MicroSurvey STAR\*NET-PRO Version 7, 2, 2, 7

Run Date: Wed May 08 2019 16:04:56

Summary of Files Used and Option Settings

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Project Folder and Data Files

Project Name DETTAGLIO SAN LORENZO

Project Folder H:\TESI\RILIEVO NORCIA\5. ELABORAZIONI\STARNET

Data File List 1. dettaglio san lorenzo.dat

Project Option Settings

STAR\*NET Run Mode : Adjust with Error Propagation

Type of Adjustment : 3D

Project Units : Meters; GONS

Coordinate System : UTM; Zone 33

Ellipsoid : WGS-84

Major Axis; 1 / Flattening : 6378137.000; 298.257223563000

Geoid Height : 600.0000 (Default, Meters)

Longitude Sign Convention : Positive West

Input/Output Coordinate Order : East-North

Angle Data Station Order : At-From-To

Distance/Vertical Data Type : Slope/Zenith

Convergence Limit; Max Iterations : 0.010000; 10

Default Coefficient of Refraction : 0.070000

Create Coordinate File : Yes

Create Geodetic Position File : No

Create Ground Scale Coordinate File : No

Create Dump File : No

Instrument Standard Error Settings

Project Default Instrument

Distances (Constant) : 0.002000 Meters

Distances (PPM) : 1.000000

Angles : 1.000000 MilliGons

Directions : 1.000000 MilliGons

Azimuths & Bearings : 1.000000 MilliGons

Zeniths : 3.000000 MilliGons

Elevation Differences (Constant) : 0.015240 Meters

Elevation Differences (PPM) : 0.000000

Differential Levels : 0.002403 Meters / Km

Centering Error Instrument : 0.001000 Meters

Centering Error Target : 0.001000 Meters

Centering Error Vertical : 0.003000 Meters

Summary of Unadjusted Input Observations

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Number of Entered Stations (Meters) = 2

Fixed Stations E N Elev Description

NOR3000 344055.2820 4739415.0400 602.8880

Partially Fixed E N Elev Description

StdErr StdErr StdErr

NOR3100 344081.4140 4739365.4940 602.7290

0.0030 0.0100 0.0100

Number of Measured Distance Observations (Meters) = 71

From To Distance StdErr HI HT Comb Grid Type

NOR3100 NOR3000 56.0175 0.0025 1.620 1.520 0.9997104 S

NOR3100 V100 140.1195 0.0026 1.620 1.520 0.9997103 S

NOR3100 NOR3200 22.9570 0.0025 1.620 0.100 0.9997103 S

NOR3100 LORM1 11.1970 0.0025 1.620 0.000 0.9997105 S

NOR3100 LORG1 7.6600 0.0026 1.620 0.100 0.9997102 S

NOR3100 LORG2 24.0360 0.0025 1.620 0.100 0.9997104 S

NOR3100 LORG3 17.4400 0.0025 1.620 0.100 0.9997104 S

NOR3100 LORG4 30.4720 0.0025 1.620 0.100 0.9997103 S

NOR3100 LORG5 42.0930 0.0025 1.620 0.100 0.9997104 S

NOR3100 LORM2 30.1630 0.0025 1.620 0.000 0.9997103 S

NOR3100 LORM3 45.7290 0.0025 1.620 0.000 0.9997103 S

NOR3100 LORM4 8.3760 0.0025 1.620 0.000 0.9997101 S

NOR3100 LORM5 11.1440 0.0025 1.620 0.000 0.9997101 S

NOR3100 LORM6 25.3800 0.0025 1.620 0.000 0.9997102 S

NOR3100 LORM7 11.6210 0.0025 1.620 0.000 0.9997104 S

NOR3100 LORM8 6.0960 0.0025 1.620 0.000 0.9997101 S

NOR3100 LORT1 6.6330 0.0033 1.620 0.000 0.9997099 S

NOR3100 LORT2 6.1920 0.0027 1.620 0.000 0.9997103 S

NOR3100 LORT3 9.1110 0.0030 1.620 0.000 0.9997101 S

NOR3100 LORT4 11.7860 0.0025 1.620 0.000 0.9997103 S

NOR3100 LORT5 26.2140 0.0026 1.620 0.000 0.9997098 S

NOR3100 LORT6 24.0320 0.0025 1.620 0.000 0.9997102 S

NOR3100 LORT7 13.1250 0.0029 1.620 0.000 0.9997097 S

NOR3100 LORT8 12.1310 0.0026 1.620 0.000 0.9997103 S

NOR3100 LORT9 5.3680 0.0032 1.620 0.000 0.9997100 S

NOR3100 LORT10 5.3340 0.0027 1.620 0.000 0.9997106 S

NOR3100 LORT11 9.1980 0.0025 1.620 0.000 0.9997107 S

NOR3100 LORT12 12.4450 0.0030 1.620 0.000 0.9997101 S

NOR3100 LORT13 20.4890 0.0025 1.620 0.000 0.9997103 S

NOR3100 LORT13 20.4880 0.0025 1.620 0.000 0.9997103 S

NOR3100 LORT14 28.8430 0.0026 1.620 0.000 0.9997099 S

NOR3100 LORG6 2.0690 0.0039 1.620 0.000 0.9997104 S

NOR3100 LORG7 6.2070 0.0026 1.620 0.100 0.9997105 S

NOR3100 LORG8 12.8750 0.0025 1.620 0.100 0.9997104 S

NOR3100 LORG9 4.2430 0.0029 1.620 0.100 0.9997102 S

NOR3000 V100 84.1280 0.0025 1.466 1.520 0.9997103 S

NOR3000 LORG11 6.2700 0.0025 1.160 2.000 0.9997106 S

NOR3000 LORG12 10.7730 0.0025 1.160 2.000 0.9997105 S

NOR3000 LORG13 14.1020 0.0025 1.160 2.000 0.9997103 S

NOR3000 LORG14 20.8750 0.0025 1.160 2.000 0.9997107 S

NOR3000 LORG15 28.3570 0.0025 1.160 2.000 0.9997107 S

NOR3000 LORG16 25.6340 0.0025 1.160 2.000 0.9997104 S

NOR3000 LORG17 32.7700 0.0025 1.160 2.000 0.9997103 S

NOR3000 LORM10 11.7930 0.0025 1.160 0.000 0.9997101 S

NOR3000 LORM11 21.6050 0.0025 1.160 0.000 0.9997103 S

NOR3000 LORM12 22.5660 0.0025 1.160 0.000 0.9997105 S

NOR3000 LORT20 22.7950 0.0027 1.160 0.000 0.9997099 S

NOR3000 LORT21 21.9240 0.0026 1.160 0.000 0.9997099 S

NOR3000 LORT22 23.5400 0.0026 1.160 0.000 0.9997102 S

NOR3000 LORT23 18.7320 0.0032 1.160 0.000 0.9997099 S

NOR3000 LORT24 16.8060 0.0031 1.160 0.000 0.9997096 S

NOR3000 LORT25 3.5940 0.0028 1.160 0.000 0.9997104 S

NOR3200 NOR3100 22.8370 0.0025 1.522 0.100 0.9997103 S

NOR3200 LORG27 11.4740 0.0025 1.522 0.100 0.9997103 S

NOR3200 LORG28 6.8970 0.0025 1.522 0.100 0.9997104 S

NOR3200 LORG29 6.8930 0.0025 1.522 0.100 0.9997107 S

NOR3200 LORG30 14.8430 0.0025 1.522 0.100 0.9997106 S

NOR3200 LORG31 22.3680 0.0025 1.522 0.100 0.9997106 S

NOR3200 LORG32 3.4330 0.0028 1.522 0.100 0.9997107 S

NOR3200 LORG33 2.3970 0.0033 1.522 0.100 0.9997104 S

NOR3200 LORM35 8.6620 0.0025 1.522 0.000 0.9997103 S

NOR3200 LORM36 7.5410 0.0025 1.522 0.000 0.9997107 S

NOR3200 LORM37 11.6490 0.0025 1.522 0.000 0.9997107 S

NOR3200 LORM38 19.2770 0.0025 1.522 0.000 0.9997105 S

NOR3200 LORM39 27.2330 0.0025 1.522 0.000 0.9997105 S

NOR3200 LORM40 4.7990 0.0025 1.522 0.000 0.9997103 S

NOR3200 LORM41 3.4140 0.0025 1.522 0.000 0.9997107 S

NOR3200 LORM42 13.8360 0.0025 1.522 0.000 0.9997101 S

NOR3200 LORM43 17.1610 0.0027 1.522 0.000 0.9997098 S

NOR3200 LORT44 12.3380 0.0031 1.522 0.000 0.9997097 S

NOR3200 LORT45 6.2600 0.0038 1.522 0.000 0.9997100 S

Number of Zenith Observations (GONS) = 73

From To Zenith StdErr HI HT

NOR3100 NOR3000 99.932910 5.68 1.620 1.520

NOR3100 V100 99.068500 3.57 1.620 1.520

NOR3100 NOR3200 106.482125 12.09 1.620 0.100

NOR3100 LORM1 98.608930 24.31 1.620 0.000

NOR3100 LORG1 113.978780 34.65 1.620 0.100

NOR3100 LORG2 102.550230 11.63 1.620 0.100

NOR3100 LORG3 104.486960 15.75 1.620 0.100

NOR3100 LORG4 102.279090 9.36 1.620 0.100

NOR3100 LORG5 101.786610 7.08 1.620 0.100

NOR3100 LORM2 98.802820 9.44 1.620 0.000

NOR3100 LORM3 99.632500 6.63 1.620 0.000

NOR3100 LORM4 96.921230 32.36 1.620 0.000

NOR3100 LORM5 103.333780 24.40 1.620 0.000

NOR3100 LORM6 102.525310 11.05 1.620 0.000

NOR3100 LORM7 103.346180 23.41 1.620 0.000

NOR3100 LORM8 104.129780 44.34 1.620 0.000

NOR3100 LORT1 61.918520 34.65 1.620 0.000

NOR3100 LORT2 116.708750 42.41 1.620 0.000

NOR3100 LORT3 70.413590 27.04 1.620 0.000

NOR3100 LORT4 94.774230 23.05 1.620 0.000

NOR3100 LORT5 89.492930 10.61 1.620 0.000

NOR3100 LORT6 100.394400 11.64 1.620 0.000

NOR3100 LORT7 74.815860 19.41 1.620 0.000

NOR3100 LORT8 110.835660 22.19 1.620 0.000

NOR3100 LORT9 64.898000 43.87 1.620 0.000

NOR3100 LORT10 80.299130 48.61 1.620 0.000

NOR3100 LORT11 105.388040 29.43 1.620 0.000

NOR3100 LORT12 72.800790 20.21 1.620 0.000

NOR3100 LORT13 96.203630 13.50 1.620 0.000

NOR3100 LORT13 96.203190 13.50 1.620 0.000

NOR3100 LORT14 86.279110 9.65 1.620 0.000

NOR3100 LORG6 156.048910 89.72 1.620 0.000

NOR3100 LORG7 114.670200 42.61 1.620 0.100

NOR3100 LORG8 110.208560 20.96 1.620 0.100

NOR3100 LORG9 125.732420 59.21 1.620 0.100

NOR3000 V100 98.439550 4.39 1.466 1.520

NOR3000 V100 98.439550 4.39 1.466 1.520

NOR3000 LORG11 94.205410 43.04 1.160 2.000

NOR3000 LORG12 96.404780 25.22 1.160 2.000

NOR3000 LORG13 96.812140 19.37 1.160 2.000

NOR3000 LORG14 98.329770 13.28 1.160 2.000

NOR3000 LORG15 99.244120 9.99 1.160 2.000

NOR3000 LORG16 98.019770 10.95 1.160 2.000

NOR3000 LORG17 98.214140 8.77 1.160 2.000

NOR3000 LORM10 98.661240 23.10 1.160 0.000

NOR3000 LORM11 97.112870 12.85 1.160 0.000

NOR3000 LORM12 100.788220 12.34 1.160 0.000

NOR3000 LORT20 80.536770 11.75 1.160 0.000

NOR3000 LORT21 84.793910 12.38 1.160 0.000

NOR3000 LORT22 86.234060 11.63 1.160 0.000

NOR3000 LORT23 66.555460 13.06 1.160 0.000

NOR3000 LORT24 69.701690 14.81 1.160 0.000

NOR3000 LORT25 77.828160 71.24 1.160 0.000

NOR3200 NOR3100 101.739475 12.20 1.522 0.100

NOR3200 NOR3100 101.739475 12.20 1.522 0.100

NOR3200 LORG27 106.471830 23.63 1.522 0.100

NOR3200 LORG28 109.652840 38.89 1.522 0.100

NOR3200 LORG29 108.883400 38.97 1.522 0.100

NOR3200 LORG30 102.809090 18.43 1.522 0.100

NOR3200 LORG31 101.242350 12.44 1.522 0.100

NOR3200 LORG32 121.108650 74.95 1.522 0.100

NOR3200 LORG33 137.874780 95.73 1.522 0.100

NOR3200 LORM35 96.278260 31.28 1.522 0.000

NOR3200 LORM36 101.633050 35.94 1.522 0.000

NOR3200 LORM37 91.544490 23.20 1.522 0.000

NOR3200 LORM38 97.283180 14.32 1.522 0.000

NOR3200 LORM39 97.408180 10.36 1.522 0.000

NOR3200 LORM40 106.221900 56.13 1.522 0.000

NOR3200 LORM41 101.719130 79.16 1.522 0.000

NOR3200 LORM42 98.645920 19.75 1.522 0.000

NOR3200 LORM43 81.253190 15.44 1.522 0.000

NOR3200 LORT44 67.921080 19.72 1.522 0.000

NOR3200 LORT45 47.028730 31.09 1.522 0.000

Number of Measured Direction Observations (GONS) = 71

From To Direction StdErr t-T

Set 1

NOR3100 NOR3000 275.418905 1.89 0.06

NOR3100 V100 276.214025 1.19 0.15

NOR3100 NOR3200 325.885245 4.07 0.03

NOR3100 LORM1 243.413550 8.11 0.01

NOR3100 LORG1 319.112070 12.09 0.01

NOR3100 LORG2 263.303640 3.88 0.02

NOR3100 LORG3 268.422360 5.27 0.02

NOR3100 LORG4 272.875230 3.12 0.03

NOR3100 LORG5 272.892270 2.36 0.04

NOR3100 LORM2 263.326620 3.15 0.03

NOR3100 LORM3 268.188200 2.21 0.05

NOR3100 LORM4 286.290100 10.81 0.01

NOR3100 LORM5 322.174520 8.15 0.01

NOR3100 LORM6 331.978920 3.69 0.03

NOR3100 LORM7 357.767300 7.82 0.01

NOR3100 LORM8 86.017490 14.84 -0.01

NOR3100 LORT1 77.509100 16.46 -0.01

NOR3100 LORT2 84.985200 15.09 -0.01

NOR3100 LORT3 360.559960 11.10 0.01

NOR3100 LORT4 357.231240 7.73 0.01

NOR3100 LORT5 329.504040 3.62 0.03

NOR3100 LORT6 333.143950 3.88 0.03

NOR3100 LORT7 330.819250 7.50 0.01

NOR3100 LORT8 325.007850 7.60 0.01

NOR3100 LORT9 141.813450 19.72 -0.00

NOR3100 LORT10 206.011070 17.75 -0.00

NOR3100 LORT11 237.806120 9.88 0.01

NOR3100 LORT12 247.943110 8.01 0.01

NOR3100 LORT13 256.037680 4.52 0.02

NOR3100 LORT13 256.034810 4.52 0.02

NOR3100 LORT14 261.915240 3.35 0.03

NOR3100 LORG6 270.133040 68.36 0.00

NOR3100 LORG7 254.542780 14.94 0.01

NOR3100 LORG8 345.651780 7.16 0.01

NOR3100 LORG9 102.096550 23.11 -0.00

Set 2

NOR3000 V100 251.614060 1.47 0.09

NOR3000 LORG11 34.638780 14.46 -0.01

NOR3000 LORG12 41.328340 8.43 -0.01

NOR3000 LORG13 57.819700 6.47 -0.02

NOR3000 LORG14 22.221400 4.43 -0.02

NOR3000 LORG15 24.209120 3.33 -0.02

NOR3000 LORG16 53.300560 3.65 -0.03

NOR3000 LORG17 59.130930 2.93 -0.04

NOR3000 LORM10 79.260550 7.70 -0.01

NOR3000 LORM11 42.512430 4.29 -0.02

NOR3000 LORM12 30.745900 4.11 -0.02

NOR3000 LORT20 36.480050 4.26 -0.02

NOR3000 LORT21 49.198340 4.34 -0.02

NOR3000 LORT22 24.217140 4.04 -0.02

NOR3000 LORT23 21.436500 5.65 -0.01

NOR3000 LORT24 70.524030 6.11 -0.02

NOR3000 LORT25 125.005950 26.68 -0.00

Set 3

NOR3200 NOR3100 323.000550 4.07 -0.03

NOR3200 LORG27 300.881220 7.95 -0.01

NOR3200 LORG28 330.242190 13.25 -0.01

NOR3200 LORG29 43.129460 13.23 0.00

NOR3200 LORG30 50.800430 6.15 0.01

NOR3200 LORG31 51.197460 4.15 0.02

NOR3200 LORG32 367.288580 27.76 -0.00

NOR3200 LORG33 74.597030 45.37 0.00

NOR3200 LORM35 340.545950 10.46 -0.01

NOR3200 LORM36 372.524920 11.99 -0.00

NOR3200 LORM37 27.336590 7.86 0.01

NOR3200 LORM38 47.059890 4.78 0.01

NOR3200 LORM39 51.281100 3.46 0.02

NOR3200 LORM40 76.147400 18.88 0.01

NOR3200 LORM41 173.259140 26.41 0.00

NOR3200 LORM42 296.654040 6.59 -0.02

NOR3200 LORM43 306.500290 5.57 -0.02

NOR3200 LORT44 317.518550 8.39 -0.01

NOR3200 LORT45 65.733200 21.39 0.00

Adjustment Statistical Summary

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Iterations = 2

Number of Stations = 69

Number of Observations = 218

Number of Unknowns = 207

Number of Redundant Obs = 11

Observation Count Sum Squares Error

of StdRes Factor

Coordinates 3 3.214 4.607

Directions 71 0.202 0.238

Distances 71 12.984 1.904

Zeniths 73 10.369 1.678

Total 218 26.768 1.560

Warning: The Chi-Square Test at 5.00% Level Exceeded Upper Bound

Lower/Upper Bounds (0.589/1.412)

Adjusted Station Information

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Adjusted Coordinates (Meters)

Station E N Elev Description

NOR3100 344081.4132 4739365.5114 602.7322

NOR3000 344055.2820 4739415.0400 602.8880

V100 344017.6055 4739490.2005 604.8937

NOR3200 344088.3168 4739387.2694 601.9285

LORM1 344072.0681 4739371.6685 604.5968

LORG1 344082.9042 4739372.8351 602.5837

LORG2 344066.3948 4739384.2442 603.2896

LORG3 344071.6595 4739379.9106 603.0240

LORG4 344066.1429 4739391.8484 603.1616

LORG5 344060.3239 4739401.9070 603.0712

LORM2 344062.5632 4739389.0409 604.9194

LORM3 344055.6360 4739403.2659 604.6163

LORM4 344078.8242 4739373.4644 604.7571

LORM5 344084.1544 4739376.2939 603.7689

LORM6 344091.3551 4739388.8334 603.3457

LORM7 344089.8004 4739373.5271 603.7416

LORM8 344083.3204 4739359.7368 603.9570

LORT1 344083.8097 4739360.5836 608.0875

LORT2 344083.3798 4739359.8660 602.7456

LORT3 344087.5406 4739370.8735 608.4357

LORT4 344089.8340 4739373.6959 605.3186

LORT5 344090.6184 4739389.6672 608.6591

LORT6 344091.2371 4739387.4356 604.2033

LORT7 344085.9575 4739376.7341 609.4100

LORT8 344084.8706 4739376.9527 602.2974

LORT9 344078.9950 4739361.6323 607.1643

LORT10 344076.3341 4739365.4863 605.9766

LORT11 344073.3483 4739369.8598 603.5746

LORT12 344072.4247 4739372.3975 609.5089

LORT13 344066.8900 4739379.9032 605.5733

LORT14 344063.3190 4739387.0987 610.5207

LORG6 344080.7040 4739366.6215 602.7570

LORG7 344077.0235 4739369.6619 602.8345

LORG8 344088.7724 4739375.8694 602.1964

LORG9 344081.6721 4739361.6201 602.5835

LORG11 344059.4509 4739410.3939 602.6179

LORG12 344061.5842 4739406.3278 602.6561

LORG13 344060.3368 4739401.8984 602.7539

LORG14 344071.9598 4739402.5075 602.5956

LORG15 344077.4010 4739397.3118 602.3847

LORG16 344066.1499 4739391.8457 602.8453

LORG17 344066.4063 4739384.2398 602.9672

LORM10 344055.6403 4739403.2585 604.2960

LORM11 344067.6007 4739397.3257 605.0275

LORM12 344071.3451 4739399.2024 603.7686

LORT20 344069.3217 4739398.4523 610.9090

LORT21 344065.5404 4739396.3783 609.2351

LORT22 344073.2155 4739400.6628 609.0986

LORT23 344068.3530 4739405.4677 613.4423

LORT24 344057.7737 4739400.3153 611.7479

LORT25 344053.1370 4739412.4314 605.2745

LORG27 344088.7755 4739375.8672 602.1861

LORG28 344085.5313 4739381.0487 602.3087

LORG29 344082.7765 4739391.2534 602.3918

LORG30 344077.4088 4739397.3081 602.6958

LORG31 344071.9606 4739402.5116 602.9141

LORG32 344085.5810 4739385.5241 602.2329

LORG33 344087.4480 4739389.0538 602.0071

LORM35 344083.5587 4739380.0520 603.9566

LORM36 344081.6518 4739383.7517 603.2571

LORM37 344077.5774 4739391.5011 604.9932

LORM38 344073.4082 4739399.4533 604.2729

LORM39 344068.4403 4739405.8410 604.5590

LORM40 344086.3319 4739391.6120 602.9822

LORM41 344091.3522 4739388.8270 603.3583

LORM42 344089.7882 4739373.5191 603.7448

LORM43 344087.5281 4739370.8708 608.4313

LORT44 344085.9477 4739376.7311 609.4078

LORT45 344085.9642 4739390.7655 608.0787

Adjusted Positions and Ellipsoid Heights (Meters)

(Average Geoid Height = 600.000 Meters)

Station Latitude Longitude Ellip Ht

NOR3100 42-47-27.498917 -13-05-36.823319 1202.7322

NOR3000 42-47-29.084571 -13-05-35.624427 1202.8880

V100 42-47-31.492274 -13-05-33.892076 1204.8937

NOR3200 42-47-28.208967 -13-05-37.105392 1201.9285

LORM1 42-47-27.691569 -13-05-36.406067 1204.5968

LORG1 42-47-27.737307 -13-05-36.881631 1202.5837

LORG2 42-47-28.094883 -13-05-36.143964 1203.2896

LORG3 42-47-27.958325 -13-05-36.379891 1203.0240

LORG4 42-47-28.341086 -13-05-36.125318 1203.1616

LORG5 42-47-28.662738 -13-05-35.859307 1203.0712

LORM2 42-47-28.247495 -13-05-35.970623 1204.9194

LORM3 42-47-28.703331 -13-05-35.651716 1204.6163

LORM4 42-47-27.754709 -13-05-36.701508 1204.7571

LORM5 42-47-27.850295 -13-05-36.933190 1203.7689

LORM6 42-47-28.261870 -13-05-37.237504 1203.3457

LORM7 42-47-27.764782 -13-05-37.184333 1203.7416

LORM8 42-47-27.313208 -13-05-36.912970 1203.9570

LORT1 42-47-27.341004 -13-05-36.933654 1208.0875

LORT2 42-47-27.317436 -13-05-36.915456 1202.7456

LORT3 42-47-27.677145 -13-05-37.087554 1208.4357

LORT4 42-47-27.770277 -13-05-37.185641 1205.3186

LORT5 42-47-28.288345 -13-05-37.204262 1208.6591

LORT6 42-47-28.216491 -13-05-37.233705 1204.2033

LORT7 42-47-27.865878 -13-05-37.012079 1209.4100

LORT8 42-47-27.872164 -13-05-36.964042 1202.2974

LORT9 42-47-27.371455 -13-05-36.720791 1207.1643

LORT10 42-47-27.494382 -13-05-36.599895 1205.9766

LORT11 42-47-27.633902 -13-05-36.464189 1203.5746

LORT12 42-47-27.715451 -13-05-36.421029 1209.5089

LORT13 42-47-27.954590 -13-05-36.170070 1205.5733

LORT14 42-47-28.185119 -13-05-36.005809 1210.5207

LORG6 42-47-27.534364 -13-05-36.791016 1202.7570

LORG7 42-47-27.630182 -13-05-36.626070 1202.8345

LORG8 42-47-27.839922 -13-05-37.136779 1202.1964

LORG9 42-47-27.373021 -13-05-36.838579 1202.5835

LORG11 42-47-28.937087 -13-05-35.812457 1202.6179

LORG12 42-47-28.806899 -13-05-35.910355 1202.6561

LORG13 42-47-28.662466 -13-05-35.859883 1202.7539

LORG14 42-47-28.690720 -13-05-36.370624 1202.5956

LORG15 42-47-28.526358 -13-05-36.615174 1202.3847

LORG16 42-47-28.341005 -13-05-36.125628 1202.8453

LORG17 42-47-28.094748 -13-05-36.144477 1202.9672

LORM10 42-47-28.703094 -13-05-35.651912 1204.2960

LORM11 42-47-28.519628 -13-05-36.184003 1205.0275

LORM12 42-47-28.583180 -13-05-36.346867 1203.7686

LORT20 42-47-28.557393 -13-05-36.258595 1210.9090

LORT21 42-47-28.487422 -13-05-36.094305 1209.2351

LORT22 42-47-28.631867 -13-05-36.427702 1209.0986

LORT23 42-47-28.783991 -13-05-36.209001 1213.4423

LORT24 42-47-28.609296 -13-05-35.748700 1211.7479

LORT25 42-47-28.998476 -13-05-35.532657 1205.2745

LORG27 42-47-27.839853 -13-05-37.136914 1202.1861

LORG28 42-47-28.005364 -13-05-36.989037 1202.3087

LORG29 42-47-28.333996 -13-05-36.857688 1202.3918

LORG30 42-47-28.526244 -13-05-36.615519 1202.6958

LORG31 42-47-28.690853 -13-05-36.370654 1202.9141

LORG32 42-47-28.150411 -13-05-36.986772 1202.2329

LORG33 42-47-28.266146 -13-05-37.065398 1202.0071

LORM35 42-47-27.971624 -13-05-36.903245 1203.9566

LORM36 42-47-28.090106 -13-05-36.815670 1203.2571

LORM37 42-47-28.338212 -13-05-36.628712 1204.9932

LORM38 42-47-28.592820 -13-05-36.437383 1204.2729

LORM39 42-47-28.796152 -13-05-36.212468 1204.5590

LORM40 42-47-28.348219 -13-05-37.013748 1202.9822

LORM41 42-47-28.261659 -13-05-37.237385 1203.3583

LORM42 42-47-27.764512 -13-05-37.183806 1203.7448

LORM43 42-47-27.677050 -13-05-37.087007 1208.4313

LORT44 42-47-27.865773 -13-05-37.011648 1209.4078

LORT45 42-47-28.320522 -13-05-36.998416 1208.0787

Convergence Angles (GONS) and Grid Factors at Stations

(Grid Azimuth = Geodetic Azimuth - Convergence)

(Elevation Factor Includes a 600.00 Meter Geoid Height Correction)

Convergence ------- Factors -------

Station Angle Scale x Elevation = Combined

NOR3100 -1.439281 0.99989909 0.99981141 0.99971052

NOR3000 -1.439544 0.99989919 0.99981139 0.99971060

V100 -1.439926 0.99989933 0.99981108 0.99971043

NOR3200 -1.439227 0.99989906 0.99981154 0.99971062

LORM1 -1.439370 0.99989913 0.99981112 0.99971027

LORG1 -1.439270 0.99989908 0.99981144 0.99971054

LORG2 -1.439428 0.99989915 0.99981133 0.99971049

LORG3 -1.439377 0.99989913 0.99981137 0.99971052

LORG4 -1.439433 0.99989915 0.99981135 0.99971051

LORG5 -1.439492 0.99989917 0.99981136 0.99971055

LORM2 -1.439465 0.99989916 0.99981107 0.99971025

LORM3 -1.439535 0.99989919 0.99981112 0.99971033

LORM4 -1.439308 0.99989910 0.99981110 0.99971022

LORM5 -1.439260 0.99989908 0.99981125 0.99971035

LORM6 -1.439199 0.99989905 0.99981132 0.99971039

LORM7 -1.439207 0.99989906 0.99981126 0.99971033

LORM8 -1.439260 0.99989908 0.99981122 0.99971032

LORT1 -1.439256 0.99989908 0.99981058 0.99970967

LORT2 -1.439260 0.99989908 0.99981141 0.99971051

LORT3 -1.439226 0.99989907 0.99981052 0.99970961

LORT4 -1.439207 0.99989906 0.99981101 0.99971009

LORT5 -1.439207 0.99989905 0.99981049 0.99970956

LORT6 -1.439200 0.99989905 0.99981118 0.99971026

LORT7 -1.439244 0.99989907 0.99981037 0.99970946

LORT8 -1.439254 0.99989908 0.99981148 0.99971058

LORT9 -1.439301 0.99989910 0.99981072 0.99970984

LORT10 -1.439327 0.99989911 0.99981091 0.99971003

LORT11 -1.439357 0.99989912 0.99981128 0.99971042

LORT12 -1.439367 0.99989912 0.99981035 0.99970950

LORT13 -1.439421 0.99989915 0.99981097 0.99971013

LORT14 -1.439457 0.99989916 0.99981019 0.99970937

LORG6 -1.439288 0.99989909 0.99981141 0.99971052

LORG7 -1.439323 0.99989911 0.99981140 0.99971052

LORG8 -1.439217 0.99989906 0.99981150 0.99971058

LORG9 -1.439276 0.99989909 0.99981144 0.99971055

LORG11 -1.439503 0.99989917 0.99981143 0.99971063

LORG12 -1.439482 0.99989917 0.99981143 0.99971061

LORG13 -1.439491 0.99989917 0.99981141 0.99971060

LORG14 -1.439385 0.99989913 0.99981144 0.99971058

LORG15 -1.439332 0.99989911 0.99981147 0.99971059

LORG16 -1.439433 0.99989915 0.99981140 0.99971056

LORG17 -1.439427 0.99989915 0.99981138 0.99971054

LORM10 -1.439535 0.99989919 0.99981117 0.99971038

LORM11 -1.439422 0.99989914 0.99981105 0.99971022

LORM12 -1.439389 0.99989913 0.99981125 0.99971040

LORT20 -1.439407 0.99989914 0.99981013 0.99970929

LORT21 -1.439441 0.99989915 0.99981040 0.99970957

LORT22 -1.439372 0.99989912 0.99981042 0.99970956

LORT23 -1.439419 0.99989914 0.99980974 0.99970889

LORT24 -1.439514 0.99989918 0.99981000 0.99970920

LORT25 -1.439563 0.99989920 0.99981102 0.99971023

LORG27 -1.439217 0.99989906 0.99981150 0.99971058

LORG28 -1.439250 0.99989907 0.99981148 0.99971057

LORG29 -1.439280 0.99989908 0.99981147 0.99971057

LORG30 -1.439332 0.99989911 0.99981142 0.99971054

LORG31 -1.439385 0.99989913 0.99981139 0.99971053

LORG32 -1.439251 0.99989907 0.99981149 0.99971059

LORG33 -1.439236 0.99989907 0.99981153 0.99971061

LORM35 -1.439267 0.99989908 0.99981122 0.99971032

LORM36 -1.439287 0.99989909 0.99981133 0.99971044

LORM37 -1.439328 0.99989910 0.99981106 0.99971018

LORM38 -1.439370 0.99989912 0.99981117 0.99971031

LORM39 -1.439418 0.99989914 0.99981113 0.99971029

LORM40 -1.439247 0.99989907 0.99981138 0.99971047

LORM41 -1.439199 0.99989905 0.99981132 0.99971039

LORM42 -1.439207 0.99989906 0.99981126 0.99971033

LORM43 -1.439227 0.99989907 0.99981052 0.99970961

LORT44 -1.439244 0.99989907 0.99981037 0.99970946

LORT45 -1.439250 0.99989907 0.99981058 0.99970967

Project Averages: -1.439346 0.99989911 0.99981110 0.99971023

Adjusted Observations and Residuals

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Adjusted Coordinate Observations (Meters)

(Stations with Partially Fixed Coordinate Components)

Station Component Adj Coordinate Residual StdErr StdRes File:Line

NOR3100 E 344081.4132 -0.0008 0.0030 0.3 1:50

N 4739365.5114 0.0174 0.0100 1.7

Elev 602.7322 0.0032 0.0100 0.3

Adjusted Measured Distance Observations (Meters)

From To Distance Residual StdErr StdRes File:Line

NOR3100 NOR3000 56.0155 -0.0020 0.0025 0.8 1:98

NOR3100 V100 140.1229 0.0034 0.0026 1.3 1:99

NOR3100 NOR3200 22.9515 -0.0055 0.0025 2.2 1:100

NOR3100 LORM1 11.1970 -0.0000 0.0025 0.0 1:102

NOR3100 LORG1 7.6600 -0.0000 0.0026 0.0 1:103

NOR3100 LORG2 24.0360 -0.0000 0.0025 0.0 1:104

NOR3100 LORG3 17.4400 -0.0000 0.0025 0.0 1:105

NOR3100 LORG4 30.4720 0.0000 0.0025 0.0 1:106

NOR3100 LORG5 42.0930 -0.0000 0.0025 0.0 1:107

NOR3100 LORM2 30.1630 -0.0000 0.0025 0.0 1:108

NOR3100 LORM3 45.7290 -0.0000 0.0025 0.0 1:109

NOR3100 LORM4 8.3760 -0.0000 0.0025 0.0 1:110

NOR3100 LORM5 11.1440 -0.0000 0.0025 0.0 1:111

NOR3100 LORM6 25.3800 -0.0000 0.0025 0.0 1:112

NOR3100 LORM7 11.6210 -0.0000 0.0025 0.0 1:113

NOR3100 LORM8 6.0960 0.0000 0.0025 0.0 1:114

NOR3100 LORT1 6.6330 0.0000 0.0033 0.0 1:115

NOR3100 LORT2 6.1920 0.0000 0.0027 0.0 1:116

NOR3100 LORT3 9.1110 -0.0000 0.0030 0.0 1:117

NOR3100 LORT4 11.7860 0.0000 0.0025 0.0 1:118

NOR3100 LORT5 26.2140 -0.0000 0.0026 0.0 1:119

NOR3100 LORT6 24.0320 -0.0000 0.0025 0.0 1:120

NOR3100 LORT7 13.1250 -0.0000 0.0029 0.0 1:121

NOR3100 LORT8 12.1310 0.0000 0.0026 0.0 1:122

NOR3100 LORT9 5.3680 0.0000 0.0032 0.0 1:123

NOR3100 LORT10 5.3340 -0.0000 0.0027 0.0 1:124

NOR3100 LORT11 9.1980 0.0000 0.0025 0.0 1:125

NOR3100 LORT12 12.4450 -0.0000 0.0030 0.0 1:126

NOR3100 LORT13 20.4885 -0.0005 0.0025 0.2 1:127

NOR3100 LORT13 20.4885 0.0005 0.0025 0.2 1:128

NOR3100 LORT14 28.8430 -0.0000 0.0026 0.0 1:129

NOR3100 LORG6 2.0690 -0.0000 0.0039 0.0 1:130

NOR3100 LORG7 6.2070 0.0000 0.0026 0.0 1:131

NOR3100 LORG8 12.8750 -0.0000 0.0025 0.0 1:132

NOR3100 LORG9 4.2430 0.0000 0.0029 0.0 1:133

NOR3000 V100 84.1247 -0.0033 0.0025 1.3 1:206

NOR3000 LORG11 6.2700 0.0000 0.0025 0.0 1:210

NOR3000 LORG12 10.7730 0.0000 0.0025 0.0 1:211

NOR3000 LORG13 14.1020 -0.0000 0.0025 0.0 1:212

NOR3000 LORG14 20.8750 -0.0000 0.0025 0.0 1:213

NOR3000 LORG15 28.3570 -0.0000 0.0025 0.0 1:214

NOR3000 LORG16 25.6340 -0.0000 0.0025 0.0 1:215

NOR3000 LORG17 32.7700 -0.0000 0.0025 0.0 1:216

NOR3000 LORM10 11.7930 -0.0000 0.0025 0.0 1:217

NOR3000 LORM11 21.6050 -0.0000 0.0025 0.0 1:218

NOR3000 LORM12 22.5660 -0.0000 0.0025 0.0 1:219

NOR3000 LORT20 22.7950 -0.0000 0.0027 0.0 1:220

NOR3000 LORT21 21.9240 -0.0000 0.0026 0.0 1:221

NOR3000 LORT22 23.5400 -0.0000 0.0026 0.0 1:222

NOR3000 LORT23 18.7320 0.0000 0.0032 0.0 1:223

NOR3000 LORT24 16.8060 -0.0000 0.0031 0.0 1:224

NOR3000 LORT25 3.5940 -0.0000 0.0028 0.0 1:225

NOR3200 NOR3100 22.8419 0.0049 0.0025 2.0 1:282

NOR3200 LORG27 11.4740 0.0000 0.0025 0.0 1:284

NOR3200 LORG28 6.8970 0.0000 0.0025 0.0 1:285

NOR3200 LORG29 6.8930 -0.0000 0.0025 0.0 1:286

NOR3200 LORG30 14.8430 -0.0000 0.0025 0.0 1:287

NOR3200 LORG31 22.3680 0.0000 0.0025 0.0 1:288

NOR3200 LORG32 3.4330 -0.0000 0.0028 0.0 1:289

NOR3200 LORG33 2.3970 -0.0000 0.0033 0.0 1:290

NOR3200 LORM35 8.6620 -0.0000 0.0025 0.0 1:291

NOR3200 LORM36 7.5410 0.0000 0.0025 0.0 1:292

NOR3200 LORM37 11.6490 -0.0000 0.0025 0.0 1:293

NOR3200 LORM38 19.2770 0.0000 0.0025 0.0 1:294

NOR3200 LORM39 27.2330 0.0000 0.0025 0.0 1:295

NOR3200 LORM40 4.7990 0.0000 0.0025 0.0 1:296

NOR3200 LORM41 3.4140 -0.0000 0.0025 0.0 1:297

NOR3200 LORM42 13.8360 0.0000 0.0025 0.0 1:298

NOR3200 LORM43 17.1610 0.0000 0.0027 0.0 1:299

NOR3200 LORT44 12.3380 0.0000 0.0031 0.0 1:300

NOR3200 LORT45 6.2600 0.0000 0.0038 0.0 1:301

Adjusted Zenith Observations (GONS)

From To Zenith Residual StdErr StdRes File:Line

NOR3100 NOR3000 99.936798 0.003888 5.68 0.7 1:139

NOR3100 V100 99.063978 -0.004522 3.57 1.3 1:140

NOR3100 NOR3200 106.456497 -0.025628 12.09 2.1 1:141

NOR3100 LORM1 98.608930 0.000000 24.31 0.0 1:143

NOR3100 LORG1 113.978780 -0.000000 34.65 0.0 1:144

NOR3100 LORG2 102.550230 -0.000000 11.63 0.0 1:145

NOR3100 LORG3 104.486960 0.000000 15.75 0.0 1:146

NOR3100 LORG4 102.279090 0.000000 9.36 0.0 1:147

NOR3100 LORG5 101.786610 -0.000000 7.08 0.0 1:148

NOR3100 LORM2 98.802820 0.000000 9.44 0.0 1:149

NOR3100 LORM3 99.632500 -0.000000 6.63 0.0 1:150

NOR3100 LORM4 96.921230 -0.000000 32.36 0.0 1:151

NOR3100 LORM5 103.333780 0.000000 24.40 0.0 1:152

NOR3100 LORM6 102.525310 -0.000000 11.05 0.0 1:153

NOR3100 LORM7 103.346180 -0.000000 23.41 0.0 1:154

NOR3100 LORM8 104.129780 0.000000 44.34 0.0 1:155

NOR3100 LORT1 61.918520 0.000000 34.65 0.0 1:156

NOR3100 LORT2 116.708750 0.000000 42.41 0.0 1:157

NOR3100 LORT3 70.413590 0.000000 27.04 0.0 1:158

NOR3100 LORT4 94.774230 0.000000 23.05 0.0 1:159

NOR3100 LORT5 89.492930 0.000000 10.61 0.0 1:160

NOR3100 LORT6 100.394400 -0.000000 11.64 0.0 1:161

NOR3100 LORT7 74.815860 0.000000 19.41 0.0 1:162

NOR3100 LORT8 110.835660 0.000000 22.19 0.0 1:163

NOR3100 LORT9 64.898000 -0.000000 43.87 0.0 1:164

NOR3100 LORT10 80.299130 0.000000 48.61 0.0 1:165

NOR3100 LORT11 105.388040 -0.000000 29.43 0.0 1:166

NOR3100 LORT12 72.800790 -0.000000 20.21 0.0 1:167

NOR3100 LORT13 96.203410 -0.000220 13.50 0.0 1:168

NOR3100 LORT13 96.203410 0.000220 13.50 0.0 1:169

NOR3100 LORT14 86.279110 -0.000000 9.65 0.0 1:170

NOR3100 LORG6 156.048910 -0.000000 89.72 0.0 1:171

NOR3100 LORG7 114.670200 -0.000000 42.61 0.0 1:172

NOR3100 LORG8 110.208560 0.000000 20.96 0.0 1:173

NOR3100 LORG9 125.732420 -0.000000 59.21 0.0 1:174

NOR3000 V100 98.441547 0.001997 4.39 0.5 1:207

NOR3000 V100 98.441547 0.001997 4.39 0.5 1:229

NOR3000 LORG11 94.205410 -0.000000 43.04 0.0 1:231

NOR3000 LORG12 96.404780 -0.000000 25.22 0.0 1:232

NOR3000 LORG13 96.812140 -0.000000 19.37 0.0 1:233

NOR3000 LORG14 98.329770 0.000000 13.28 0.0 1:234

NOR3000 LORG15 99.244120 -0.000000 9.99 0.0 1:235

NOR3000 LORG16 98.019770 -0.000000 10.95 0.0 1:236

NOR3000 LORG17 98.214140 -0.000000 8.77 0.0 1:237

NOR3000 LORM10 98.661240 -0.000000 23.10 0.0 1:238

NOR3000 LORM11 97.112870 -0.000000 12.85 0.0 1:239

NOR3000 LORM12 100.788220 -0.000000 12.34 0.0 1:240

NOR3000 LORT20 80.536770 -0.000000 11.75 0.0 1:241

NOR3000 LORT21 84.793910 -0.000000 12.38 0.0 1:242

NOR3000 LORT22 86.234060 0.000000 11.63 0.0 1:243

NOR3000 LORT23 66.555460 -0.000000 13.06 0.0 1:244

NOR3000 LORT24 69.701690 0.000000 14.81 0.0 1:245

NOR3000 LORT25 77.828160 -0.000000 71.24 0.0 1:246

NOR3200 NOR3100 101.723603 -0.015872 12.20 1.3 1:283

NOR3200 NOR3100 101.723603 -0.015872 12.20 1.3 1:306

NOR3200 LORG27 106.471830 -0.000000 23.63 0.0 1:307

NOR3200 LORG28 109.652840 -0.000000 38.89 0.0 1:308

NOR3200 LORG29 108.883400 0.000000 38.97 0.0 1:309

NOR3200 LORG30 102.809090 -0.000000 18.43 0.0 1:310

NOR3200 LORG31 101.242350 0.000000 12.44 0.0 1:311

NOR3200 LORG32 121.108650 -0.000000 74.95 0.0 1:312

NOR3200 LORG33 137.874780 -0.000000 95.73 0.0 1:313

NOR3200 LORM35 96.278260 0.000000 31.28 0.0 1:314

NOR3200 LORM36 101.633050 -0.000000 35.94 0.0 1:315

NOR3200 LORM37 91.544490 0.000000 23.20 0.0 1:316

NOR3200 LORM38 97.283180 0.000000 14.32 0.0 1:317

NOR3200 LORM39 97.408180 0.000000 10.36 0.0 1:318

NOR3200 LORM40 106.221900 -0.000000 56.13 0.0 1:319

NOR3200 LORM41 101.719130 -0.000000 79.16 0.0 1:320

NOR3200 LORM42 98.645920 0.000000 19.75 0.0 1:321

NOR3200 LORM43 81.253190 0.000000 15.44 0.0 1:322

NOR3200 LORT44 67.921080 0.000000 19.72 0.0 1:323

NOR3200 LORT45 47.028730 -0.000000 31.09 0.0 1:324

Adjusted Measured Direction Observations (GONS)

From To Direction Residual StdErr StdRes File:Line

Set 1

NOR3100 NOR3000 275.418871 -0.000034 1.89 0.0 1:58

NOR3100 V100 276.214038 0.000013 1.19 0.0 1:59

NOR3100 NOR3200 325.885245 -0.000000 4.07 0.0 1:60

NOR3100 LORM1 243.413550 -0.000000 8.11 0.0 1:61

NOR3100 LORG1 319.112070 -0.000000 12.09 0.0 1:62

NOR3100 LORG2 263.303640 0.000000 3.88 0.0 1:63

NOR3100 LORG3 268.422360 0.000000 5.27 0.0 1:64

NOR3100 LORG4 272.875230 0.000000 3.12 0.0 1:65

NOR3100 LORG5 272.892270 -0.000000 2.36 0.0 1:66

NOR3100 LORM2 263.326620 0.000000 3.15 0.0 1:67

NOR3100 LORM3 268.188200 -0.000000 2.21 0.0 1:68

NOR3100 LORM4 286.290100 0.000000 10.81 0.0 1:69

NOR3100 LORM5 322.174520 0.000000 8.15 0.0 1:70

NOR3100 LORM6 331.978920 -0.000000 3.69 0.0 1:71

NOR3100 LORM7 357.767300 -0.000000 7.82 0.0 1:72

NOR3100 LORM8 86.017490 0.000000 14.84 0.0 1:73

NOR3100 LORT1 77.509100 0.000000 16.46 0.0 1:74

NOR3100 LORT2 84.985200 0.000000 15.09 0.0 1:75

NOR3100 LORT3 360.559960 -0.000000 11.10 0.0 1:76

NOR3100 LORT4 357.231240 0.000000 7.73 0.0 1:77

NOR3100 LORT5 329.504040 0.000000 3.62 0.0 1:78

NOR3100 LORT6 333.143950 0.000000 3.88 0.0 1:79

NOR3100 LORT7 330.819250 0.000000 7.50 0.0 1:80

NOR3100 LORT8 325.007850 -0.000000 7.60 0.0 1:81

NOR3100 LORT9 141.813450 -0.000000 19.72 0.0 1:82

NOR3100 LORT10 206.011070 0.000000 17.75 0.0 1:83

NOR3100 LORT11 237.806120 0.000000 9.88 0.0 1:84

NOR3100 LORT12 247.943110 -0.000000 8.01 0.0 1:85

NOR3100 LORT13 256.036245 -0.001435 4.52 0.3 1:86

NOR3100 LORT13 256.036245 0.001435 4.52 0.3 1:87

NOR3100 LORT14 261.915240 -0.000000 3.35 0.0 1:88

NOR3100 LORG6 270.133040 0.000000 68.36 0.0 1:89

NOR3100 LORG7 254.542780 0.000000 14.94 0.0 1:90

NOR3100 LORG8 345.651780 0.000000 7.16 0.0 1:91

NOR3100 LORG9 102.096550 -0.000000 23.11 0.0 1:92

Set 2

NOR3000 V100 251.614060 -0.000000 1.47 0.0 1:185

NOR3000 LORG11 34.638780 0.000000 14.46 0.0 1:186

NOR3000 LORG12 41.328340 0.000000 8.43 0.0 1:187

NOR3000 LORG13 57.819700 0.000000 6.47 0.0 1:188

NOR3000 LORG14 22.221400 0.000000 4.43 0.0 1:189

NOR3000 LORG15 24.209120 0.000000 3.33 0.0 1:190

NOR3000 LORG16 53.300560 -0.000000 3.65 0.0 1:191

NOR3000 LORG17 59.130930 -0.000000 2.93 0.0 1:192

NOR3000 LORM10 79.260550 0.000000 7.70 0.0 1:193

NOR3000 LORM11 42.512430 -0.000000 4.29 0.0 1:194

NOR3000 LORM12 30.745900 0.000000 4.11 0.0 1:195

NOR3000 LORT20 36.480050 -0.000000 4.26 0.0 1:196

NOR3000 LORT21 49.198340 -0.000000 4.34 0.0 1:197

NOR3000 LORT22 24.217140 -0.000000 4.04 0.0 1:198

NOR3000 LORT23 21.436500 0.000000 5.65 0.0 1:199

NOR3000 LORT24 70.524030 -0.000000 6.11 0.0 1:200

NOR3000 LORT25 125.005950 0.000000 26.68 0.0 1:201

Set 3

NOR3200 NOR3100 323.000550 -0.000000 4.07 0.0 1:258

NOR3200 LORG27 300.881220 -0.000000 7.95 0.0 1:259

NOR3200 LORG28 330.242190 -0.000000 13.25 0.0 1:260

NOR3200 LORG29 43.129460 -0.000000 13.23 0.0 1:261

NOR3200 LORG30 50.800430 -0.000000 6.15 0.0 1:262

NOR3200 LORG31 51.197460 0.000000 4.15 0.0 1:263

NOR3200 LORG32 367.288580 -0.000000 27.76 0.0 1:264

NOR3200 LORG33 74.597030 0.000000 45.37 0.0 1:265

NOR3200 LORM35 340.545950 -0.000000 10.46 0.0 1:266

NOR3200 LORM36 372.524920 -0.000000 11.99 0.0 1:267

NOR3200 LORM37 27.336590 0.000000 7.86 0.0 1:268

NOR3200 LORM38 47.059890 0.000000 4.78 0.0 1:269

NOR3200 LORM39 51.281100 -0.000000 3.46 0.0 1:270

NOR3200 LORM40 76.147400 -0.000000 18.88 0.0 1:271

NOR3200 LORM41 173.259140 0.000000 26.41 0.0 1:272

NOR3200 LORM42 296.654040 0.000000 6.59 0.0 1:273

NOR3200 LORM43 306.500290 -0.000000 5.57 0.0 1:274

NOR3200 LORT44 317.518550 -0.000000 8.39 0.0 1:275

NOR3200 LORT45 65.733200 -0.000000 21.39 0.0 1:276

Adjusted Azimuths (GONS) and Horizontal Distances (Meters)

==========================================================

(Relative Confidence of Azimuth is in MilliGons)

NOTE - Adjustment Failed the Chi-Square Test

Angular and Distance Errors are Scaled by Total Error Factor

From To Grid Azimuth Grid Dist 95% RelConfidence

Grnd Dist Azi Dist PPM

LORG1 NOR3100 212.78651 7.4739 491.01 0.0103 1380.0429

7.4761

LORG11 NOR3000 353.44281 6.2422 592.51 0.0096 1530.3007

6.2440

LORG12 NOR3000 360.13237 10.7527 387.27 0.0095 879.6695

10.7558

LORG13 NOR3000 376.62373 14.0802 327.68 0.0095 671.4926

14.0843

LORG14 NOR3000 341.02543 20.8618 273.71 0.0094 452.3315

20.8678

LORG15 NOR3000 343.01315 28.3468 249.94 0.0094 333.2908

28.3550

LORG16 NOR3000 372.10459 25.6142 256.47 0.0095 369.2439

25.6216

LORG17 NOR3000 377.93496 32.7476 242.45 0.0095 289.3848

32.7571

LORG2 NOR3100 156.97806 24.0098 223.65 0.0095 394.2999

24.0167

LORG27 NOR3200 397.44035 11.4115 410.50 0.0096 842.3502

11.4148

LORG28 NOR3200 26.80134 6.8159 576.30 0.0099 1445.2813

6.8179

LORG29 NOR3200 139.68858 6.8240 575.78 0.0098 1433.4558

6.8260

LORG3 NOR3100 162.09678 17.3917 261.89 0.0095 547.3362

17.3967

LORG30 NOR3200 147.35954 14.8243 362.69 0.0094 637.1267

14.8286

LORG31 NOR3200 147.75658 22.3573 318.46 0.0094 421.9784

22.3637

LORG32 NOR3200 63.84774 3.2451 1095.38 0.0112 3456.4242

3.2460

LORG33 NOR3200 171.15615 1.9846 1754.38 0.0130 6569.0255

1.9852

LORG4 NOR3100 166.54965 30.4437 205.59 0.0095 311.4162

30.4525

LORG5 NOR3100 166.56669 42.0642 190.25 0.0095 226.0062

42.0764

LORG6 NOR3100 163.80745 1.3172 2615.51 0.0129 9768.3600

1.3176

LORG7 NOR3100 148.21719 6.0412 594.43 0.0104 1720.1495

6.0429

LORG8 NOR3100 239.32624 12.7061 320.50 0.0099 781.1664

12.7098

LORG9 NOR3100 395.77098 3.9000 898.08 0.0118 3032.4650

3.9011

LORM1 NOR3100 137.08797 11.1911 351.97 0.0094 840.0674

11.1943

LORM10 NOR3000 398.06459 11.7870 364.45 0.0094 797.6915

11.7904

LORM11 NOR3000 361.31646 21.5765 270.46 0.0095 438.8663

21.5828

LORM12 NOR3000 349.54992 22.5577 266.44 0.0094 418.0296

22.5643

LORM2 NOR3100 157.00104 30.1489 206.20 0.0095 313.7197

30.1577

LORM3 NOR3100 161.86262 45.7150 187.54 0.0095 207.8057

45.7282

LORM35 NOR3200 37.10510 8.6447 485.69 0.0095 1093.9637

8.6472

LORM36 NOR3200 69.08407 7.5363 534.62 0.0094 1246.4595

7.5385

LORM37 NOR3200 123.89571 11.5431 407.99 0.0098 845.7214

11.5464

LORM38 NOR3200 143.61901 19.2539 331.13 0.0095 491.1450

19.2594

LORM39 NOR3200 147.84022 27.2026 306.18 0.0095 348.4469

27.2104

LORM4 NOR3100 179.96452 8.3638 445.49 0.0094 1127.8200

8.3662

LORM40 NOR3200 172.70652 4.7747 772.06 0.0096 2005.1823

4.7761

LORM41 NOR3200 269.81829 3.4118 1045.41 0.0094 2750.0062

3.4128

LORM42 NOR3200 393.21317 13.8289 373.58 0.0094 680.3892

13.8329

LORM43 NOR3200 3.05942 16.4175 348.73 0.0110 668.2462

16.4223

LORM5 NOR3100 215.84897 11.1255 353.55 0.0095 849.4334

11.1287

LORM6 NOR3100 225.65337 25.3527 218.87 0.0095 373.5586

25.3600

LORM7 NOR3100 251.44176 11.6016 342.52 0.0095 814.7448

11.6049

LORM8 NOR3100 379.69191 6.0814 590.82 0.0095 1556.5082

6.0832

LORT1 NOR3100 371.18352 5.4797 650.47 0.0131 2385.5358

5.4812

LORT10 NOR3100 99.68551 5.0792 698.30 0.0110 2172.7130

5.0806

LORT11 NOR3100 131.48054 9.1624 412.67 0.0095 1041.0394

9.1651

LORT12 NOR3100 141.61752 11.3230 348.85 0.0121 1064.8969

11.3263

LORT13 NOR3100 149.71066 20.4461 207.18 0.0067 328.4982

20.4521

LORT14 NOR3100 155.58966 28.1675 210.74 0.0104 369.1100

28.1757

LORT2 NOR3100 378.65962 5.9782 600.17 0.0106 1780.8622

5.9800

LORT20 NOR3000 355.28407 21.7316 269.79 0.0111 511.2959

21.7379

LORT21 NOR3000 368.00237 21.2954 271.70 0.0105 494.8032

21.3015

LORT22 NOR3000 343.02117 22.9851 264.83 0.0104 451.0795

22.9918

LORT23 NOR3000 340.24053 16.2013 304.61 0.0128 791.5311

16.2060

LORT24 NOR3000 389.32807 14.9340 317.42 0.0125 834.8231

14.9383

LORT25 NOR3000 43.81002 3.3772 1041.12 0.0114 3363.3674

3.3782

LORT3 NOR3100 254.23442 8.1423 455.83 0.0123 1512.8769

8.1447

LORT4 NOR3100 250.90570 11.7429 339.44 0.0095 812.2356

11.7463

LORT44 NOR3200 14.07769 10.8014 423.15 0.0126 1167.8156

10.8045

LORT45 NOR3200 162.29232 4.2139 862.09 0.0131 3114.2545

4.2151

LORT5 NOR3100 223.17849 25.8503 217.26 0.0100 387.4646

25.8578

LORT6 NOR3100 226.81840 24.0246 223.59 0.0094 392.5905

24.0315

LORT7 NOR3100 224.49370 12.1078 331.86 0.0118 975.1338

12.1113

LORT8 NOR3100 218.68230 11.9522 335.03 0.0100 835.4003

11.9557

LORT9 NOR3100 35.48790 4.5711 771.43 0.0128 2809.9798

4.5725

NOR3000 NOR3100 169.09329 55.9993 151.01 0.0076 136.3369

56.0155

NOR3000 V100 370.41810 84.0751 207.78 0.0078 93.1061

84.0995

NOR3100 NOR3200 19.55969 22.8270 228.45 0.0067 294.8824

22.8336

NOR3100 V100 369.88847 140.0671 173.58 0.0079 56.3587

140.1077

Error Propagation

=================

Station Coordinate Standard Deviations (Meters)

NOTE - Adjustment Failed the Chi-Square Test

Standard Deviations are Scaled by Total Error Factor

Station E N Elev

NOR3100 0.004625 0.004217 0.006225

NOR3000 0.000000 0.000000 0.000000

V100 0.010255 0.005544 0.005830

NOR3200 0.003698 0.005484 0.007359

LORM1 0.005325 0.004556 0.009122

LORG1 0.004601 0.006000 0.008934

LORG2 0.004298 0.004688 0.009251

LORG3 0.004439 0.004963 0.009158

LORG4 0.003840 0.004832 0.009354

LORG5 0.003720 0.004721 0.009596

LORM2 0.004102 0.004594 0.009352

LORM3 0.003818 0.004613 0.009689

LORM4 0.004603 0.005487 0.009099

LORM5 0.004367 0.005824 0.009114

LORM6 0.003808 0.006223 0.009271

LORM7 0.005044 0.005800 0.009117

LORM8 0.005709 0.005745 0.009082

LORT1 0.005940 0.006586 0.008305

LORT2 0.005744 0.006040 0.008862

LORT3 0.005798 0.005990 0.008509

LORT4 0.005039 0.005821 0.009103

LORT5 0.003772 0.006317 0.009188

LORT6 0.003879 0.006196 0.009257

LORT7 0.004560 0.006450 0.008659

LORT8 0.004366 0.005982 0.009025

LORT9 0.006008 0.006124 0.008358

LORT10 0.006461 0.004442 0.008779

LORT11 0.005547 0.004542 0.009085

LORT12 0.005760 0.005009 0.008595

LORT13 0.004069 0.004000 0.007853

LORT14 0.004350 0.004781 0.009161

LORG6 0.005650 0.006195 0.008342

LORG7 0.005465 0.005128 0.008912

LORG8 0.004754 0.005974 0.009042

LORG9 0.005463 0.006420 0.008601

LORG11 0.003149 0.003309 0.006594

LORG12 0.003133 0.003501 0.006651

LORG13 0.003092 0.003759 0.006688

LORG14 0.003787 0.003734 0.006792

LORG15 0.004142 0.004291 0.006940

LORG16 0.004155 0.003930 0.006878

LORG17 0.004969 0.004032 0.007041

LORM10 0.002758 0.003840 0.006675

LORM11 0.003786 0.003829 0.006798

LORM12 0.003855 0.003855 0.006824

LORT20 0.004105 0.004233 0.006393

LORT21 0.003858 0.004175 0.006536

LORT22 0.004110 0.004038 0.006612

LORT23 0.004622 0.004014 0.005751

LORT24 0.003117 0.005048 0.005847

LORT25 0.003424 0.003860 0.006084

LORG27 0.004669 0.006776 0.009899

LORG28 0.004601 0.006483 0.009834

LORG29 0.005166 0.005877 0.009846

LORG30 0.005292 0.005759 0.009951

LORG31 0.005706 0.005735 0.010033

LORG32 0.005474 0.006107 0.009575

LORG33 0.004826 0.007290 0.009180

LORM35 0.004761 0.006184 0.009907

LORM36 0.005135 0.005682 0.009911

LORM37 0.005386 0.005486 0.009876

LORM38 0.005506 0.005672 0.009993

LORM39 0.006042 0.005811 0.010093

LORM40 0.004615 0.006469 0.009872

LORM41 0.005150 0.006334 0.009899

LORM42 0.004857 0.006795 0.009949

LORM43 0.005085 0.007029 0.009709

LORT44 0.004721 0.007318 0.009326

LORT45 0.005163 0.007025 0.009171

Station Coordinate Error Ellipses (Meters)

NOTE - Adjustment Failed the Chi-Square Test

Error Ellipses are Scaled by Total Error Factor

Confidence Region = 95

Station Semi-Major Semi-Minor Azimuth of Elev

Axis Axis Major Axis

NOR3100 0.013507 0.007231 55.31 0.012200

NOR3000 0.000000 0.000000 0.00 0.000000

V100 0.027451 0.007791 72.26 0.011428

NOR3200 0.013814 0.008442 19.30 0.014423

LORM1 0.013059 0.011122 92.45 0.017880

LORG1 0.015899 0.009474 31.65 0.017511

LORG2 0.011953 0.009974 166.08 0.018132

LORG3 0.012205 0.010802 186.71 0.017950

LORG4 0.012171 0.008951 177.39 0.018334

LORG5 0.012138 0.008313 172.38 0.018808

LORM2 0.011944 0.009198 164.56 0.018330

LORM3 0.012026 0.008379 168.13 0.018990

LORM4 0.013826 0.010780 24.73 0.017834

LORM5 0.015353 0.009042 30.40 0.017862

LORM6 0.015737 0.008443 19.23 0.018170

LORM7 0.016602 0.008853 41.99 0.017868

LORM8 0.016105 0.011560 49.37 0.017801

LORT1 0.016442 0.014176 25.39 0.016277

LORT2 0.016240 0.012349 43.98 0.017369

LORT3 0.018340 0.008946 48.31 0.016677

LORT4 0.016639 0.008846 41.75 0.017842

LORT5 0.015921 0.008418 18.10 0.018007

LORT6 0.015764 0.008463 20.97 0.018143

LORT7 0.017193 0.008845 30.56 0.016971

LORT8 0.015769 0.008942 29.76 0.017689

LORT9 0.018608 0.009735 48.93 0.016381

LORT10 0.016368 0.010019 78.84 0.017206

LORT11 0.013661 0.011016 88.04 0.017807

LORT12 0.014434 0.011864 124.55 0.016846

LORT13 0.009971 0.009781 114.90 0.015392

LORT14 0.012682 0.009458 160.70 0.017955

LORG6 0.015165 0.013828 197.39 0.016350

LORG7 0.013456 0.012470 81.54 0.017468

LORG8 0.016528 0.008719 36.98 0.017723

LORG9 0.016919 0.011811 34.64 0.016858

LORG11 0.009552 0.005810 153.44 0.012924

LORG12 0.009459 0.006541 160.13 0.013036

LORG13 0.009455 0.007247 176.62 0.013108

LORG14 0.009436 0.008969 141.03 0.013313

LORG15 0.011129 0.009448 43.01 0.013602

LORG16 0.010319 0.009458 72.10 0.013481

LORG17 0.012472 0.009477 77.93 0.013800

LORM10 0.009402 0.006748 198.06 0.013082

LORM11 0.009469 0.009167 161.32 0.013323

LORM12 0.009441 0.009430 49.55 0.013375

LORT20 0.011111 0.009210 155.28 0.012529

LORT21 0.010537 0.009089 168.00 0.012810

LORT22 0.010368 0.009562 143.02 0.012960

LORT23 0.012824 0.007752 140.24 0.011271

LORT24 0.012467 0.007446 189.33 0.011460

LORT25 0.011359 0.005523 43.81 0.011923

LORG27 0.017308 0.010302 23.15 0.019401

LORG28 0.016919 0.009610 27.71 0.019275

LORG29 0.014392 0.012638 195.94 0.019297

LORG30 0.014097 0.012954 199.49 0.019504

LORG31 0.014475 0.013513 47.70 0.019663

LORG32 0.016937 0.010774 41.72 0.018767

LORG33 0.017947 0.011657 191.06 0.017993

LORM35 0.016495 0.009636 32.58 0.019417

LORM36 0.015604 0.010389 41.57 0.019426

LORM37 0.013731 0.012868 40.89 0.019356

LORM38 0.014062 0.013291 32.30 0.019586

LORM39 0.015467 0.013482 59.20 0.019781

LORM40 0.015834 0.011297 0.23 0.019349

LORM41 0.016299 0.011558 28.85 0.019402

LORM42 0.017499 0.010575 25.49 0.019499

LORM43 0.018266 0.010831 27.38 0.019029

LORT44 0.018845 0.009963 23.85 0.018279

LORT45 0.017508 0.012203 183.14 0.017975

Relative Error Ellipses (Meters)

NOTE - Adjustment Failed the Chi-Square Test

Relative Error Ellipses are Scaled by Total Error Factor

Confidence Region = 95

Stations Semi-Major Semi-Minor Azimuth of Vertical

From To Axis Axis Major Axis

LORG1 NOR3100 0.010314 0.005764 12.79 0.012561

LORG11 NOR3000 0.009552 0.005810 153.44 0.012924

LORG12 NOR3000 0.009459 0.006541 160.13 0.013036

LORG13 NOR3000 0.009455 0.007247 176.62 0.013108

LORG14 NOR3000 0.009436 0.008969 141.03 0.013313

LORG15 NOR3000 0.011129 0.009448 43.01 0.013602

LORG16 NOR3000 0.010319 0.009458 72.10 0.013481

LORG17 NOR3000 0.012472 0.009477 77.93 0.013800

LORG2 NOR3100 0.009467 0.008435 156.98 0.013413

LORG27 NOR3200 0.009612 0.007358 197.44 0.012976

LORG28 NOR3200 0.009851 0.006170 26.80 0.012786

LORG29 NOR3200 0.009782 0.006172 139.69 0.012820

LORG3 NOR3100 0.009519 0.007155 162.10 0.013167

LORG30 NOR3200 0.009445 0.008446 147.36 0.013130

LORG31 NOR3200 0.011184 0.009434 47.76 0.013365

LORG32 NOR3200 0.011216 0.005584 63.85 0.012007

LORG33 NOR3200 0.013037 0.005469 171.16 0.010757

LORG4 NOR3100 0.009832 0.009481 66.55 0.013685

LORG5 NOR3100 0.012571 0.009507 66.57 0.014315

LORG6 NOR3100 0.012867 0.005412 163.81 0.010885

LORG7 NOR3100 0.010392 0.005641 148.22 0.012501

LORG8 NOR3100 0.009926 0.006397 39.33 0.012855

LORG9 NOR3100 0.011826 0.005502 195.77 0.011634

LORM1 NOR3100 0.009401 0.006187 137.09 0.013071

LORM10 NOR3000 0.009402 0.006748 198.06 0.013082

LORM11 NOR3000 0.009469 0.009167 161.32 0.013323

LORM12 NOR3000 0.009441 0.009430 49.55 0.013375

LORM2 NOR3100 0.009765 0.009458 57.00 0.013680

LORM3 NOR3100 0.013467 0.009500 61.86 0.014552

LORM35 NOR3200 0.009457 0.006595 37.11 0.013000

LORM36 NOR3200 0.009394 0.006329 69.08 0.013013

LORM37 NOR3200 0.009762 0.007398 123.90 0.012908

LORM38 NOR3200 0.010015 0.009456 43.62 0.013250

LORM39 NOR3200 0.013083 0.009479 47.84 0.013538

LORM4 NOR3100 0.009433 0.005853 179.96 0.013008

LORM40 NOR3200 0.009574 0.005791 172.71 0.012897

LORM41 NOR3200 0.009382 0.005603 69.82 0.012976

LORM42 NOR3200 0.009409 0.008115 193.21 0.013122

LORM43 NOR3200 0.010971 0.008993 3.06 0.012412

LORM5 NOR3100 0.009450 0.006179 15.85 0.013047

LORM6 NOR3100 0.009471 0.008716 25.65 0.013465

LORM7 NOR3100 0.009452 0.006242 51.44 0.013055

LORM8 NOR3100 0.009466 0.005644 179.69 0.012963

LORT1 NOR3100 0.013072 0.005599 171.18 0.010775

LORT10 NOR3100 0.011036 0.005571 99.69 0.012133

LORT11 NOR3100 0.009538 0.005939 131.48 0.012971

LORT12 NOR3100 0.012058 0.006205 141.62 0.011617

LORT13 NOR3100 0.006717 0.006654 149.71 0.009384

LORT14 NOR3100 0.010397 0.009324 155.59 0.013173

LORT2 NOR3100 0.010646 0.005636 178.66 0.012363

LORT20 NOR3000 0.011111 0.009210 155.28 0.012529

LORT21 NOR3000 0.010537 0.009089 168.00 0.012810

LORT22 NOR3000 0.010368 0.009562 143.02 0.012960

LORT23 NOR3000 0.012824 0.007752 140.24 0.011271

LORT24 NOR3000 0.012467 0.007446 189.33 0.011460

LORT25 NOR3000 0.011359 0.005523 43.81 0.011923

LORT3 NOR3100 0.012318 0.005830 54.23 0.011370

LORT4 NOR3100 0.009538 0.006261 50.91 0.013019

LORT44 NOR3200 0.012614 0.007179 14.08 0.011228

LORT45 NOR3200 0.013123 0.005706 162.29 0.010728

LORT5 NOR3100 0.010016 0.008822 23.18 0.013245

LORT6 NOR3100 0.009432 0.008438 26.82 0.013429

LORT7 NOR3100 0.011807 0.006312 24.49 0.011798

LORT8 NOR3100 0.009985 0.006290 18.68 0.012809

LORT9 NOR3100 0.012845 0.005539 35.49 0.010932

NOR3000 NOR3100 0.013507 0.007231 55.31 0.012200

NOR3000 V100 0.027451 0.007791 72.26 0.011428

NOR3100 NOR3200 0.008191 0.006731 119.56 0.007694

NOR3100 V100 0.038202 0.007842 68.35 0.014679

Elapsed Time = 00:00:00

29

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01 00000001 Top of File

01 00000005 Summary of Files Used and Option Settings

02 00000008 Project Folder and Data Files

02 00000014 Project Option Settings

02 00000034 Instrument Standard Error Settings

03 00000036 Project Default Instrument

01 00000050 Summary of Unadjusted Input Observations

02 00000053 Entered Stations

03 00000055 Fixed Coordinates

03 00000058 Partially Fixed Coordinates

02 00000063 Measured Distance Observations

02 00000138 Zenith Observations

02 00000215 Measured Direction Observations

01 00000296 Adjustment Statistical Summary

01 00000319 Adjusted Station Information

02 00000322 Adjusted Coordinates

02 00000395 Adjusted Positions and Ellipsoid Heights

02 00000469 Convergence Angles and Grid Factors at Stations

01 00000546 Adjusted Observations and Residuals

02 00000549 Adjusted Coordinate Observations

02 00000557 Adjusted Measured Distance Observations

02 00000632 Adjusted Zenith Observations

02 00000709 Adjusted Measured Direction Observations

01 00000790 Adjusted Azimuths and Horizontal Distances

01 00000937 Error Propagation

02 00000940 Station Coordinate Standard Deviations

02 00001015 Station Coordinate Error Ellipses

02 00001092 Relative Error Ellipses

01 00001168 End of File

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STAR\*NET

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