

Hancock Exploration Management Services Pty Ltd

Airborne Geophysical Survey Operations Report

Larramah



**Thomson Aviation Job
F15022**



TABLE OF CONTENTS

PART 1 - SPECIFICATIONS FOR AIRBORNE GEOPHYSICAL SURVEY	1
1.1 SURVEY DETAILS	1
1.2 LOCATION MAP	2
1.3 SURVEY SPECIFICATIONS	3
1.4 CALIBRATION RANGE	5
1.5 IN FIELD CALIBRATION	5
1.6 IN FIELD VERIFICATION AND PROCESSING	6
1.7 NAVIGATION AND POSITIONING	6
PART 2 - AIRCRAFT	7
2.1 VH-THS	7
PART 3 - SURVEY INSTRUMENTATION	8
3.1 MAGNETOMETER	8
3.2 RADAR ALTIMETER	9
3.3 BAROMETRIC ALTIMETER	9
3.4 DATA ACQUISITION SYSTEM	9
3.5 NAVIGATION EQUIPMENT	10
3.6 GAMMA RAY SPECTROMETER SYSTEM	10
3.7 BASE STATION MAGNETOMETER	11
PART 4 - CONTACT INFORMATION	12
PART 5 - APPENDICES	13
A DAILY REPORTS	
B CALIBRATION AND TEST LINE VARIATION TABLES	
C CALIBRATION AND TEST LINE VARIATION CHARTS	
D RADAR ALTIMETER AND BAROMETRIC ALTIMETER CHECKS	
E BOUNDARY COORDINATES	
F LINE SPECIFICATIONS	

TABLE OF CONTENTS

Fig 1	Larramah	2
Fig 2	F15022_North_Area	3
Fig 3	F15022_South_Area	4
Fig 4	Example Aircraft: Cessna C210	7
Fig 5	System Outline	8
Fig 6	G822A Magnetometer and Typical Stinger Mounts	8
Fig 7	Radar Altimeter	9
Fig 8	Pressure transducer	9
Fig 9	Zdas System	9
Fig 10	GPS Receiver	10
Fig 11	RS 400 Systems	10
Fig 12	Setting up base station magnetometer	11
Fig 13	Magnetometer and Data Consol	11



PART 1 - SPECIFICATIONS FOR AIRBORNE GEOPHYSICAL SURVEY

1.1 SURVEY DETAILS

Start Date	08/05/2015
End Date	17/05/2015
Time Base - Magnetics	20 Hz
Time Base - Radiometrics	2 Hz
Base Mag Locations	Daly Waters
Ground Cals Locations	Daly Waters
Test Line Locations	Daly Waters
Block 1	F15022_North_Area
Block 2	F15022_South_Area
Total Processed Line Kilometers	8665.1



1.2 LOCATION MAP

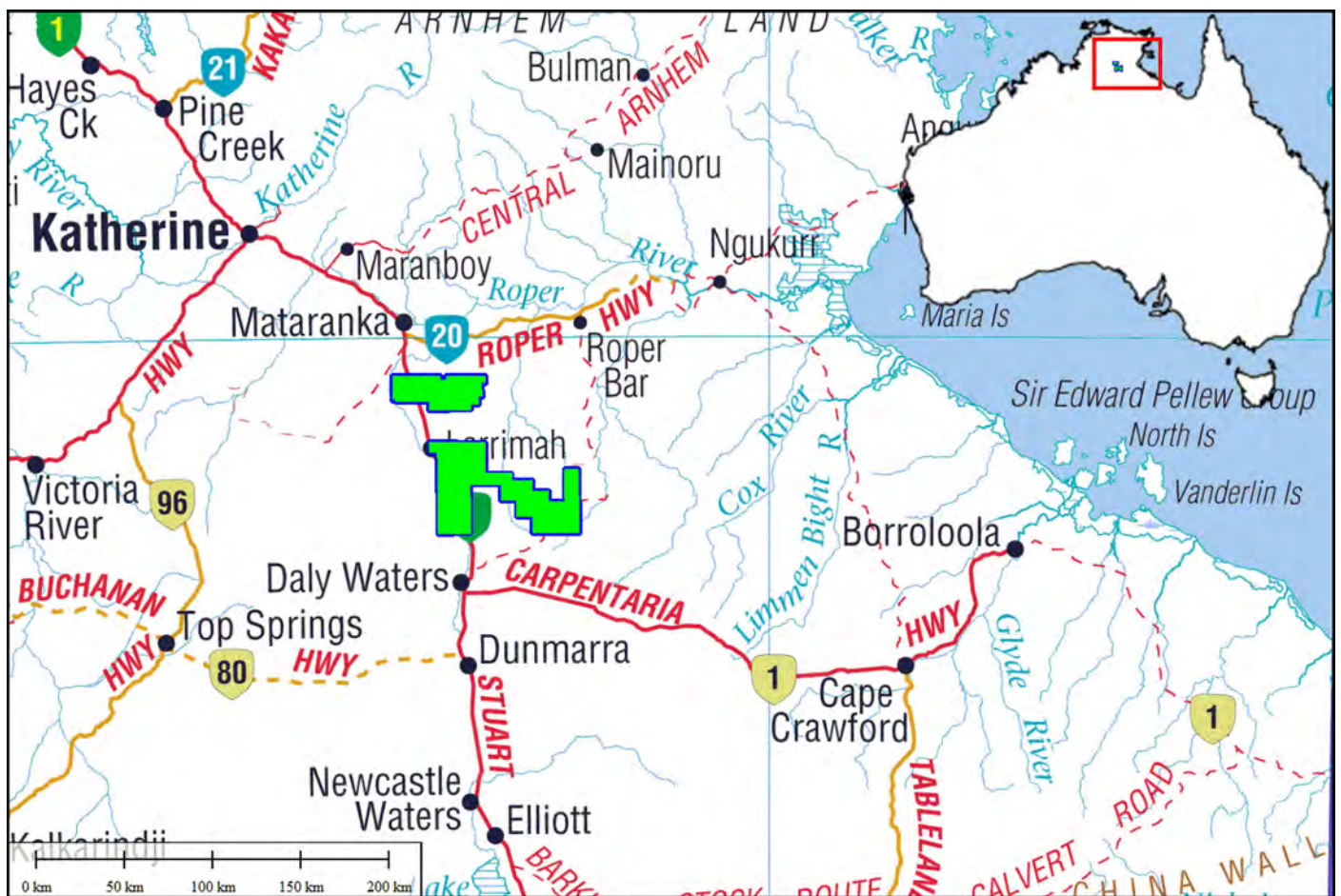


Figure 1 Larramah



1.3 SURVEY SPECIFICATIONS

F15022_North_Area	
Traverse line direction	90
Traverse line spacing	400 m
Tie line direction	180
Tie line spacing	4000 m
Block Traverse Kilometers	2,146
Block Tie Kilometers	237
Block Total Kilometers	2,383

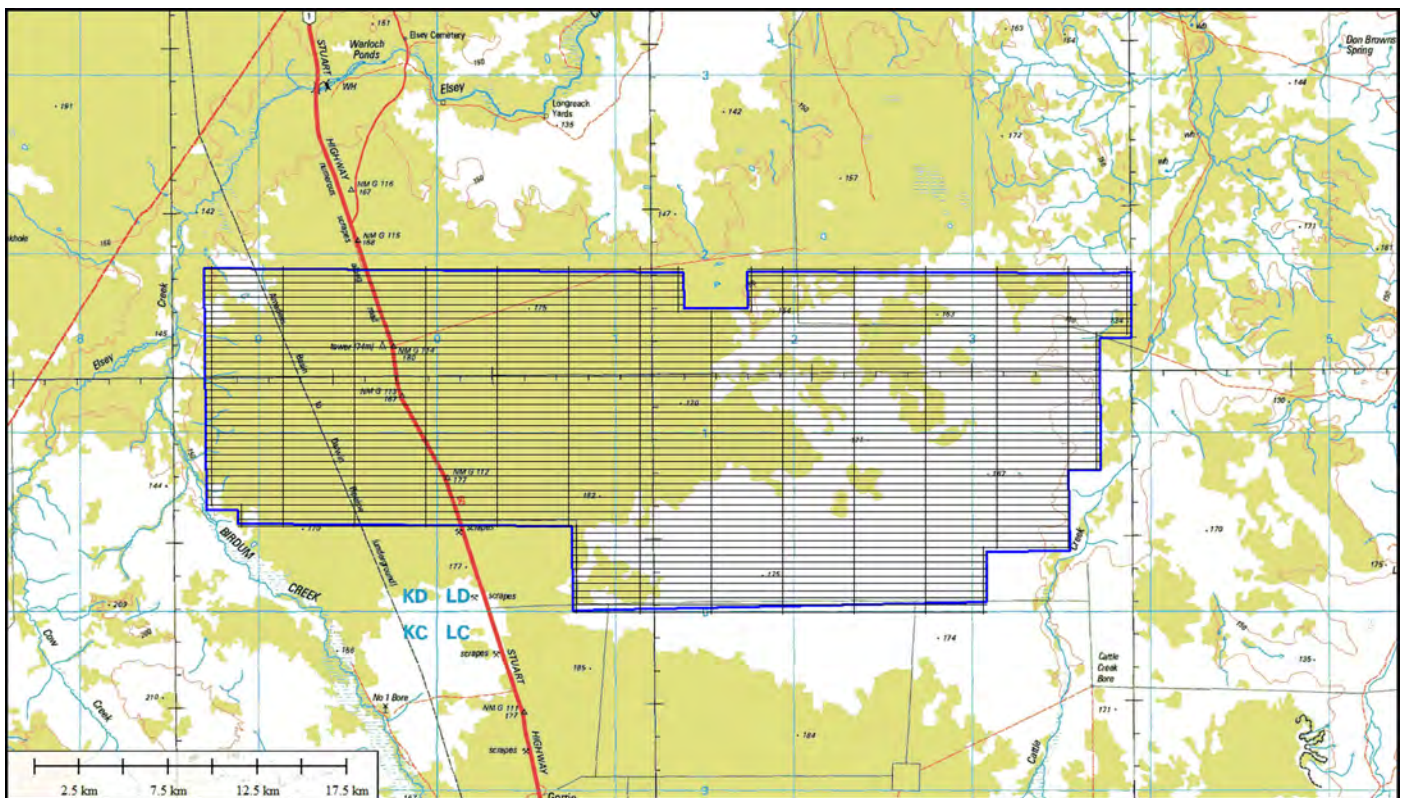


Figure 2 F15022_North_Area



SURVEY SPECIFICATIONS (Cont)

F15022_South_Area	
Traverse line direction	90
Traverse line spacing	400 m
Tie line direction	180
Tie line spacing	4000 m
Block Traverse Kilometers	5,557
Block Tie Kilometers	681
Block Total Kilometers	6,238

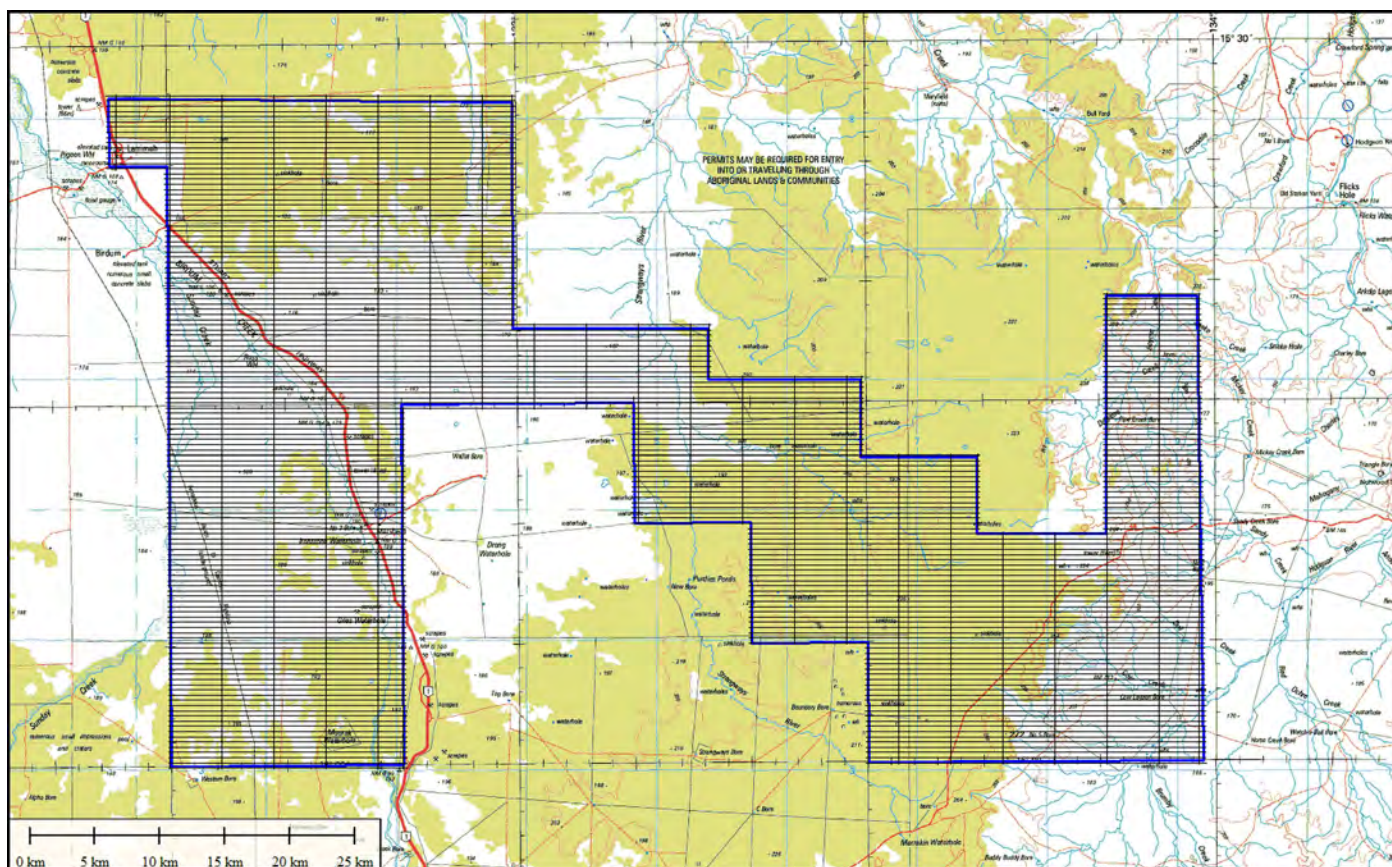


Figure 3 F15022_South_Area



1.4 CALIBRATION RANGE

The radiometric systems for each aircraft were calibrated using the Geoscience Australia calibration range in Carnamah WA to determine the ground concentration coefficients for the radiometric systems.

Cosmic stacks were flown over water to determine the aircraft and cosmic coefficients.

Height attenuation coefficients were determined from IAEA recommended attenuation coefficients.

1.5 IN FIELD CALIBRATION

a) Spectrometer

The gamma ray spectrometer response was verified by exposing the system to thorium test samples for a time sufficient to accumulate 10,000 counts.

Frequency Before the first flight and after the last flight of each day when survey operations were conducted.

All background corrected counts fell within +/- 3% of the mean over the survey period.

Results of thorium test sample measurements can be found in Appendix B and Appendix C.

b) Test Line

Test lines are flown at the specified survey height to verify magnetometer, spectrometer and barometric altimeter baselines.

Length 10km

Direction Bi-Directional

Frequency Before the first flight and after the last flight of each day when survey operations were conducted.

The test line thorium counts fell within +/- 7% of the mean over the survey period.

Results of test line thorium counts can be found in Appendix B and Appendix C

c) Compensation Flight

The compensation flight was carried out to determine what manoeuvring effects the aircraft will have while collecting magnetic data. These effects are removed during data processing to produce true magnetic data.

Frequency Before the commencement of the survey project and after each scheduled maintenance operation.



1.6 IN FIELD VERIFICATION AND PROCESSING

Thomson Aviation conducts stringent real time data validity checks.

The following products were generated on site from the ChrisDBF database program and Thomson Aviation proprietary software:

- Flight path plots, to demonstrate quality of navigation
- Magnetic stacked profiles, to demonstrate character of magnetic data
- Statistical summary of line data
- Magnetometer base station plots
- Progressive image presentation of magnetic and topographic data
- Daily plots of aircraft parking locations to verify GPS position

1.7 NAVIGATION AND POSITIONING

Navigation was provided using a mobile Novatel OEMV-1 VBS receiver. This equipment provides flight guidance to the pilot as well as flight path information which was recorded for subsequent processing.

Differential GPS data was obtained in real time using static GPS data obtained from the Omnistar wide area GPS service.

Position relative to the survey line was displayed to the pilot by an accurate and effective system proprietary to Thomson Aviation.

Under normal circumstances differential GPS is expected to yield positional accuracies in the order of 5 meters RMS or better.



PART 2 - AIRCRAFT

The aircraft used for survey operations combine good manoeuvrability with a magnetically clean base to provide maximum magnetic sensor performance.

2.1 VH-THS

Aircraft Information	
Engine	Piston
Fuel	AVGAS
Fuel Burn	65 litres per hour
Typical Survey Speed	130 knots
Stall Speed	60 knots



Figure 4 Example Aircraft: Cessna C210



PART 3 - SURVEY INSTRUMENTATION

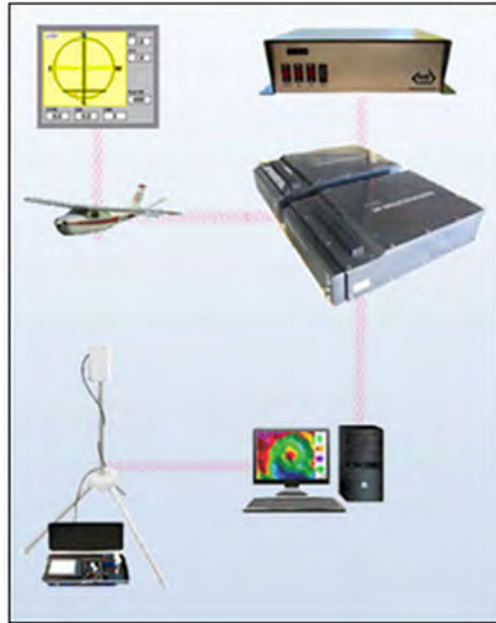


Figure 5 System Outline

3.1 MAGNETOMETER

The Geometrics G822A Magnetometer is a highly sensitive unit incorporating an optically pumped sensor. The constant harmonic frequency from the sensor is proportional to the surrounding scalar magnetic field. This frequency is resolved by the Counter / Processor which provides the magnetic field to a nominal accuracy of 0.01nT with a data capture rate of 20 times per second both in analog and digital formats.

The sensor and pre-amp are mounted in a stinger assembly which may be attached to the front or rear of the survey aircraft.



Figure 6 G822A Magnetometer and Typical Stinger Mounts



3.2 RADAR ALTIMETER

Type: King KR 495B Radar Altimeter



Figure 7 Radar Altimeter

This unit is a high resolution, short pulse ratio altitude system designed for automatic continuous operation over wide variations of terrain and weather conditions, target reflectivity, and aircraft altitude. It provides an accurate terrain clearance indication ranging from 0 to 650m (0 to 2,000ft).

3.3 BAROMETRIC ALTIMETER

Type: Setra 276 Pressure Transducer



Figure 8 Pressure transducer

This type of pressure transducer over a range of 600 to 1100 mB and has infinite resolution (limited only by system noise). The sensor is referenced to the height given by the GPS.

3.4 DATA ACQUISITION SYSTEM

Type: GeOZ-DAS Digital Data Acquisition System



Figure 9 Zdas System

The GeOZ system manages the data acquisition and saves the data to removable Flash Cards.

It provides guidance and real time error diagnostics for the pilot.

Acquired data is transferred to a field computer on completion of the flight for both verification and archiving prior to being shipped to the processing centre.



3.5 NAVIGATION EQUIPMENT

Type: Novatel OEMV-1VBS GPS Receiver



Figure 10 GPS Receiver

This equipment is a 12 channel parallel tracking receiver capable of providing sub-meter resolution at 5Hz and is integrated with the GeOZ-DAS acquisition unit.

3.6 GAMMA RAY SPECTROMETER SYSTEM

Type: Radiations Solutions Inc. RS 400 Spectrometer

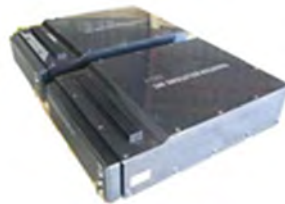


Figure 11 RS 400 Systems

These units deliver high-resolution spectral information from 0.33 MeV to 3.0 MeV including the five primary regions of interest; Total Count, Potassium, Uranium, Thorium and Cosmic.

The Gamma Ray Spectrometer is interfaced to a NaI (TI) crystal detector pack with a total volume of 33 liters (2048 cubic inches). These detector packs embody the latest techniques whereby the elimination of dead time in the counting process yields up to 30% more counts over other commercial systems.

Superior calibration facilities included the visual real time monitoring of full spectrum data and in flight monitoring of gain drift relative to the selected isotope window maintain long-term data quality.

Enhancement of the spectrometer data is achieved by noise reduction techniques (NASVD or MNF), followed by dead time correction, energy calibration, cosmic/aircraft background correction and atmospheric radon removal all applied to the 256 channel data. Spectral stripping, height correction and conversion to radio-element concentrations are then applied prior to gridding and micro-levelling.

The gamma ray spectrometer response was verified by exposing the system to thorium test samples for a time sufficient to accumulate 10,000 counts.



3.7 BASE STATION MAGNETOMETER

Two units are used in tandem for diurnal monitoring. These units run continuously during the survey periods and record the data in digital format.

Base station magnetometer instruments record data to a sensitivity of 0.1nT every 6 seconds.

During data acquisition, if the non-linear diurnal variation was greater than 10 nt in 10 minutes, or the deviation from a straight line chord of length 10 minutes exceeded 10 nT, the line was reflown.



Figure 12 Setting up base station magnetometer

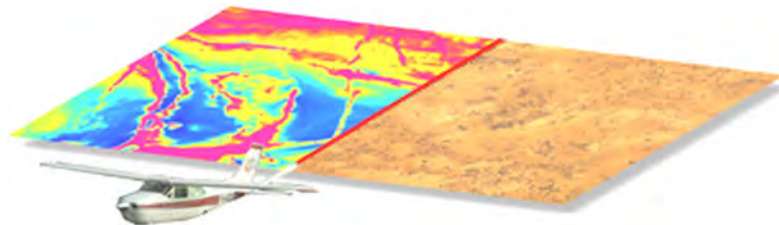


Figure 13 Magnetometer and Data Consol



PART 4 - CONTACT INFORMATION

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PART 5 - APPENDICES

APPENDIX A

DAILY REPORTS



Daily Log								
Date	Flt Num	Block(s)	Operator(s)	Aircraft	SBY	MNT	SUS	Comments
08/05/2015		F15022_North_Area		VH-THS				Ferry from Adelaide to Daly Waters.
09/05/2015	1	F15022_North_Area	W Makarainen	VH-THS				Flew comp box.
09/05/2015	2	F15022_North_Area	W Makarainen	VH-THS				Flew travs 33-49 and ties 1-3. Data OK and accepted.
09/05/2015	3	F15022_North_Area	W Makarainen	VH-THS				Flew travs 12-32 and ties 12-18. Data OK and accepted.
10/05/2015	4	F15022_North_Area F15022_South_Area	W Makarainen	VH-THS				Flew North Area travs 1-11 and ties 4-11, South Area travs 180-198. Data OK and accepted.
10/05/2015		F15022_North_Area		VH-THS				Ferry from Daly Waters to Batchelor.
10/05/2015		F15022_North_Area				0.5		Half-day maintenance. Landing gear fault.
11/05/2015		F15022_North_Area				1.0		Full-day maintenance.
12/05/2015		F15022_North_Area				1.0		Full-day maintenance.
13/05/2015		F15022_North_Area				1.0		Full-day maintenance.
14/05/2015		F15022_North_Area				1.0		Full-day maintenance.
14/05/2015		F15022_North_Area		VH-THS				Ferry from Batchelor to Daly Waters.
15/05/2015	5	F15022_South_Area	W Makarainen	VH-THS				Flew travs 151-179 and ties 24-29. Data OK and accepted.
15/05/2015	6	F15022_South_Area	W Makarainen	VH-THS				Flew travs 117-150. Data OK and accepted.
16/05/2015	7	F15022_South_Area	W Makarainen	VH-THS				Flew travs 102-116, 199-244 and ties 1-4. Data OK and accepted.
16/05/2015	8	F15022_South_Area	W Makarainen	VH-THS				Flew travs 70-101 and ties 5-12. Data OK and accepted.
17/05/2015	9	F15022_South_Area	W Makarainen	VH-THS				Flew travs 26-69 and ties 13-23. Data OK and accepted.
17/05/2015	10	F15022_South_Area	W Makarainen	VH-THS				Flew travs 1-25. Data OK and accepted.
17/05/2015	11	F15022_South_Area	W Makarainen	VH-THS				Flew comp box.



APPENDIX B

CALIBRATION AND TEST LINE VARIATION TABLES



Av Normalized Th: 339.6 Min TH: 335.6 Max TH: 342.8 Standard Deviation: 2.2

Ground Cals - VH-THS - Daly Waters

Date	Flt	Position			Hand Sample				Background				Normalized				Th Cal Results		TH Chg	Diff
		East	North	GPS Ht	TC	Pot	Ura	Tho	TC	Pot	Ura	Tho	TC	Pot	Ura	Tho	ThPeak	% FWHM		
09/05/2015	2	326545.60	8201260.23	209.8	8532.2	338.3	241.5	522.0	3652.0	191.5	126.4	181.3	4880.2	146.8	115.1	340.7	217.43	4.45	0.3	0.0
09/05/2015	3	326546.23	8201263.37	229.9	8623.0	344.7	246.0	522.2	3689.4	192.6	127.8	184.0	4933.6	152.1	118.2	338.2	217.83	4.47	-0.4	3.2
10/05/2015	4	326544.12	8201260.59	212.8	8764.5	348.0	250.5	521.0	3792.8	197.2	133.3	181.6	4971.7	150.8	117.2	339.4	217.66	4.53	0.0	1.5
15/05/2015	5	326543.64	8201260.21	213.3	8615.7	339.4	240.6	525.1	3631.9	188.7	122.9	183.2	4983.8	150.7	117.7	341.9	217.57	4.46	0.7	2.0
15/05/2015	6	326546.76	8201264.38	229.9	8714.7	346.6	248.6	525.5	3748.8	197.4	132.2	185.7	4965.9	149.2	116.4	339.8	217.74	4.36	0.1	4.3
16/05/2015	7	326544.65	8201261.07	213.7	8673.6	345.6	243.7	522.2	3684.3	191.3	129.1	182.7	4989.3	154.3	114.6	339.5	217.40	4.54	0.0	1.3
16/05/2015	8	326545.35	8201262.19	223.9	8669.7	347.1	248.6	521.4	3724.5	195.3	128.6	185.8	4945.2	151.8	120.0	335.6	217.84	4.44	-1.2	2.0
17/05/2015	9	326544.65	8201260.46	213.3	8793.0	352.8	252.1	524.5	3779.5	199.3	133.4	181.7	5013.5	153.5	118.7	342.8	217.25	4.37	1.0	1.0
17/05/2015	10	326546.53	8201256.92	234.8	8621.3	343.2	245.4	520.5	3667.4	192.3	123.7	182.4	4953.9	150.9	121.7	338.1	217.92	4.45	-0.4	3.4



Av Normalized Th: 108.8 Min TH: 108.4 Max TH: 109.6 Standard Deviation: 0.6

Test Lines - VH-THS - Daly Waters

		801				802				Normalized				TH Chg	
Date	Flt	TC	Pot	Ura	Tho	Flt	TC	Pot	Ura	Tho	TC	Pot	Ura	Tho	+/- 7%
09/05/2015	2	2473.6	141.6	93.3	107.2	3	2385.5	137.3	86.2	109.9	88.1	4.3	7.1	108.6	-0.2
10/05/2015	4	2557.2	147.8	99.8	105.6										
15/05/2015	5	2327.7	134.6	85.7	104.8	6	2491.1	143.1	94.0	112.0	-163.4	-8.5	-8.3	108.4	-0.3
16/05/2015	7	2406.8	138.4	88.9	108.0	8	2421.6	139.3	88.7	111.3	-14.8	-0.9	0.2	109.6	0.8
17/05/2015	9	2526.6	145.9	98.5	106.4	10	2402.5	139.7	88.2	110.6	124.1	6.2	10.3	108.5	-0.3



APPENDIX C

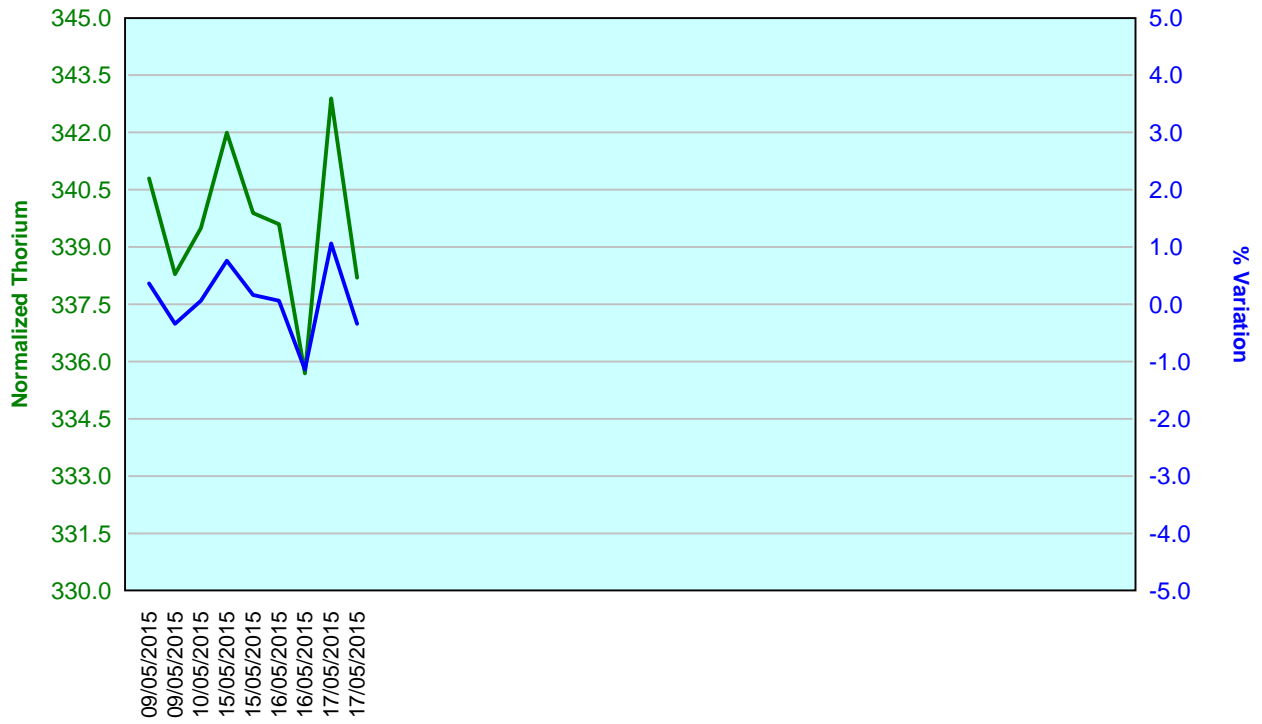
CALIBRATION AND TEST LINE VARIATION CHARTS



Sample Variations

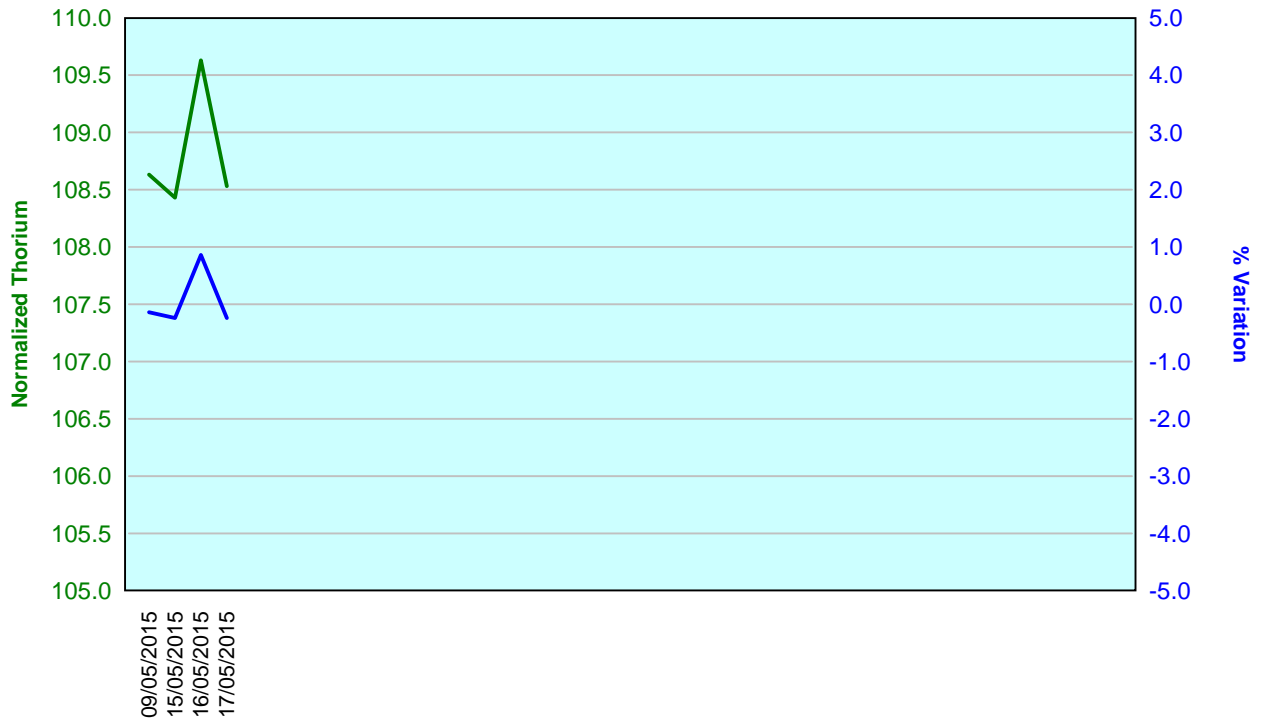
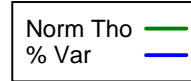
Aircraft: VH-THS Base: Daly Waters

Norm Tho —
% Var —



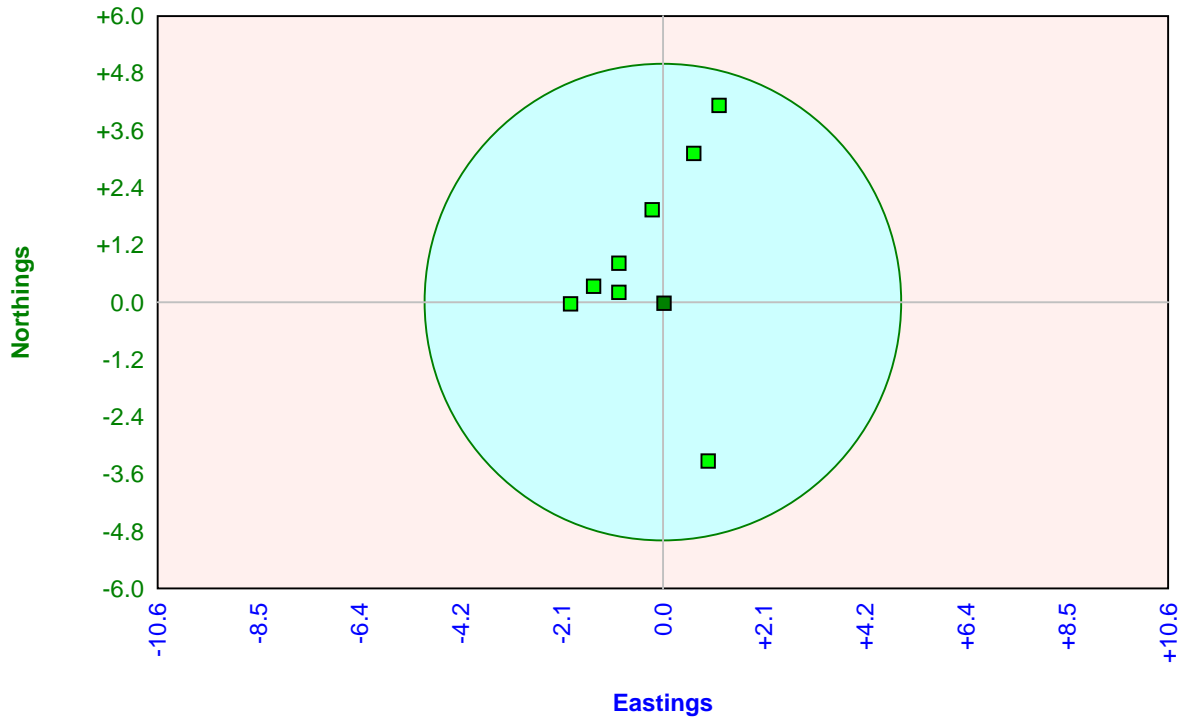
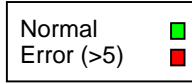
Test Line Variations

Aircraft: VH-THS Base: Daly Waters



Hand Sample Calibration Positions

Aircraft: VH-THS Base: Daly Waters



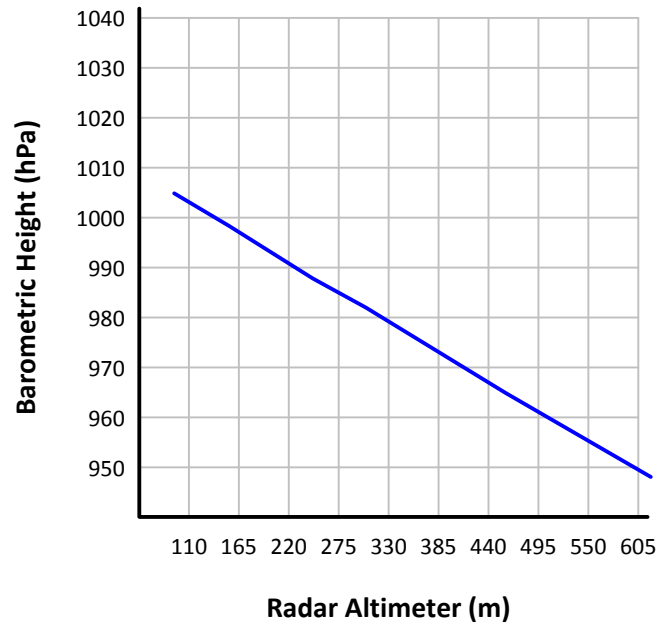
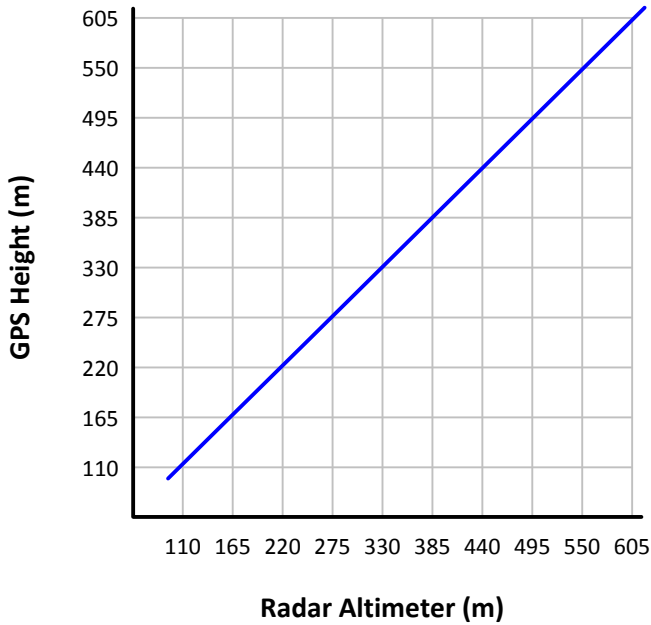
APPENDIX D

RADAR ALTIMETER AND BAROMETRIC ALTIMETER CHECKS



VH-THS

Radar Altimeter (m)	Barometric Height (hPa)	GPS Height (m)
93.69	1004.85	97.64
153.52	998.39	156.91
246.32	987.85	247.99
305.09	981.95	305.90
459.01	964.87	458.24
618.90	948.03	616.63



Calibration flights for VH-THS were performed within the last 12 months



APPENDIX E
BOUNDARY COORDINATES



F15022_North_Area, Datum: GDA 94, Zone: 53

Eastings	Northings
286933.79	8319215.81
313802.19	8318971.15
313816.62	8316970.21
317398.00	8316998.40
317383.52	8319040.69
337561.39	8318923.94
338872.44	8318999.97
338897.68	8315312.05
337108.55	8315299.38
337160.05	8307923.70
335368.96	8307911.04
335437.59	8303400.24
330788.42	8303336.17
330788.42	8300560.61
307599.48	8300052.39
307560.40	8304809.44
288819.77	8304952.20
288847.12	8305691.20
287057.23	8305675.15



F15022_South_Area, Datum: GDA 94, Zone: 53

Eastings	Northings
307883.22	8281585.28
338868.64	8281310.48
338953.31	8263953.78
353939.34	8263953.78
353897.01	8260016.77
365623.36	8260016.77
365623.36	8254090.09
374598.04	8254090.09
374598.04	8248205.74
384461.73	8248205.74
384461.73	8266451.45
391531.41	8266451.45
391977.16	8230777.24
366250.86	8230658.66
366196.29	8239879.45
357274.73	8239824.28
357216.03	8249044.14
348290.44	8248985.80
348228.39	8258205.88
330369.27	8258078.93
330577.80	8230415.38
312740.02	8230273.42
312356.26	8276376.60
307927.22	8276339.33



APPENDIX F

LINE SPECIFICATIONS



F15022_North_Area

Line	Type	Easting	Northing	Easting	Northing	Direc	Length	Tv	Cumul	Ti	Cumul
100010	Trav	307602.59	8299990.57	330793.87	8299990.57	90.0	23.2		23.2		0.0
100020	Trav	307596.69	8300390.57	330787.97	8300390.57	90.0	23.2		46.4		0.0
100030	Trav	307593.41	8300790.57	330788.41	8300790.57	90.0	23.2		69.6		0.0
100040	Trav	307590.12	8301190.57	330788.41	8301190.57	90.0	23.2		92.8		0.0
100050	Trav	307586.84	8301590.57	330788.41	8301590.57	90.0	23.2		116.0		0.0
100060	Trav	307583.55	8301990.57	330788.41	8301990.57	90.0	23.2		139.2		0.0
100070	Trav	307580.27	8302390.57	330788.41	8302390.57	90.0	23.2		162.4		0.0
100080	Trav	307576.98	8302790.57	330788.41	8302790.57	90.0	23.2		185.6		0.0
100090	Trav	307573.70	8303190.57	330788.41	8303190.57	90.0	23.2		208.8		0.0
100100	Trav	307570.41	8303590.57	335434.69	8303590.57	90.0	27.9		236.7		0.0
100110	Trav	307567.13	8303990.57	335428.61	8303990.57	90.0	27.9		264.5		0.0
100120	Trav	307563.84	8304390.57	335422.52	8304390.57	90.0	27.9		292.4		0.0
100130	Trav	288837.69	8304790.57	335416.44	8304790.57	90.0	46.6		339.0		0.0
100140	Trav	288828.59	8305190.57	335410.35	8305190.57	90.0	46.6		385.6		0.0
100150	Trav	288843.55	8305590.57	335404.27	8305590.57	90.0	46.6		432.1		0.0
100160	Trav	287054.34	8305990.57	335398.18	8305990.57	90.0	48.3		480.5		0.0
100170	Trav	287050.70	8306390.57	335392.09	8306390.57	90.0	48.3		528.8		0.0
100180	Trav	287047.05	8306790.57	335386.01	8306790.57	90.0	48.3		577.1		0.0
100190	Trav	287043.41	8307190.57	335379.92	8307190.57	90.0	48.3		625.5		0.0
100200	Trav	287039.76	8307590.57	335373.84	8307590.57	90.0	48.3		673.8		0.0
100210	Trav	287036.11	8307990.57	337159.57	8307990.57	90.0	50.1		723.9		0.0
100220	Trav	287032.47	8308390.57	337156.78	8308390.57	90.0	50.1		774.1		0.0
100230	Trav	287028.82	8308790.57	337153.99	8308790.57	90.0	50.1		824.2		0.0
100240	Trav	287025.17	8309190.57	337151.19	8309190.57	90.0	50.1		874.3		0.0
100250	Trav	287021.53	8309590.57	337148.40	8309590.57	90.0	50.1		924.4		0.0
100260	Trav	287017.88	8309990.57	337145.61	8309990.57	90.0	50.1		974.6		0.0
100270	Trav	287014.23	8310390.57	337142.82	8310390.57	90.0	50.1		1024.7		0.0
100280	Trav	287010.59	8310790.57	337140.02	8310790.57	90.0	50.1		1074.8		0.0
100290	Trav	287006.94	8311190.57	337137.23	8311190.57	90.0	50.1		1125.0		0.0
100300	Trav	287003.29	8311590.57	337134.44	8311590.57	90.0	50.1		1175.1		0.0
100310	Trav	286999.65	8311990.57	337131.64	8311990.57	90.0	50.1		1225.2		0.0
100320	Trav	286996.00	8312390.57	337128.85	8312390.57	90.0	50.1		1275.4		0.0
100330	Trav	286992.35	8312790.57	337126.06	8312790.57	90.0	50.1		1325.5		0.0
100340	Trav	286988.71	8313190.57	337123.26	8313190.57	90.0	50.1		1375.6		0.0
100350	Trav	286985.06	8313590.57	337120.47	8313590.57	90.0	50.1		1425.8		0.0
100360	Trav	286981.41	8313990.57	337117.68	8313990.57	90.0	50.1		1475.9		0.0
100370	Trav	286977.77	8314390.57	337114.89	8314390.57	90.0	50.1		1526.0		0.0
100380	Trav	286974.12	8314790.57	337112.09	8314790.57	90.0	50.1		1576.2		0.0
100390	Trav	286970.48	8315190.57	337109.30	8315190.57	90.0	50.1		1626.3		0.0
100400	Trav	286966.83	8315590.57	338895.76	8315590.57	90.0	51.9		1678.2		0.0
100410	Trav	286963.18	8315990.57	338893.03	8315990.57	90.0	51.9		1730.2		0.0
100420	Trav	286959.54	8316390.57	338890.29	8316390.57	90.0	51.9		1782.1		0.0
100430	Trav	286955.89	8316790.57	338887.55	8316790.57	90.0	51.9		1834.0		0.0
100440	Trav	286952.24	8317190.57	338884.82	8317190.57	90.0	51.9		1886.0		0.0
100450	Trav	286948.60	8317590.57	338882.08	8317590.57	90.0	51.9		1937.9		0.0
100460	Trav	286944.95	8317990.57	338879.35	8317990.57	90.0	51.9		1989.8		0.0
100470	Trav	286941.30	8318390.57	338876.61	8318390.57	90.0	51.9		2041.8		0.0
100480	Trav	286937.66	8318790.57	338873.87	8318790.57	90.0	51.9		2093.7		0.0
190010	Tie	338663.66	8319309.32	338663.66	8315500.93	180.0	3.8		2093.7		3.8
190020	Tie	336936.21	8315645.27	336936.21	8307935.34	180.0	7.7		2093.7		11.5
100490	Trav	286934.01	8319190.57	338873.10	8319190.57	90.0	51.9		2145.6		11.5
190030	Tie	335348.96	8319292.32	335348.96	8303525.93	180.0	15.8		2145.6		27.3
190040	Tie	331348.96	8319292.32	331348.96	8303525.93	180.0	15.8		2145.6		43.1
190050	Tie	330620.32	8303642.72	330620.32	8299891.78	180.0	3.8		2145.6		46.8
190060	Tie	327348.96	8319292.32	327348.96	8299903.94	180.0	19.4		2145.6		66.2
190070	Tie	323348.96	8319292.32	323348.96	8299903.94	180.0	19.4		2145.6		85.6
190080	Tie	319348.96	8319292.32	319348.96	8299903.94	180.0	19.4		2145.6		105.0
190090	Tie	315348.96	8319297.49	315348.96	8299903.94	180.0	19.4		2145.6		124.4
190100	Tie	311348.96	8319292.32	311348.96	8299903.94	180.0	19.4		2145.6		143.7
190110	Tie	307788.19	8304867.58	307788.19	8299912.30	180.0	5.0		2145.6		148.7
190120	Tie	307348.96	8319292.32	307348.97	8304717.38	180.0	14.6		2145.6		163.3
190130	Tie	303348.96	8319292.32	303348.97	8304717.38	180.0	14.6		2145.6		177.9
190140	Tie	299348.96	8319292.32	299348.97	8304717.38	180.0	14.6		2145.6		192.4
190150	Tie	295348.96	8319292.32	295348.97	8304717.38	180.0	14.6		2145.6		207.0
190160	Tie	291348.96	8319292.32	291348.97	8304717.38	180.0	14.6		2145.6		221.6



F15022_North_Area (Cont)

<u>Line</u>	<u>Type</u>	<u>Easting</u>	<u>Northing</u>	<u>Easting</u>	<u>Northing</u>	<u>Direc</u>	<u>Length</u>	<u>Tv</u>	<u>Cumul</u>	<u>Ti</u>	<u>Cumul</u>
190170	Tie	289012.51	8306031.75	289012.51	8304721.29	180.0	1.3	2145.6	222.9		
190180	Tie	287348.96	8319292.32	287348.98	8305934.26	180.0	13.4	2145.6	236.2		



F15022_South_Area

Line	Type	Eastings	Northing	Eastings	Northing	Direc	Length	Tv	Cumul	Ti	Cumul
200010	Trav	312497.95	8230206.90	330774.75	8230206.90	90.0	18.3		18.3		0.0
200020	Trav	312497.95	8230606.90	330776.34	8230606.90	90.0	18.3		36.6		0.0
200030	Trav	312497.95	8231006.90	330773.33	8231006.90	90.0	18.3		54.8		0.0
200040	Trav	312497.95	8231406.90	330770.31	8231406.90	90.0	18.3		73.1		0.0
200050	Trav	312497.95	8231806.90	330767.30	8231806.90	90.0	18.3		91.4		0.0
200060	Trav	312497.95	8232206.90	330764.28	8232206.90	90.0	18.3		109.6		0.0
200070	Trav	312497.95	8232606.90	330761.27	8232606.90	90.0	18.3		127.9		0.0
200080	Trav	312497.95	8233006.90	330758.25	8233006.90	90.0	18.3		146.2		0.0
200090	Trav	312497.95	8233406.90	330755.24	8233406.90	90.0	18.3		164.4		0.0
200100	Trav	312497.95	8233806.90	330752.22	8233806.90	90.0	18.3		182.7		0.0
200110	Trav	312497.95	8234206.90	330749.21	8234206.90	90.0	18.3		200.9		0.0
200120	Trav	312497.95	8234606.90	330746.19	8234606.90	90.0	18.2		219.2		0.0
200130	Trav	312497.95	8235006.90	330743.18	8235006.90	90.0	18.2		237.4		0.0
200140	Trav	312497.95	8235406.90	330740.16	8235406.90	90.0	18.2		255.7		0.0
200150	Trav	312497.95	8235806.90	330737.15	8235806.90	90.0	18.2		273.9		0.0
200160	Trav	312497.95	8236206.90	330734.13	8236206.90	90.0	18.2		292.1		0.0
200170	Trav	312497.95	8236606.90	330731.12	8236606.90	90.0	18.2		310.4		0.0
200180	Trav	312483.96	8237006.90	330728.10	8237006.90	90.0	18.2		328.6		0.0
200190	Trav	312480.63	8237406.90	330725.09	8237406.90	90.0	18.2		346.9		0.0
200200	Trav	312477.30	8237806.90	330722.07	8237806.90	90.0	18.2		365.1		0.0
200210	Trav	312473.97	8238206.90	330719.06	8238206.90	90.0	18.2		383.3		0.0
200220	Trav	312470.64	8238606.90	330716.04	8238606.90	90.0	18.2		401.6		0.0
200230	Trav	312467.31	8239006.90	330713.03	8239006.90	90.0	18.2		419.8		0.0
200240	Trav	312463.98	8239406.90	330710.01	8239406.90	90.0	18.2		438.1		0.0
200250	Trav	312460.65	8239806.90	330707.00	8239806.90	90.0	18.2		456.3		0.0
200260	Trav	312457.32	8240206.90	330703.98	8240206.90	90.0	18.2		474.6		0.0
200270	Trav	312453.99	8240606.90	330700.97	8240606.90	90.0	18.2		492.8		0.0
200280	Trav	312450.66	8241006.90	330697.95	8241006.90	90.0	18.2		511.1		0.0
200290	Trav	312447.33	8241406.90	330694.94	8241406.90	90.0	18.2		529.3		0.0
200300	Trav	312444.01	8241806.90	330691.92	8241806.90	90.0	18.2		547.6		0.0
200310	Trav	312440.68	8242206.90	330688.91	8242206.90	90.0	18.2		565.8		0.0
200320	Trav	312437.35	8242606.90	330685.89	8242606.90	90.0	18.2		584.1		0.0
200330	Trav	312434.02	8243006.90	330682.88	8243006.90	90.0	18.2		602.3		0.0
200340	Trav	312430.69	8243406.90	330679.86	8243406.90	90.0	18.2		620.6		0.0
200350	Trav	312427.36	8243806.90	330676.85	8243806.90	90.0	18.2		638.8		0.0
200360	Trav	312424.03	8244206.90	330673.83	8244206.90	90.0	18.2		657.1		0.0
200370	Trav	312420.70	8244606.90	330670.82	8244606.90	90.0	18.3		675.3		0.0
200380	Trav	312417.37	8245006.90	330667.80	8245006.90	90.0	18.3		693.6		0.0
200390	Trav	312414.04	8245406.90	330664.79	8245406.90	90.0	18.3		711.8		0.0
200400	Trav	312410.71	8245806.90	330661.77	8245806.90	90.0	18.3		730.1		0.0
200410	Trav	312407.38	8246206.90	330658.76	8246206.90	90.0	18.3		748.3		0.0
200420	Trav	312404.05	8246606.90	330655.74	8246606.90	90.0	18.3		766.6		0.0
200430	Trav	312400.72	8247006.90	330652.73	8247006.90	90.0	18.3		784.8		0.0
200440	Trav	312397.39	8247406.90	330649.71	8247406.90	90.0	18.3		803.1		0.0
200450	Trav	312394.06	8247806.90	330646.70	8247806.90	90.0	18.3		821.3		0.0
200460	Trav	312390.73	8248206.90	330643.68	8248206.90	90.0	18.3		839.6		0.0
200470	Trav	312387.40	8248606.90	330640.67	8248606.90	90.0	18.3		857.8		0.0
200480	Trav	312384.07	8249006.90	330637.65	8249006.90	90.0	18.3		876.1		0.0
200490	Trav	312380.74	8249406.90	330634.64	8249406.90	90.0	18.3		894.3		0.0
200500	Trav	312377.41	8249806.90	330631.62	8249806.90	90.0	18.3		912.6		0.0
200510	Trav	312374.08	8250206.90	330628.61	8250206.90	90.0	18.3		930.8		0.0
200520	Trav	312370.75	8250606.90	330625.59	8250606.90	90.0	18.3		949.1		0.0
200530	Trav	312367.42	8251006.90	330622.58	8251006.90	90.0	18.3		967.4		0.0
200540	Trav	312364.09	8251406.90	330619.56	8251406.90	90.0	18.3		985.6		0.0
200550	Trav	312360.76	8251806.90	330616.55	8251806.90	90.0	18.3		1003.9		0.0
200560	Trav	312357.43	8252206.90	330613.53	8252206.90	90.0	18.3		1022.1		0.0
200570	Trav	312354.10	8252606.90	330610.52	8252606.90	90.0	18.3		1040.4		0.0
200580	Trav	312350.77	8253006.90	330607.50	8253006.90	90.0	18.3		1058.6		0.0
200590	Trav	312347.44	8253406.90	330604.49	8253406.90	90.0	18.3		1076.9		0.0
200600	Trav	312344.12	8253806.90	330601.47	8253806.90	90.0	18.3		1095.2		0.0
200610	Trav	312340.79	8254206.90	330598.46	8254206.90	90.0	18.3		1113.4		0.0
200620	Trav	312337.46	8254606.90	330595.44	8254606.90	90.0	18.3		1131.7		0.0
200630	Trav	312334.13	8255006.90	330592.43	8255006.90	90.0	18.3		1149.9		0.0
200640	Trav	312330.80	8255406.90	330589.41	8255406.90	90.0	18.3		1168.2		0.0
200650	Trav	312327.47	8255806.90	330586.40	8255806.90	90.0	18.3		1186.4		0.0



F15022_South_Area (Cont)

Line	Type	Easting	Northing	Easting	Northing	Direc	Length	Tv Cumul	Ti Cumul
200660	Trav	312324.14	8256206.90	330583.38	8256206.90	90.0	18.3	1204.7	0.0
200670	Trav	312320.81	8256606.90	330580.37	8256606.90	90.0	18.3	1223.0	0.0
200680	Trav	312317.48	8257006.90	330577.35	8257006.90	90.0	18.3	1241.2	0.0
200690	Trav	312314.15	8257406.90	330574.34	8257406.90	90.0	18.3	1259.5	0.0
200700	Trav	366051.15	8230606.90	392179.29	8230606.90	90.0	26.1	1285.6	0.0
200710	Trav	366048.78	8231006.90	392174.29	8231006.90	90.0	26.1	1311.7	0.0
200720	Trav	366046.41	8231406.90	392169.29	8231406.90	90.0	26.1	1337.9	0.0
200730	Trav	366044.05	8231806.90	392164.30	8231806.90	90.0	26.1	1364.0	0.0
200740	Trav	366041.68	8232206.90	392159.30	8232206.90	90.0	26.1	1390.1	0.0
200750	Trav	366039.31	8232606.90	392154.30	8232606.90	90.0	26.1	1416.2	0.0
200760	Trav	366036.94	8233006.90	392149.30	8233006.90	90.0	26.1	1442.3	0.0
200770	Trav	366034.58	8233406.90	392144.30	8233406.90	90.0	26.1	1468.4	0.0
200780	Trav	366032.21	8233806.90	392139.31	8233806.90	90.0	26.1	1494.5	0.0
200790	Trav	366029.84	8234206.90	392134.31	8234206.90	90.0	26.1	1520.6	0.0
200800	Trav	366027.47	8234606.90	392129.31	8234606.90	90.0	26.1	1546.7	0.0
200810	Trav	366025.11	8235006.90	392124.31	8235006.90	90.0	26.1	1572.8	0.0
200820	Trav	366022.74	8235406.90	392119.31	8235406.90	90.0	26.1	1598.9	0.0
200830	Trav	366020.37	8235806.90	392114.32	8235806.90	90.0	26.1	1625.0	0.0
200840	Trav	366018.00	8236206.90	392109.32	8236206.90	90.0	26.1	1651.1	0.0
200850	Trav	366015.64	8236606.90	392104.32	8236606.90	90.0	26.1	1677.2	0.0
200860	Trav	366013.27	8237006.90	392099.32	8237006.90	90.0	26.1	1703.3	0.0
200870	Trav	366010.90	8237406.90	392094.32	8237406.90	90.0	26.1	1729.4	0.0
200880	Trav	366008.54	8237806.90	392089.33	8237806.90	90.0	26.1	1755.5	0.0
200890	Trav	366006.17	8238206.90	392084.33	8238206.90	90.0	26.1	1781.5	0.0
200900	Trav	366003.80	8238606.90	392079.33	8238606.90	90.0	26.1	1807.6	0.0
200910	Trav	366001.43	8239006.90	392074.33	8239006.90	90.0	26.1	1833.7	0.0
200920	Trav	365983.51	8239406.90	392069.33	8239406.90	90.0	26.1	1859.8	0.0
200930	Trav	357074.83	8239806.90	392064.34	8239806.90	90.0	35.0	1894.8	0.0
200940	Trav	357072.28	8240206.90	392059.34	8240206.90	90.0	35.0	1929.8	0.0
200950	Trav	357069.73	8240606.90	392054.34	8240606.90	90.0	35.0	1964.7	0.0
200960	Trav	357067.19	8241006.90	392049.34	8241006.90	90.0	35.0	1999.7	0.0
200970	Trav	357064.64	8241406.90	392044.34	8241406.90	90.0	35.0	2034.7	0.0
200980	Trav	357062.09	8241806.90	392039.35	8241806.90	90.0	35.0	2069.7	0.0
200990	Trav	357059.55	8242206.90	392034.35	8242206.90	90.0	35.0	2104.7	0.0
201000	Trav	357057.00	8242606.90	392029.35	8242606.90	90.0	35.0	2139.6	0.0
201010	Trav	357054.45	8243006.90	392024.35	8243006.90	90.0	35.0	2174.6	0.0
201020	Trav	357051.91	8243406.90	392019.35	8243406.90	90.0	35.0	2209.6	0.0
201030	Trav	357049.36	8243806.90	392014.36	8243806.90	90.0	35.0	2244.5	0.0
201040	Trav	357046.81	8244206.90	392009.36	8244206.90	90.0	35.0	2279.5	0.0
201050	Trav	357044.26	8244606.90	392004.36	8244606.90	90.0	35.0	2314.5	0.0
201060	Trav	357041.72	8245006.90	391999.36	8245006.90	90.0	35.0	2349.4	0.0
201070	Trav	357039.17	8245406.90	391994.36	8245406.90	90.0	35.0	2384.4	0.0
201080	Trav	357036.62	8245806.90	391989.37	8245806.90	90.0	35.0	2419.3	0.0
201090	Trav	357034.08	8246206.90	391984.37	8246206.90	90.0	35.0	2454.3	0.0
201100	Trav	357031.53	8246606.90	391979.37	8246606.90	90.0	34.9	2489.2	0.0
201110	Trav	357028.98	8247006.90	391974.37	8247006.90	90.0	34.9	2524.2	0.0
201120	Trav	357026.43	8247406.90	391969.37	8247406.90	90.0	34.9	2559.1	0.0
201130	Trav	357023.89	8247806.90	391964.37	8247806.90	90.0	34.9	2594.0	0.0
201140	Trav	357021.34	8248206.90	391959.38	8248206.90	90.0	34.9	2629.0	0.0
201150	Trav	357006.32	8248606.90	374796.76	8248606.90	90.0	17.8	2646.8	0.0
201160	Trav	348090.28	8249006.90	374798.03	8249006.90	90.0	26.7	2673.5	0.0
201170	Trav	348087.59	8249406.90	374798.03	8249406.90	90.0	26.7	2700.2	0.0
201180	Trav	348084.90	8249806.90	374798.03	8249806.90	90.0	26.7	2726.9	0.0
201190	Trav	348082.21	8250206.90	374798.03	8250206.90	90.0	26.7	2753.6	0.0
201200	Trav	348079.52	8250606.90	374798.03	8250606.90	90.0	26.7	2780.3	0.0
201210	Trav	348076.82	8251006.90	374798.03	8251006.90	90.0	26.7	2807.1	0.0
201220	Trav	348074.13	8251406.90	374798.03	8251406.90	90.0	26.7	2833.8	0.0
201230	Trav	348071.44	8251806.90	374798.03	8251806.90	90.0	26.7	2860.5	0.0
201240	Trav	348068.75	8252206.90	374798.03	8252206.90	90.0	26.7	2887.2	0.0
201250	Trav	348066.06	8252606.90	374798.03	8252606.90	90.0	26.7	2914.0	0.0
201260	Trav	348063.36	8253006.90	374798.03	8253006.90	90.0	26.7	2940.7	0.0
201270	Trav	348060.67	8253406.90	374798.03	8253406.90	90.0	26.7	2967.4	0.0
201280	Trav	348057.98	8253806.90	374798.03	8253806.90	90.0	26.7	2994.2	0.0
201290	Trav	348055.29	8254206.90	374798.03	8254206.90	90.0	26.7	3020.9	0.0
201300	Trav	348052.60	8254606.90	365823.34	8254606.90	90.0	17.8	3038.7	0.0



F15022_South_Area (Cont)

Line	Type	Easting	Northing	Easting	Northing	Direc	Length	Tv Cumul	Ti Cumul
201310	Trav	348049.90	8255006.90	365823.34	8255006.90	90.0	17.8	3056.5	0.0
201320	Trav	348047.21	8255406.90	365823.34	8255406.90	90.0	17.8	3074.2	0.0
201330	Trav	348044.52	8255806.90	365823.34	8255806.90	90.0	17.8	3092.0	0.0
201340	Trav	348041.83	8256206.90	365823.34	8256206.90	90.0	17.8	3109.8	0.0
201350	Trav	348039.14	8256606.90	365823.34	8256606.90	90.0	17.8	3127.6	0.0
201360	Trav	348036.44	8257006.90	365823.34	8257006.90	90.0	17.8	3145.4	0.0
201370	Trav	348033.75	8257406.90	365823.34	8257406.90	90.0	17.8	3163.2	0.0
201380	Trav	312310.82	8257806.90	365822.05	8257806.90	90.0	53.5	3216.7	0.0
201390	Trav	312307.49	8258206.90	365823.34	8258206.90	90.0	53.5	3270.2	0.0
201400	Trav	312304.16	8258606.90	365823.34	8258606.90	90.0	53.5	3323.7	0.0
201410	Trav	312300.83	8259006.90	365823.34	8259006.90	90.0	53.5	3377.2	0.0
201420	Trav	312297.50	8259406.90	365823.34	8259406.90	90.0	53.5	3430.8	0.0
201430	Trav	312294.17	8259806.90	365823.34	8259806.90	90.0	53.5	3484.3	0.0
201440	Trav	312290.84	8260206.90	365823.34	8260206.90	90.0	53.5	3537.8	0.0
201450	Trav	312287.51	8260606.90	354103.36	8260606.90	90.0	41.8	3579.6	0.0
201460	Trav	312284.18	8261006.90	354107.66	8261006.90	90.0	41.8	3621.5	0.0
201470	Trav	312280.85	8261406.90	354111.96	8261406.90	90.0	41.8	3663.3	0.0
201480	Trav	312277.52	8261806.90	354116.26	8261806.90	90.0	41.8	3705.1	0.0
201490	Trav	312274.19	8262206.90	354120.56	8262206.90	90.0	41.8	3747.0	0.0
201500	Trav	312270.86	8262606.90	354124.86	8262606.90	90.0	41.9	3788.8	0.0
201510	Trav	312267.53	8263006.90	354129.17	8263006.90	90.0	41.9	3830.7	0.0
201520	Trav	312264.20	8263406.90	354133.47	8263406.90	90.0	41.9	3872.6	0.0
201530	Trav	312260.87	8263806.90	354137.77	8263806.90	90.0	41.9	3914.4	0.0
201540	Trav	312257.54	8264206.90	354110.59	8264206.90	90.0	41.9	3956.3	0.0
201550	Trav	312254.21	8264606.90	339150.12	8264606.90	90.0	26.9	3983.2	0.0
201560	Trav	312250.88	8265006.90	339148.17	8265006.90	90.0	26.9	4010.1	0.0
201570	Trav	312247.55	8265406.90	339146.22	8265406.90	90.0	26.9	4037.0	0.0
201580	Trav	312244.23	8265806.90	339144.27	8265806.90	90.0	26.9	4063.9	0.0
201590	Trav	312240.90	8266206.90	339142.31	8266206.90	90.0	26.9	4090.8	0.0
201600	Trav	312237.57	8266606.90	339140.36	8266606.90	90.0	26.9	4117.7	0.0
201610	Trav	312234.24	8267006.90	339138.41	8267006.90	90.0	26.9	4144.6	0.0
201620	Trav	312230.91	8267406.90	339136.46	8267406.90	90.0	26.9	4171.5	0.0
201630	Trav	312227.58	8267806.90	339134.51	8267806.90	90.0	26.9	4198.4	0.0
201640	Trav	312224.25	8268206.90	339132.56	8268206.90	90.0	26.9	4225.3	0.0
201650	Trav	312220.92	8268606.90	339130.61	8268606.90	90.0	26.9	4252.2	0.0
201660	Trav	312217.59	8269006.90	339128.66	8269006.90	90.0	26.9	4279.1	0.0
201670	Trav	312214.26	8269406.90	339126.70	8269406.90	90.0	26.9	4306.0	0.0
201680	Trav	312210.93	8269806.90	339124.75	8269806.90	90.0	26.9	4333.0	0.0
201690	Trav	312207.60	8270206.90	339122.80	8270206.90	90.0	26.9	4359.9	0.0
201700	Trav	312204.27	8270606.90	339120.85	8270606.90	90.0	26.9	4386.8	0.0
201710	Trav	312200.94	8271006.90	339118.90	8271006.90	90.0	26.9	4413.7	0.0
201720	Trav	312197.61	8271406.90	339116.95	8271406.90	90.0	26.9	4440.6	0.0
201730	Trav	312194.28	8271806.90	339115.00	8271806.90	90.0	26.9	4467.6	0.0
201740	Trav	312190.95	8272206.90	339113.05	8272206.90	90.0	26.9	4494.5	0.0
201750	Trav	312187.62	8272606.90	339111.09	8272606.90	90.0	26.9	4521.4	0.0
201760	Trav	312184.29	8273006.90	339109.14	8273006.90	90.0	26.9	4548.3	0.0
201770	Trav	312180.96	8273406.90	339107.19	8273406.90	90.0	26.9	4575.2	0.0
201780	Trav	312177.63	8273806.90	339105.24	8273806.90	90.0	26.9	4602.2	0.0
201790	Trav	312174.30	8274206.90	339103.29	8274206.90	90.0	26.9	4629.1	0.0
201800	Trav	312170.97	8274606.90	339101.34	8274606.90	90.0	26.9	4656.0	0.0
201810	Trav	312167.64	8275006.90	339099.39	8275006.90	90.0	26.9	4683.0	0.0
201820	Trav	312164.31	8275406.90	339097.44	8275406.90	90.0	26.9	4709.9	0.0
201830	Trav	312160.98	8275806.90	339095.48	8275806.90	90.0	26.9	4736.8	0.0
201840	Trav	307728.31	8276206.90	339093.53	8276206.90	90.0	31.4	4768.2	0.0
201850	Trav	307724.95	8276606.90	339091.58	8276606.90	90.0	31.4	4799.6	0.0
201860	Trav	307721.60	8277006.90	339089.63	8277006.90	90.0	31.4	4830.9	0.0
201870	Trav	307718.25	8277406.90	339087.68	8277406.90	90.0	31.4	4862.3	0.0
201880	Trav	307714.89	8277806.90	339085.73	8277806.90	90.0	31.4	4893.7	0.0
201890	Trav	307711.54	8278206.90	339083.78	8278206.90	90.0	31.4	4925.0	0.0
201900	Trav	307708.18	8278606.90	339081.83	8278606.90	90.0	31.4	4956.4	0.0
201910	Trav	307704.83	8279006.90	339079.87	8279006.90	90.0	31.4	4987.8	0.0
201920	Trav	307701.47	8279406.90	339077.92	8279406.90	90.0	31.4	5019.2	0.0
201930	Trav	307698.12	8279806.90	339075.97	8279806.90	90.0	31.4	5050.6	0.0
201940	Trav	307694.76	8280206.90	339074.02	8280206.90	90.0	31.4	5081.9	0.0
201950	Trav	307691.41	8280606.90	339072.07	8280606.90	90.0	31.4	5113.3	0.0



F15022_South_Area (Cont)

Line	Type	Easting	Northing	Easting	Northing	Direc	Length	Tv	Cumul	Ti	Cumul
201960	Trav	307688.05	8281006.90	339070.12	8281006.90	90.0	31.4	5144.7	0.0		
201970	Trav	307684.70	8281406.90	339068.17	8281406.90	90.0	31.4	5176.1	0.0		
201980	Trav	307671.06	8281788.83	339054.53	8281788.83	90.0	31.4	5207.5	0.0		
201990	Trav	384262.54	8248606.90	391952.92	8248606.90	90.0	7.7	5215.1	0.0		
202000	Trav	384261.71	8249006.90	391949.38	8249006.90	90.0	7.7	5222.8	0.0		
202010	Trav	384261.71	8249406.90	391944.38	8249406.90	90.0	7.7	5230.5	0.0		
202020	Trav	384261.71	8249806.90	391939.38	8249806.90	90.0	7.7	5238.2	0.0		
202030	Trav	384261.71	8250206.90	391934.39	8250206.90	90.0	7.7	5245.9	0.0		
202040	Trav	384261.71	8250606.90	391929.39	8250606.90	90.0	7.7	5253.5	0.0		
202050	Trav	384261.71	8251006.90	391924.39	8251006.90	90.0	7.7	5261.2	0.0		
202060	Trav	384261.71	8251406.90	391919.39	8251406.90	90.0	7.7	5268.9	0.0		
202070	Trav	384261.71	8251806.90	391914.39	8251806.90	90.0	7.7	5276.5	0.0		
202080	Trav	384261.71	8252206.90	391909.40	8252206.90	90.0	7.6	5284.2	0.0		
202090	Trav	384261.71	8252606.90	391904.40	8252606.90	90.0	7.6	5291.8	0.0		
202100	Trav	384261.71	8253006.90	391899.40	8253006.90	90.0	7.6	5299.4	0.0		
202110	Trav	384261.71	8253406.90	391894.40	8253406.90	90.0	7.6	5307.1	0.0		
202120	Trav	384261.71	8253806.90	391889.40	8253806.90	90.0	7.6	5314.7	0.0		
202130	Trav	384261.71	8254206.90	391884.41	8254206.90	90.0	7.6	5322.3	0.0		
202140	Trav	384261.71	8254606.90	391879.41	8254606.90	90.0	7.6	5329.9	0.0		
202150	Trav	384261.71	8255006.90	391874.41	8255006.90	90.0	7.6	5337.6	0.0		
202160	Trav	384261.71	8255406.90	391869.41	8255406.90	90.0	7.6	5345.2	0.0		
202170	Trav	384261.71	8255806.90	391864.41	8255806.90	90.0	7.6	5352.8	0.0		
202180	Trav	384261.71	8256206.90	391859.42	8256206.90	90.0	7.6	5360.4	0.0		
202190	Trav	384261.71	8256606.90	391854.42	8256606.90	90.0	7.6	5368.0	0.0		
202200	Trav	384261.71	8257006.90	391849.42	8257006.90	90.0	7.6	5375.5	0.0		
202210	Trav	384261.71	8257406.90	391844.42	8257406.90	90.0	7.6	5383.1	0.0		
202220	Trav	384261.71	8257806.90	391839.42	8257806.90	90.0	7.6	5390.7	0.0		
202230	Trav	384261.71	8258206.90	391834.43	8258206.90	90.0	7.6	5398.3	0.0		
202240	Trav	384261.71	8258606.90	391829.43	8258606.90	90.0	7.6	5405.8	0.0		
202250	Trav	384261.71	8259006.90	391824.43	8259006.90	90.0	7.6	5413.4	0.0		
202260	Trav	384261.71	8259406.90	391819.43	8259406.90	90.0	7.6	5421.0	0.0		
202270	Trav	384261.71	8259806.90	391814.43	8259806.90	90.0	7.6	5428.5	0.0		
202280	Trav	384261.71	8260206.90	391809.44	8260206.90	90.0	7.5	5436.1	0.0		
202290	Trav	384261.71	8260606.90	391804.44	8260606.90	90.0	7.5	5443.6	0.0		
202300	Trav	384261.71	8261006.90	391799.44	8261006.90	90.0	7.5	5451.1	0.0		
202310	Trav	384261.71	8261406.90	391794.44	8261406.90	90.0	7.5	5458.7	0.0		
202320	Trav	384261.71	8261806.90	391789.44	8261806.90	90.0	7.5	5466.2	0.0		
202330	Trav	384261.71	8262206.90	391784.45	8262206.90	90.0	7.5	5473.7	0.0		
202340	Trav	384261.71	8262606.90	391779.45	8262606.90	90.0	7.5	5481.2	0.0		
202350	Trav	384261.71	8263006.90	391774.45	8263006.90	90.0	7.5	5488.8	0.0		
202360	Trav	384261.71	8263406.90	391769.45	8263406.90	90.0	7.5	5496.3	0.0		
202370	Trav	384261.71	8263806.90	391764.45	8263806.90	90.0	7.5	5503.8	0.0		
202380	Trav	384261.71	8264206.90	391759.45	8264206.90	90.0	7.5	5511.3	0.0		
202390	Trav	384261.71	8264606.90	391754.46	8264606.90	90.0	7.5	5518.8	0.0		
202400	Trav	384261.71	8265006.90	391749.46	8265006.90	90.0	7.5	5526.2	0.0		
202410	Trav	384261.71	8265406.90	391744.46	8265406.90	90.0	7.5	5533.7	0.0		
202420	Trav	384261.71	8265806.90	391739.46	8265806.90	90.0	7.5	5541.2	0.0		
202430	Trav	384261.71	8266206.90	391734.46	8266206.90	90.0	7.5	5548.7	0.0		
202440	Trav	384261.71	8266606.90	391729.47	8266606.90	90.0	7.5	5556.1	0.0		
290010	Tie	391637.13	8266683.11	391637.13	8230523.70	180.0	36.2	5556.1	36.2		
290020	Tie	388565.52	8266684.04	388565.52	8230524.63	180.0	36.2	5556.1	72.3		
290030	Tie	384565.52	8266684.04	384565.52	8230524.63	180.0	36.2	5556.1	108.5		
290040	Tie	380565.52	8248289.33	380565.52	8230524.63	180.0	17.8	5556.1	126.2		
290050	Tie	376565.52	8248289.33	376565.52	8230524.63	180.0	17.8	5556.1	144.0		
290060	Tie	374660.26	8254280.29	374660.26	8248556.14	180.0	5.7	5556.1	149.7		
290070	Tie	372565.52	8254290.08	372565.52	8230524.63	180.0	23.8	5556.1	173.5		
290080	Tie	368565.52	8254290.08	368565.52	8230524.63	180.0	23.8	5556.1	197.3		
290090	Tie	366237.79	8239479.97	366237.79	8230530.76	180.0	8.9	5556.1	206.2		
290100	Tie	365702.39	8260289.04	365702.39	8254125.33	180.0	6.2	5556.1	212.4		
290110	Tie	364565.52	8260289.56	364565.52	8239733.64	180.0	20.6	5556.1	232.9		
290120	Tie	360565.52	8260289.56	360565.52	8239733.64	180.0	20.6	5556.1	253.5		
290130	Tie	357243.14	8248698.69	357243.14	8239727.82	180.0	9.0	5556.1	262.5		
290140	Tie	356565.52	8260289.56	356565.52	8248940.48	180.0	11.3	5556.1	273.8		
290150	Tie	353973.48	8264281.21	353973.48	8260133.18	180.0	4.1	5556.1	278.0		
290160	Tie	352565.52	8264291.58	352565.52	8248940.48	180.0	15.4	5556.1	293.3		



F15022_South_Area (Cont)

<u>Line</u>	<u>Type</u>	<u>Easting</u>	<u>Northing</u>	<u>Easting</u>	<u>Northing</u>	<u>Direc</u>	<u>Length</u>	<u>Tv Cumul</u>	<u>Ti Cumul</u>
290170	Tie	348565.52	8264291.58	348565.52	8248940.48	180.0	15.4	5556.1	308.7
290180	Tie	344565.52	8264291.58	344565.52	8257721.16	180.0	6.6	5556.1	315.2
290190	Tie	340565.52	8264291.58	340565.52	8257721.16	180.0	6.6	5556.1	321.8
290200	Tie	338864.60	8281869.98	338864.61	8264137.49	180.0	17.7	5556.1	339.5
290210	Tie	336565.52	8281869.98	336565.52	8257721.16	180.0	24.1	5556.1	363.7
290220	Tie	332565.52	8281869.98	332565.52	8257721.16	180.0	24.1	5556.1	387.8
290230	Tie	330496.68	8257880.91	330496.68	8230128.74	180.0	27.8	5556.1	415.6
290240	Tie	328565.52	8281869.98	328565.52	8230125.53	180.0	51.7	5556.1	467.3
290250	Tie	324565.52	8281869.98	324565.52	8230125.53	180.0	51.7	5556.1	519.1
290260	Tie	320565.52	8281869.98	320565.52	8230125.53	180.0	51.7	5556.1	570.8
290270	Tie	316565.52	8281869.98	316565.52	8230125.53	180.0	51.7	5556.1	622.6
290280	Tie	312565.52	8281869.98	312565.52	8230125.53	180.0	51.7	5556.1	674.3
290290	Tie	308416.13	8281869.98	308416.13	8276109.68	180.0	5.8	5556.1	680.1



F15022_South_Area

