84.5394
		C: 108- 8-11.14	0.19			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.06	0.07	-0.85					
1661	37	O: 111-25-30.60	0.20		14.47	COM:	-0.1 SEC	0.0 CM	92.3747
		C: 111-25-30.62	0.18			BND:	2.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.02	0.08	0.27					
1661	38	O: 112-39-37.80	0.20		17.22	COM:	0.4 SEC	0.0 CM	98.1480
		C: 112-39-37.72	0.18			BND:	2.0 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.08	0.08	-0.91					
1661	39	O: 115-12-51.00	0.20		20.75	COM:	1.4 SEC	0.1 CM	116.1558
		C: 115-12-50.72	0.18			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.28	0.09	-3.11 ..					
1661	1612	O: 90-13-12.60	0.20		48.55	COM:	0.1 SEC	0.0 CM	136.8365
		C: 90-13-12.57	0.14			BND:	1.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.03	0.14	-0.21					
1661	29	O: 109-47- 1.50	1.20		97.35	COM:	-0.6 SEC	0.0 CM	152.6082
		C: 109-47- 2.04	0.20			BND:	5.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.54	1.18	0.46					
1661	28	O: 106-16-45.70	1.20		96.51	COM:	0.7 SEC	0.0 CM	140.3634
		C: 106-16-45.06	0.22			BND:	5.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.64	1.18	-0.54					
1661	27	O: 104-38-30.50	1.20		96.14	COM:	-0.3 SEC	0.0 CM	136.8686
		C: 104-38-30.79	0.24			BND:	5.1 SEC	0.0 CM	
		V=C-O: 0- 0- 0.29	1.18	0.25					
1661	25	O: 100- 6-27.00	1.20		95.34	COM:	-0.2 SEC	0.0 CM	131.4656
		C: 100- 6-27.21	0.26			BND:	5.1 SEC	0.0 CM	
		V=C-O: 0- 0- 0.21	1.17	0.18					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	24	O:	94-22- 1.70	1.20		94.51	COM:	-0.1 SEC	0.0 CM	128.4782
		C:	94-22- 1.81	0.28			BND:	5.1 SEC	0.0 CM	
		V=C-O:	0- 0- 0.11	1.17	0.09					
1661	23	O:	90-38-27.50	1.20		95.12	COM:	0.3 SEC	0.0 CM	125.4420
		C:	90-38-27.21	0.27			BND:	5.1 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.29	1.17	-0.25					
1661	22	O:	90-34- 6.10	1.20		93.52	COM:	-0.2 SEC	0.0 CM	125.2594
		C:	90-34- 6.27	0.31			BND:	5.1 SEC	0.0 CM	
		V=C-O:	0- 0- 0.17	1.16	0.14					
1661	21	O:	90-37-17.70	1.20		94.34	COM:	0.1 SEC	0.0 CM	126.2264
		C:	90-37-17.57	0.29			BND:	5.1 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.13	1.17	-0.11					
1661	1612	O:	90-13-13.30	1.20		98.57	COM:	0.7 SEC	0.0 CM	136.8365
		C:	90-13-12.57	0.14			BND:	5.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.73	1.19	-0.61					
1661	12	O:	90-23-59.60	0.30		48.93	COM:	-0.3 SEC	0.0 CM	176.2268
		C:	90-23-59.75	0.21			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.15	0.21	0.70					
1661	13	O:	90-28-31.00	0.30		48.46	COM:	-0.4 SEC	0.0 CM	174.7783
		C:	90-28-31.18	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O:	0- 0- 0.18	0.21	0.88					
1661	14	O:	92-54-24.60	0.30		67.63	COM:	-0.3 SEC	0.0 CM	177.2441
		C:	92-54-24.82	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.22	0.25	0.89					
1661	15	O:	97-38-31.50	0.30		67.87	COM:	-0.2 SEC	0.0 CM	177.8266
		C:	97-38-31.65	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.15	0.25	0.62					
1661	16	O:	98-25-21.50	0.30		67.98	COM:	-0.4 SEC	0.0 CM	178.4221
		C:	98-25-21.78	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O:	0- 0- 0.28	0.25	1.13					
1661	18	O:	102-44-20.20	0.30		59.04	COM:	-0.6 SEC	0.0 CM	182.0851
		C:	102-44-20.56	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O:	0- 0- 0.36	0.23	1.57					
1661	1612	O:	90-13-12.00	0.30		77.13	COM:	-0.7 SEC	0.0 CM	136.8365
		C:	90-13-12.57	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O:	0- 0- 0.57	0.26	2.16					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1661	1642	O: 89- 1-13.60	0.30		54.39	COM:	-1.2 SEC	-0.1 CM	273.8550
		C: 89- 1-14.25	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.65	0.22	2.94 ..					
1661	1632	O: 109-13-39.10	0.30		56.22	COM:	-0.1 SEC	0.0 CM	219.1303
		C: 109-13-39.14	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.04	0.22	0.18					
1661	1622	O: 83-42-30.70	0.30		49.91	COM:	0.5 SEC	0.0 CM	120.3868
		C: 83-42-30.46	0.21			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.24	0.21	-1.15					
1661	1612	O: 90-13-13.00	0.30		77.13	COM:	0.6 SEC	0.0 CM	136.8365
		C: 90-13-12.57	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.43	0.26	-1.63					
1651	11	O: 93-36-54.80	0.50		67.74	COM:	-0.1 SEC	0.0 CM	150.0770
		C: 93-36-54.87	0.28			BND:	2.5 SEC	0.1 CM	
		V=C-O: 0- 0- 0.07	0.41	0.17					
1651	12	O: 93-34-16.70	0.50		63.56	COM:	0.6 SEC	0.0 CM	151.2415
		C: 93-34-16.33	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.37	0.40	-0.94					
1651	13	O: 93-36-18.80	0.50		64.61	COM:	-0.3 SEC	0.0 CM	153.2995
		C: 93-36-18.99	0.30			BND:	2.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.19	0.40	0.46					
1651	21	O: 93- 4-41.10	0.50		76.43	COM:	-0.9 SEC	0.0 CM	178.1321
		C: 93- 4-41.76	0.24			BND:	2.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.66	0.44	1.52					
1651	23	O: 93- 1-51.00	0.50		78.76	COM:	-0.8 SEC	0.0 CM	181.5559
		C: 93- 1-51.60	0.23			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.60	0.44	1.36					
1651	31	O: 92-29-18.80	0.50		88.29	COM:	0.1 SEC	0.0 CM	215.8591
		C: 92-29-18.69	0.17			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.11	0.47	-0.23					
1651	33	O: 92-33-34.10	0.50		88.44	COM:	-0.8 SEC	0.0 CM	218.3518
		C: 92-33-34.77	0.17			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.67	0.47	1.42					
1651	1612	O: 91-34-27.70	0.50		90.22	COM:	0.2 SEC	0.0 CM	317.9868
		C: 91-34-27.52	0.16			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.18	0.47	-0.38					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1651	1218	O: 89-43-52.00	0.30		49.89	COM:	1.2 SEC	0.1 CM	225.5683
		C: 89-43-51.43	0.21			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.57	0.21	-2.71 ..					
1651	1664	O: 91-37-51.60	0.30		10.07	COM:	1.2 SEC	0.2 CM	288.1158
		C: 91-37-51.48	0.28			BND:	3.9 SEC	0.5 CM	
		V=C-O: - 0- 0- 0.12	0.10	-1.28					
1641	1652	O: 88-50-10.10	0.40		69.51	COM:	-0.1 SEC	0.0 CM	159.9179
		C: 88-50-10.18	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O: 0- 0- 0.08	0.33	0.24					
1641	18	O: 112-28-10.70	0.40		50.18	COM:	0.7 SEC	0.0 CM	111.1886
		C: 112-28-10.34	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.36	0.28	-1.26					
1641	17	O: 110-29-25.60	0.40		36.46	COM:	0.2 SEC	0.0 CM	105.8764
		C: 110-29-25.53	0.32			BND:	2.7 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.07	0.24	-0.31					
1641	16	O: 107-11-21.00	0.40		51.48	COM:	0.6 SEC	0.0 CM	100.9911
		C: 107-11-20.70	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.30	0.29	-1.03					
1641	15	O: 106- 0-56.20	0.40		49.99	COM:	0.0 SEC	0.0 CM	99.9223
		C: 106- 0-56.21	0.28			BND:	2.3 SEC	0.1 CM	
		V=C-O: 0- 0- 0.01	0.28	0.04					
1641	14	O: 98- 7-42.50	0.40		43.11	COM:	0.1 SEC	0.0 CM	96.7715
		C: 98- 7-42.44	0.30			BND:	2.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.06	0.26	-0.24					
1641	11	O: 93-23-44.10	0.40		34.90	COM:	0.2 SEC	0.0 CM	102.7217
		C: 93-23-44.02	0.32			BND:	2.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.08	0.24	-0.32					
1641	1622	O: 88-40-55.10	0.40		80.84	COM:	0.0 SEC	0.0 CM	366.9983
		C: 88-40-55.14	0.18			BND:	1.8 SEC	0.1 CM	
		V=C-O: 0- 0- 0.04	0.36	0.10					
1641	1652	O: 88-50-10.30	0.40		69.51	COM:	0.2 SEC	0.0 CM	159.9179
		C: 88-50-10.18	0.22			BND:	2.0 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.12	0.33	-0.36					
1641	1632	O: 106- 9- 7.70	0.40		79.42	COM:	0.2 SEC	0.0 CM	280.5453
		C: 106- 9- 7.55	0.18			BND:	1.9 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.15	0.36	-0.42					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	21	O: 92-20-28.00	0.50		76.67	COM:	0.8 SEC	0.0 CM	151.4768
		C: 92-20-27.42	0.24			BND:	2.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.58	0.44	-1.33					
1641	22	O: 92-17-24.60	0.50		74.30	COM:	-0.4 SEC	0.0 CM	151.6663
		C: 92-17-24.92	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.32	0.43	0.75					
1641	23	O: 92-21-44.70	0.50		79.83	COM:	-0.7 SEC	0.0 CM	150.9092
		C: 92-21-45.26	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.56	0.45	1.26					
1641	24	O: 95-44-42.50	0.50		75.27	COM:	-0.3 SEC	0.0 CM	145.4597
		C: 95-44-42.71	0.25			BND:	2.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.21	0.43	0.48					
1641	25	O: 100-59-11.70	0.50		77.58	COM:	-0.7 SEC	0.0 CM	145.5565
		C: 100-59-12.26	0.24			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.56	0.44	1.26					
1641	26	O: 102-26-55.30	0.50		77.92	COM:	0.0 SEC	0.0 CM	146.8578
		C: 102-26-55.27	0.23			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.03	0.44	-0.06					
1641	27	O: 105-15-10.10	0.50		80.28	COM:	-0.1 SEC	0.0 CM	148.8216
		C: 105-15-10.16	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.06	0.45	0.14					
1641	28	O: 106-49-24.50	0.50		81.63	COM:	0.3 SEC	0.0 CM	151.5151
		C: 106-49-24.23	0.21			BND:	2.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.27	0.45	-0.60					
1641	29	O: 110-24-23.50	0.50		84.87	COM:	0.4 SEC	0.0 CM	160.5181
		C: 110-24-23.20	0.19			BND:	2.2 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.30	0.46	-0.65					
1641	1652	O: 88-50-10.10	0.50		80.49	COM:	-0.1 SEC	0.0 CM	159.9179
		C: 88-50-10.18	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.08	0.45	0.18					
1641	36	O: 99-17-50.80	0.50		90.67	COM:	-0.7 SEC	0.0 CM	198.6124
		C: 99-17-51.48	0.15			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.68	0.48	1.43					
1641	35	O: 98-14- 7.50	0.50		90.71	COM:	-0.6 SEC	0.0 CM	198.1341
		C: 98-14- 8.06	0.15			BND:	2.2 SEC	0.0 CM	
		V=C-O: 0- 0- 0.56	0.48	1.19					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
1641	33	O:	91-50-47.00	0.50		90.91	COM:	-0.4 SEC	0.0 CM	197.7169
		C:	91-50-47.37	0.15			BND:	2.2 SEC	0.0 CM	
		V=C-O:	0- 0- 0.37	0.48	0.78					
1641	1652	O:	88-50-10.20	0.50		80.49	COM:	0.0 SEC	0.0 CM	159.9179
		C:	88-50-10.18	0.22			BND:	2.3 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.02	0.45	-0.04					
1631	1622	O:	65-55-14.00	0.20		75.03	COM:	0.7 SEC	0.0 CM	200.4038
		C:	65-55-13.44	0.10			BND:	1.0 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.56	0.17	-3.22 ..					
1631	1642	O:	73-54- 4.00	0.40		79.42	COM:	-0.1 SEC	0.0 CM	280.5453
		C:	73-54- 4.05	0.18			BND:	1.9 SEC	0.1 CM	
		V=C-O:	0- 0- 0.05	0.36	0.14					
1631	39	O:	80- 5-55.70	0.40		66.99	COM:	-1.5 SEC	0.0 CM	123.7201
		C:	80- 5-56.72	0.23			BND:	2.0 SEC	0.0 CM	
		V=C-O:	0- 0- 1.02	0.33	3.11 ..					
1631	38	O:	76-36-57.20	0.40		82.92	COM:	-0.1 SEC	0.0 CM	148.4026
		C:	76-36-57.27	0.17			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.07	0.36	0.19					
1631	37	O:	75-43- 5.00	0.40		85.92	COM:	-0.2 SEC	0.0 CM	157.2882
		C:	75-43- 5.21	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O:	0- 0- 0.21	0.37	0.55					
1631	36	O:	74- 7-56.70	0.40		89.62	COM:	-0.5 SEC	0.0 CM	170.9652
		C:	74- 7-57.15	0.13			BND:	1.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.45	0.38	1.18					
1631	35	O:	73-34-15.60	0.40		90.67	COM:	0.1 SEC	0.0 CM	177.8230
		C:	73-34-15.50	0.12			BND:	1.7 SEC	0.0 CM	
		V=C-O:	- 0- 0- 0.10	0.38	-0.25					
1631	34	O:	71-47-17.10	0.40		92.38	COM:	-0.6 SEC	0.0 CM	202.8514
		C:	71-47-17.68	0.11			BND:	1.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.58	0.38	1.50					
1631	33	O:	71- 2-25.50	0.40		92.76	COM:	-0.3 SEC	0.0 CM	217.5488
		C:	71- 2-25.81	0.11			BND:	1.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.31	0.39	0.82					
1631	1622	O:	65-55-13.10	0.40		93.76	COM:	-0.4 SEC	0.0 CM	200.4038
		C:	65-55-13.44	0.10			BND:	1.7 SEC	0.0 CM	
		V=C-O:	0- 0- 0.34	0.39	0.89					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1631	1622	O: 65-55-13.20	0.30		88.90	COM:	-0.3 SEC	0.0 CM	200.4038
		C: 65-55-13.44	0.10			BND:	1.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.24	0.28	0.86					
1631	23	O: 71-41-14.80	0.30		79.13	COM:	0.0 SEC	0.0 CM	226.2585
		C: 71-41-14.77	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.03	0.27	-0.11					
1631	24	O: 72-37-18.00	0.30		73.17	COM:	1.1 SEC	0.0 CM	212.3997
		C: 72-37-17.23	0.16			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.77	0.26	-3.01 ..					
1631	25	O: 74-23-40.10	0.30		67.88	COM:	0.5 SEC	0.0 CM	189.2217
		C: 74-23-39.75	0.17			BND:	1.5 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.35	0.25	-1.40					
1631	26	O: 75- 2-14.60	0.30		64.54	COM:	0.5 SEC	0.0 CM	182.1901
		C: 75- 2-14.27	0.18			BND:	1.5 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.33	0.24	-1.37					
1631	27	O: 76-37-25.30	0.30		61.13	COM:	0.0 SEC	0.0 CM	170.4364
		C: 76-37-25.27	0.19			BND:	1.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.03	0.23	-0.13					
1631	28	O: 77-38-51.10	0.30		57.22	COM:	-0.1 SEC	0.0 CM	161.1829
		C: 77-38-51.15	0.20			BND:	1.6 SEC	0.1 CM	
		V=C-O: 0- 0- 0.05	0.23	0.21					
1631	29	O: 81-10-20.20	0.30		45.05	COM:	0.5 SEC	0.0 CM	137.7597
		C: 81-10-19.97	0.22			BND:	1.8 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.23	0.20	-1.13					
1631	1642	O: 73-54- 4.80	0.30		63.42	COM:	1.2 SEC	0.1 CM	280.5453
		C: 73-54- 4.05	0.18			BND:	1.6 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.75	0.24	-3.14 ..					
1631	1622	O: 65-55-12.80	0.30		88.90	COM:	-0.7 SEC	0.0 CM	200.4038
		C: 65-55-13.44	0.10			BND:	1.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.64	0.28	2.27					
1631	17	O: 77-37-59.00	0.30		55.55	COM:	-0.1 SEC	0.0 CM	189.4752
		C: 77-37-59.07	0.20			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.07	0.22	0.31					
1631	16	O: 76- 4-42.30	0.30		75.90	COM:	0.4 SEC	0.0 CM	201.1824
		C: 76- 4-42.01	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.29	0.26	-1.10					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1631	15	O: 75-39-28.50	0.30		77.05	COM:	0.3 SEC	0.0 CM	205.0504
		C: 75-39-28.26	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.24	0.26	-0.92					
1631	14	O: 73-38-51.60	0.30		81.52	COM:	-0.7 SEC	0.0 CM	229.3271
		C: 73-38-52.14	0.13			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.54	0.27	1.98					
1631	1622	O: 65-55-12.80	0.30		88.90	COM:	-0.7 SEC	0.0 CM	200.4038
		C: 65-55-13.44	0.10			BND:	1.3 SEC	0.0 CM	
		V=C-O: 0- 0- 0.64	0.28	2.27					
1621	31	O: 94-22-19.10	0.40		91.51	COM:	0.6 SEC	0.0 CM	190.7143
		C: 94-22-18.55	0.12			BND:	1.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.55	0.38	-1.44					
1621	33	O: 94-31-53.30	0.40		91.36	COM:	0.2 SEC	0.0 CM	188.7637
		C: 94-31-53.08	0.12			BND:	1.7 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.22	0.38	-0.58					
1621	34	O: 97-18- 8.60	0.40		90.48	COM:	-0.3 SEC	0.0 CM	179.1396
		C: 97-18- 8.89	0.12			BND:	1.7 SEC	0.0 CM	
		V=C-O: 0- 0- 0.29	0.38	0.77					
1621	35	O: 102-15-40.30	0.40		89.02	COM:	-0.4 SEC	0.0 CM	171.4596
		C: 102-15-40.63	0.13			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.33	0.38	0.87					
1621	36	O: 103-37-15.60	0.40		88.52	COM:	0.4 SEC	0.0 CM	169.6216
		C: 103-37-15.25	0.14			BND:	1.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.35	0.38	-0.92					
1621	37	O: 106-30-20.20	0.40		87.41	COM:	0.4 SEC	0.0 CM	167.5836
		C: 106-30-19.84	0.14			BND:	1.8 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.36	0.37	-0.97					
1621	38	O: 108- 3-24.30	0.40		86.93	COM:	-0.5 SEC	0.0 CM	166.8212
		C: 108- 3-24.70	0.14			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.40	0.37	1.07					
1621	1663	O: 96-20-13.60	0.40		85.25	COM:	-0.3 SEC	0.0 CM	120.3868
		C: 96-20-13.89	0.15			BND:	1.8 SEC	0.0 CM	
		V=C-O: 0- 0- 0.29	0.37	0.78					
1621	29	O: 107-36-19.70	0.20		55.44	COM:	-0.4 SEC	0.0 CM	215.2496
		C: 107-36-19.91	0.13			BND:	1.1 SEC	0.1 CM	
		V=C-O: 0- 0- 0.21	0.15	1.42					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1621	28	O: 104- 5-26.60	0.20		50.51	COM:	-0.1 SEC	0.0 CM	216.7244
		C: 104- 5-26.66	0.14			BND:	1.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.06	0.14	0.41					
1621	27	O: 102-41-28.70	0.20		49.10	COM:	0.0 SEC	0.0 CM	218.3343
		C: 102-41-28.69	0.14			BND:	1.2 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.01	0.14	-0.07					
1621	26	O: 100-32-18.60	0.20		45.59	COM:	-0.4 SEC	0.0 CM	220.4280
		C: 100-32-18.78	0.15			BND:	1.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.18	0.14	1.32					
1621	25	O: 99-23-58.10	0.20		46.83	COM:	-0.1 SEC	0.0 CM	222.5818
		C: 99-23-58.13	0.15			BND:	1.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.03	0.14	0.20					
1621	24	O: 95-46-17.70	0.20		45.20	COM:	-0.6 SEC	0.0 CM	229.7526
		C: 95-46-17.98	0.15			BND:	1.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.28	0.13	2.12					
1621	23	O: 93-38-58.70	0.20		53.83	COM:	0.0 SEC	0.0 CM	232.2528
		C: 93-38-58.69	0.14			BND:	1.1 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.01	0.15	-0.06					
1621	22	O: 93-36-10.00	0.20		40.11	COM:	0.6 SEC	0.0 CM	232.7367
		C: 93-36- 9.76	0.15			BND:	1.3 SEC	0.1 CM	
		V=C-O: - 0- 0- 0.24	0.13	-1.90					
1621	21	O: 93-36-30.20	0.20		46.77	COM:	0.0 SEC	0.0 CM	234.3784
		C: 93-36-30.22	0.15			BND:	1.2 SEC	0.1 CM	
		V=C-O: 0- 0- 0.02	0.14	0.13					
1621	1663	O: 96-20-14.00	0.20		40.98	COM:	0.3 SEC	0.0 CM	120.3868
		C: 96-20-13.89	0.15			BND:	1.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.11	0.13	-0.87					
1621	11	O: 93- 0-43.20	0.30		79.50	COM:	0.2 SEC	0.0 CM	279.0844
		C: 93- 0-43.06	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.14	0.27	-0.52					
1621	12	O: 92-59-56.10	0.30		77.25	COM:	0.0 SEC	0.0 CM	279.4766
		C: 92-59-56.12	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.02	0.26	0.09					
1621	13	O: 93- 3-49.80	0.30		77.19	COM:	0.6 SEC	0.0 CM	277.6636
		C: 93- 3-49.36	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.44	0.26	-1.66					

4.6 ANALYSIS OF ZENITH DISTANCE OBSERVATIONS REPORT (CON'D)

INSTRUMENT STATION	TARGET STATION	OBSERVATION DATA (DEG-MIN-SEC)	STD. DEV. (SEC)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)	RELIABILITY	INTERNAL	EXTERNAL	HORIZONTAL DISTANCE (METERS)
1621	14	O: 94-38-59.10	0.30		84.63	COM:	1.0 SEC	0.0 CM	275.5686
		C: 94-38-58.26	0.12			BND:	1.3 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.84	0.28	-3.04 ..					
1621	15	O: 97-56-38.00	0.30		84.16	COM:	-0.1 SEC	0.0 CM	267.0958
		C: 97-56-38.06	0.12			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.06	0.28	0.21					
1621	16	O: 98-30-51.70	0.30		84.04	COM:	-0.4 SEC	0.0 CM	266.0518
		C: 98-30-52.06	0.12			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.36	0.28	1.30					
1621	18	O: 101-51- 8.50	0.30		78.54	COM:	0.1 SEC	0.0 CM	260.0528
		C: 101-51- 8.41	0.14			BND:	1.4 SEC	0.0 CM	
		V=C-O: - 0- 0- 0.09	0.27	-0.35					
1621	1632	O: 114- 8-43.70	0.30		51.35	COM:	-0.1 SEC	0.0 CM	200.4038
		C: 114- 8-43.73	0.21			BND:	1.7 SEC	0.1 CM	
		V=C-O: 0- 0- 0.03	0.21	0.13					
1621	1663	O: 96-20-13.80	0.30		73.77	COM:	-0.1 SEC	0.0 CM	120.3868
		C: 96-20-13.89	0.15			BND:	1.4 SEC	0.0 CM	
		V=C-O: 0- 0- 0.09	0.26	0.34					

4.7 ANALYSIS OF ELEVATION DIFFERENCE OBSERVATIONS REPORT

INSTRUMENT STATION	TARGET STATION		OBSERVATION DATA (METERS)	STD. DEV. (CM)	NORMALIZED RESIDUAL	REDUNDANCY NUMBER (%)		RELIABILITY INTERNAL	RELIABILITY EXTERNAL	HORIZONTAL DISTANCE (METERS)
166	1661	O:	1.56900	0.10		63.24	COM:	-0.1 CM	0.0 CM	0.0000
		C:	1.56945	0.06			BND:	0.5 CM	0.2 CM	
		V=C-O:	0.00045	0.08	0.56					
166	1662	O:	1.35260	0.10		60.94	COM:	-0.1 CM	0.0 CM	0.0000
		C:	1.35312	0.06			BND:	0.5 CM	0.2 CM	
		V=C-O:	0.00052	0.08	0.67					
166	1664	O:	1.58050	0.10		57.27	COM:	0.2 CM	0.1 CM	0.0000
		C:	1.57953	0.07			BND:	0.5 CM	0.2 CM	
		V=C-O:	-0.00097	0.08	-1.28					
165	1651	O:	0.27200	0.10		0.00	COM:	NOT		0.0000
		C:	0.27200	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
164	1641	O:	0.27400	0.10		0.00	COM:	NOT		0.0000
		C:	0.27400	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
161	1611	O:	0.27900	0.10		0.00	COM:	NOT		0.0000
		C:	0.27900	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
163	1631	O:	0.27950	0.10		0.00	COM:	NOT		0.0031
		C:	0.27950	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					
162	1621	O:	0.27650	0.10		0.00	COM:	NOT		0.0000
		C:	0.27650	0.10			BND:	CONTROLLED		
		V=C-O:	0.00000	0.00	0.00					

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
11	FREE	EAST.:	9977.1173 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.6793 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.2978	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
12	FREE	EAST.:	9979.0449 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10174.9282 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3410	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
1218	FREE	EAST.:	9846.9509 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10016.2114 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1010.8407	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
13	FREE	EAST.:	9980.7154 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10173.6632 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.1211	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
14	FREE	EAST.:	9995.5549 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10177.1436 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.5709	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
15	FREE	EAST.:	10022.2527 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10176.3897 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7109	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
16	FREE	EAST.:	10026.6334 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10176.3850 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	975.1518	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
161	FREE	EAST.:	9884.6196 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4517 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.9018	ELEV. STD. DEV.:	0.14 CM			CORR.:	0.0000
1611	FREE	EAST.:	9884.6196 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4517 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.1808	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
1612	FREE	EAST.:	9884.6196 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9926.4517 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1001.0446	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
162	FREE	EAST.:	10087.6908 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4341 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.7018	ELEV. STD. DEV.:	0.14 CM			CORR.:	0.0000
1621	FREE	EAST.:	10087.6908 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	9917.4341 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1014.9783	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)	STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
1622	FREE	EAST.: 10087.6908 FIXED NORT.: 9917.4341 FIXED ELEV.: 1014.8431	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.07 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
163	FREE	EAST.: 10203.6849 FIXED NORT.: 10080.8548 FIXED ELEV.: 925.0017	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.14 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1631	FREE	EAST.: 10203.6880 FIXED NORT.: 10080.8548 FIXED ELEV.: 925.2812	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.07 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1632	FREE	EAST.: 10203.6880 FIXED NORT.: 10080.8548 FIXED ELEV.: 925.1450	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
164	FREE	EAST.: 10000.0376 FIXED NORT.: 10273.8112 FIXED ELEV.: 1006.1181	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.14 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1641	FREE	EAST.: 10000.0376 FIXED NORT.: 10273.8112 FIXED ELEV.: 1006.3921	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.07 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1642	FREE	EAST.: 10000.0376 FIXED NORT.: 10273.8112 FIXED ELEV.: 1006.2550	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
165	FREE	EAST.: 9843.3663 FIXED NORT.: 10241.7512 FIXED ELEV.: 1009.5068	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.14 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1651	FREE	EAST.: 9843.3663 FIXED NORT.: 10241.7512 FIXED ELEV.: 1009.7788	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.07 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1652	FREE	EAST.: 9843.3663 FIXED NORT.: 10241.7512 FIXED ELEV.: 1009.6423	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
166	FIXED	EAST.: 10000.0376 FIXED NORT.: 9999.9562 FIXED ELEV.: 1000.0000 FIXED	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.00 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1661	FREE	EAST.: 10000.0376 FIXED NORT.: 9999.9562 FIXED ELEV.: 1001.5694	LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.07 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS
1662	FREE	EAST.: 10000.0376 FIXED NORT.: 9999.9562 FIXED ELEV.: 1001.3531		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1663	FREE	EAST.: 10000.0376 FIXED NORT.: 9999.9562 FIXED ELEV.: 1001.6092		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
1664	FREE	EAST.: 10000.0376 FIXED NORT.: 9999.9562 FIXED ELEV.: 1001.5795		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
17	FREE	EAST.: 10039.6057 FIXED NORT.: 10175.6064 FIXED ELEV.: 966.8274		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
18	FREE	EAST.: 10050.7200 FIXED NORT.: 10174.8455 FIXED ELEV.: 960.4062		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
21	FREE	EAST.: 9977.1003 FIXED NORT.: 10124.0811 FIXED ELEV.: 1000.2009		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
22	FREE	EAST.: 9979.5707 FIXED NORT.: 10123.5322 FIXED ELEV.: 1000.3276		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
23	FREE	EAST.: 9981.5879 FIXED NORT.: 10124.0340 FIXED ELEV.: 1000.1671		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.07 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
24	FREE	EAST.: 9996.6759 FIXED NORT.: 10128.3904 FIXED ELEV.: 991.7585		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
25	FREE	EAST.: 10020.8945 FIXED NORT.: 10129.7568 FIXED ELEV.: 978.1349		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
26	FREE	EAST.: 10028.1597 FIXED NORT.: 10129.6711 FIXED ELEV.: 973.9737		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000
27	FREE	EAST.: 10040.6876 FIXED NORT.: 10130.6489 FIXED ELEV.: 965.8120		LTH: 0.00 CM AZI: 0- 0- 0 ELEV. STD. DEV.:	0.00 CM 90- 0- 0 0.08 CM	0.00 CM	0.00 CM	EAST.: 0.00 CM NORT.: 0.00 CM CORR.: 0.0000

5.1 ADJUSTED COORDINATES AND ABSOLUTE ERROR ELLIPSE REPORT (CON'D)

STATION NAME	TYPE	ADJUSTED COORDINATES (METERS)		STANDARD CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	95% CONFIDENCE ERROR ELLIPSE SEMI-MAJOR	SEMI-MINOR	MARGINAL STANDARD DEVIATIONS	
28	FREE	EAST.:	10050.4845 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10130.9409 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.5808	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
29	FREE	EAST.:	10075.9195 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10132.3616 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.6770	ELEV. STD. DEV.:	0.08 CM			CORR.:	0.0000
31	FREE	EAST.:	9981.3287 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10075.7346 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.3999	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
32	FREE	EAST.:	9983.6449 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.4478 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.4049	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
33	FREE	EAST.:	9986.1812 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10076.5804 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	1000.0201	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
34	FREE	EAST.:	10000.9467 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10074.1710 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	992.0239	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
35	FREE	EAST.:	10025.8991 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.3721 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	977.7171	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
36	FREE	EAST.:	10032.7481 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10077.9109 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	973.8786	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
37	FREE	EAST.:	10046.4030 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10079.8520 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	965.3219	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
38	FREE	EAST.:	10055.2856 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10081.0777 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	960.5934	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000
39	FREE	EAST.:	10080.0130 FIXED	LTH: 0.00 CM	0.00 CM	0.00 CM	0.00 CM	EAST.:	0.00 CM
		NORT.:	10084.1946 FIXED	AZI: 0- 0- 0	90- 0- 0			NORT.:	0.00 CM
		ELEV.:	946.8767	ELEV. STD. DEV.:	0.07 CM			CORR.:	0.0000

5.2 ESTIMATED EDM QUANTITIES REPORT

FACTOR	ESTIMATED VALUE	STANDARD DEVIATION
ADDITIVE CONSTANT	NOT ESTIMATED	
SCALE OF DISTANCES	NOT ESTIMATED	
AMPLITUDE OF CYCLIC	NOT ESTIMATED	
PHASE OF CYCLIC	NOT ESTIMATED	
REFRACTION COEFFICIENT	0.32304	+/- 0.03858

CORRELATION COEFFICIENT MATRIX OF ESTIMATED EDM QUANTITIES:

ADDITIVE CONSTANT	0.000000	0.000000	0.000000	0.000000	0.000000
SCALE OF DISTANCES		0.000000	0.000000	0.000000	0.000000
AMPLITUDE OF CYCLIC			0.000000	0.000000	0.000000
PHASE OF CYCLIC				0.000000	0.000000
REFRACTION COEFFICIENT					1.000000

5.3 RELATIVE ERROR ELLIPSE REPORT

STATION NAME	STATION NAME	HORIZONTAL LINE INFORMATION		STANDARD RELATIVE ERROR ELLIPSE SEMI-MAJOR	STANDARD RELATIVE ERROR ELLIPSE SEMI-MINOR	95% RELATIVE ERROR ELLIPSE SEMI-MAJOR	95% RELATIVE ERROR ELLIPSE SEMI-MINOR	ELEV. DIFF. (METERS)	ELE. DIF. STD. DEV. (CM)	95% RELATIVE PRECISION
161	1611	LTH:	0.0000 M	0.00 CM	0.00 CM	0.00 CM	0.00 CM	0.2790	0.14	HOR.: VER.: 1 / 100
		AZI:	315- 0- 0	0- 0- 0	90- 0- 0					

5.4 SUMMARY REPORT

OBSERVATION TYPE	NUMBER	WEIGHTED SUM OF RESIDUALS SQUARED	REDUNDANCY	STD. DEV. OF UNIT WEIGHT
DIRECTIONS	0	0.000000D+00	0.000000D+00	1.00000
AZIMUTHS	0	0.000000D+00	0.000000D+00	1.00000
HORIZONTAL DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SLOPE DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
SCALED DISTANCE	0	0.000000D+00	0.000000D+00	1.00000
ZENITH DISTANCE	126	0.125671D+03	0.851854D+02	1.21460
HEIGHT DIFFERENCE	8	0.140768D+01	0.181456D+01	0.88078
OBSERVED COORDINATES	0	0.000000D+00	0.000000D+00	1.00000
COORDINATE DIFF.	0	0.000000D+00	0.000000D+00	1.00000
TOTAL	134	0.127079D+03	87	1.20858

STATIONS:	FIXED	1
	FREE	46
	WEIGHTED	0
	TOTAL	47

CONVERGENCE:	ITERATIONS USED	4
	TOLERANCE	0.001000
	COMPUTATION TIME	101.539 SEC