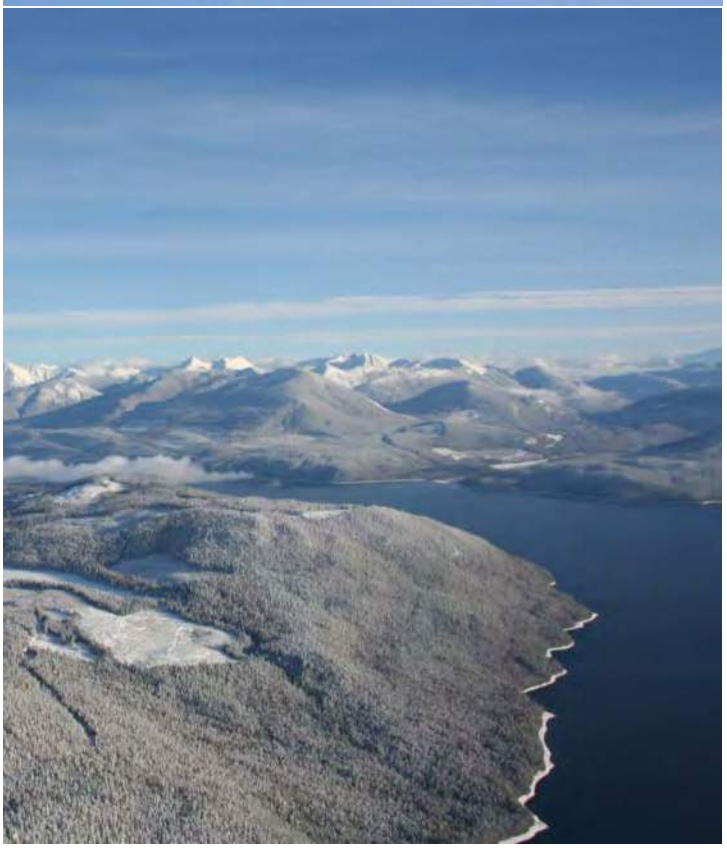
Project Report

Airborne Gravity Survey
Quesnellia Region, British Columbia
2008



Geoscience British Columbia Society

Sander Geophysics

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TABLE OF CONTENTS

FIGURES

TABLES

PICTURES

APPENDICES

I. INTRODUCTION

Sander Geophysics Limited (SGL) conducted a high-definition airborne gravity survey for Geoscience British Columbia Society (GBC) from December 2007 to March 28, 2008. The block covered much of the Quesnellia Area of British Columbia. The survey was flown using SGL's airborne gravity system designated AIRGrav (Airborne Inertially Referenced Gravimeter). Please refer to *Appendix I* for a Company Profile of Sander Geophysics Limited. *Figure 1* shows the geographical position of the survey area.

The survey was planned to be a total of 27,480 line kilometres (see *Appendix II*). Sixty production flights took place between December 11, 2007 and March 28, 2008 to complete the planned survey. The SGL survey aircraft Britten Norman Islander B2NB, registration C-GSGX, and Eurostar AS350-B3 helicopter C-GSGH was used for this survey. Survey operations were conducted from the city of Prince George.

The traverse lines (1001 to 1221) were spaced at 2,000 m intervals, oriented at 90°. The control lines (101 to 106) were spaced at 20,000 m intervals, oriented at 150.5°. Infill lines (2001 to 2014, 3001 to 3011), oriented at 90° were located between the traverse lines in two areas to achieve a 1000 m spacing in these areas. The survey was flown at a nominal terrain clearance of 200 m above ground using a predetermined smooth drape surface. The nominal survey flying speed was 100 knots indicated air speed.

Picture 1: Survey aircraft Britten Norman Islander C-GSGX.

Picture 2: Survey aircraft Eurostar AS350-B3 C-GSGH

II. SURVEY AREA

The survey block is situated in the north central part of the province of British Columbia. The survey block consists of a parallelogram approximately 386 km long and 120 km wide with another parallelogram 120 km long and 60 km wide appended to the north (survey location map *Figure 1*). The relief in the survey area ranges from rolling hills to steep mountains. The elevation ranges from 380 m to 2500 m.

The coordinates of all planned lines are listed in *Appendix II*. Line coordinates of all flown survey lines are listed in *Appendix III*. The survey block is located within a perimeter of the following coordinates:

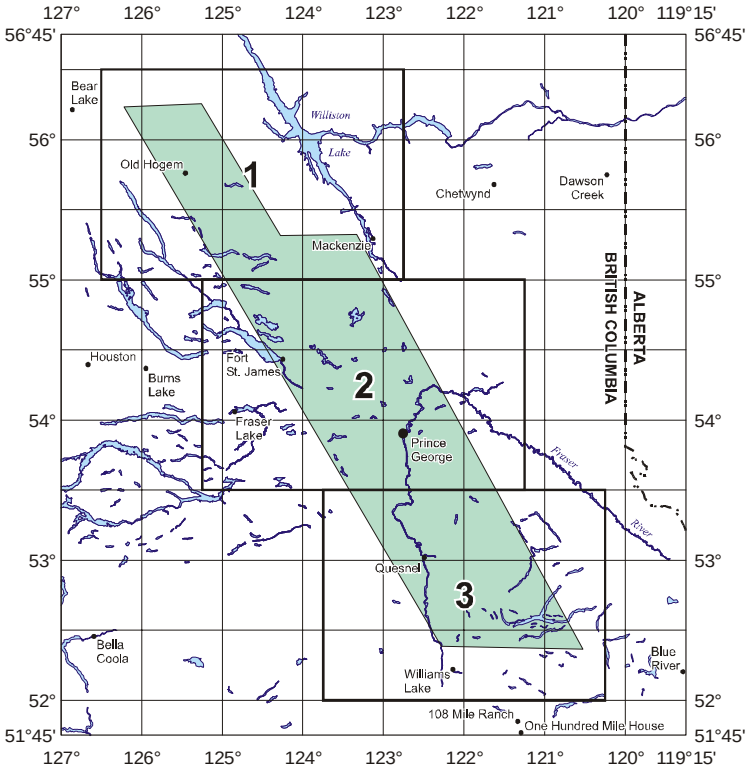
Table 1: UTM Zone 10N in WGS-84

Corner	X (m)	Y (m)
1	300189.35	6236000.62
2	360189.35	6236000.62
3	418998.85	6132000.62
4	478998.85	6132000.62
5	668998.85	5796000.60
6	548998.85	5796000.60

Figure 1: Map of Survey Area

GeoScience British Columbia 2007

Location Map



Map Index

III. SURVEY EQUIPMENT

SGL provided the following instrumentation for this survey (see *Appendix IV* for further details)

Airborne Gravity System

SGL AIRGrav

SGL's airborne gravimeters, G2-4 and G2-7, use a Schuler tuned inertial platform. This platform supports three orthogonal accelerometers, which remain fixed in inertial space, independent of the manoeuvres of the aircraft, allowing precise correction of the effects of the movement of the aircraft. Accelerometer data are recorded at 128 Hz. SGL's airborne gravimeter is relatively tolerant of turbulent conditions. It delivers good results when flown under normal weather and turbulence conditions, similar to the conditions required for high-resolution magnetometer surveys. The instrument delivers gravity data consistently with a noise level better than 0.5 mGal with a half sine wave ground resolution of 1.8 to 2 km.

Altimeters

TRT ERT 530A Digital Radar Altimeter

The TRT radar altimeter has a resolution of 0.5 m, an accuracy of 1%, and a range of 1 to 8,000 ft.

King KRA-10A Radar Altimeter

The King radar altimeter measures height above ground to a resolution of 0.5 m and an accuracy of 1% over a range up to 2,500 ft. The radar altimeter data is sampled at 10 Hz.

Sensotec barometric altimeter sensor

The barometric pressure sensor has an accuracy of ± 4 m, a resolution of 2 m, and a range up to 30,000 ft above sea level. The barometric altimeter data is sampled at 4 Hz.

Riegl LD90-31K-HiP Laser Rangefinder

The Rigel laser altimeter is an eye safe laser, has a range of 1500 m, a resolution of 0.01 m with an accuracy of 5 cm. The sample rate is 2.5 Hz.

Real-Time Differential GPS

Canadian-wide DGPS (CDGPS-C)

The CDGPS receiver provides real-time differential GPS for the SGNav on-board navigation system. The differential data set was relayed via a geosynchronous satellite serving different regions of Canada to the aircraft where the receiver optimized the corrections for the current location.

Airborne Navigation and Data Acquisition System

SGNav and SGDAS-3

The SGNav and SGDAS-3 are the latest versions of airborne navigation and data acquisition computers developed by SGL. It displays all incoming data on a flat panel screen for real-time monitoring. The data is recorded in database format on a solid-state internal hard drive and a removable hard drive simultaneously for transfer of data to the field office. The computer incorporates a magnetometer coupler, an altimeter analogue to digital converter

and a 12-channel, dual-frequency GPS receiver NovAtel Millennium which automatically provides the UTC time base for the recorded data. In addition to providing essential post-mission positional data, the SGNav and SGDAS-3 computers process user-received GPS or real-time differentially corrected GPS (RDGPS) data and compare the data to the coordinates of a theoretical flight plan in order to guide pilots along the desired survey line in three dimensions.

Sander Digital Imaging System (SGDIS)

Costar CV 950N camera with iCAM 1Ux19

Integrated Geoscience Inc. Digital Flight Path Video Camera System

The video camera is mounted in the floor of the aircraft and oriented to look vertically below while in flight. An intervalometer and fiducial marking system required for flight path verification are incorporated. The video information was recorded digitally on a 40 GB IOMEGA USB 2.0/FireWire External Portable Hard Drive in AVI format.

Navigation and Flight Path Recovery System

NovAtel 3951R

Navigation and flight path recovery were provided by the SGL NavDAS system. The system utilizes a NovAtel Millennium GPS Receiver and a NovAtel OEM4-G2 GPS Receiver mounted in the navigation computer with a sampling rate of 0.1 s. In addition to providing essential post-mission positional data, the navigation computer processes user-received GPS or real-time differentially corrected GPS (RDGPS) data and compares the data to the coordinates of a theoretical flight plan in order to guide the pilot along the desired survey line in three dimensions.

Reference Data Acquisition System

SGL Gnd-Acq (GND1 & GND2)

The ground based Reference Data Acquisition computer is a portable PC-Pentium with an internal GPS card. The UTC time base of both the ground and airborne systems is automatically provided by the GPS receiver, ensuring proper merging of both data sets. The ground data acquisition computer displays all incoming data on a LCD flat panel screen for visual inspection. The GPS data, sampled every 0.1 s, were recorded on the internal hard drive of the computer using the same format as the airborne data.

GPS Base Station Receiver

NovAtel OEMV

The NovAtel Millennium 16-channel receiver, used for the ground stations, forms an integral part of the SGL GND-ACQ system. The OEMV may be configured to receive real time differential corrections from any of the SBAS, CDGPS or Omnistar services. They provide averaged position and raw range information of all satellites in view, sampled every 0.1 s. The comparative navigation data supplied during all production flights allows for post-processed differential GPS (DGPS) corrections for every survey flight.

Survey Aircraft

Britten-Norman Islander BN-2B (registration C-GSGX)

The Islander BN-2B is an all metal, high wing, twin-engine aircraft powered by two turbo-charged engines that drive constant speed, fully feathering propellers. The aircraft has fixed non-retractable tricycle landing gear, extendable flaps and manually adjustable trim tabs on the primary controls for all three flight axes. The aircraft is equipped with full de-icing equipment and sufficient avionics for instrument flying. There is a camera hole in the belly of the aircraft and provision for numerous other survey and navigation systems. See *Appendix V* for more information on the aircraft.

Eurocopter AS-350 B3 (C-GSGH)

The Eurocopter AS-350 B3 is a modern high performance light helicopter powered by a Turbomeca Arriel 2B turbine engine. It has been outfitted for low level airborne geophysical surveys with sensors carried either internally or externally (in towed "birds" on a cable). A survey GPS antenna was mounted on the tail fin, clear of rotor, plus a DGPS data link for real time corrections. A complete description of all survey aircraft is given in *Appendix V.*

Picture 3: C-GSGX Fuelling at Prince George

Picture 4: C-GSGH Fuelling at Prince George

Data Processing Hardware and Software

Processing was performed on high performance desktop computers optimized for processing tasks. SGL's proprietary geophysical software was used for data processing.

Picture 5: GPS Antennas set up at Prince George

IV. SURVEY SPECIFICATIONS

Data Recording

The following parameters were recorded during the course of the survey:

- Aircraft altitude measured by the barometric altimeter at intervals of 0.1 s;
- Terrain clearance provided by the radar altimeter at intervals of 0.1 s;
- Terrain clearance is measured by the laser altimeter at 2.5 Hz and then interpolated to 10 Hz in the processing;
- Airborne outside air temperature: recorded at intervals of 0.1 s;
- A continuous digital video record of the terrain passing below the aircraft;
- Airborne GPS positional data: (altitude, longitude, height, time, and raw range from each satellite being tracked) recorded at intervals of 0.1 s;
- Ground based GPS positional data: (latitude, longitude, height, time, and raw range from each satellite being tracked) recorded at intervals of 0.1 s;
- Gravimeter data recorded with a 128 Hz sampling rate.

Technical Specifications

The contract specified the following technical requirements:

a) For the entire set, gravity noise must be less than 0.7 mGal RMS after application of a 100 second line filter (0% pass at 70 seconds, 100% pass at 168 seconds, frequency mid-point of 100 seconds) and a 0^{th} order (one constant shift per line) levelling.

b) For individual lines, gravity noise must be less than 1.25 mGal RMS after application of a 100 second line filter and a 0^{th} order levelling.

c) x, y, z location must be better than 5 m after differential correction.

d) Horizontal deviation from planned flight lines must not be greater than 100 metres for a distance of 4 km or more.

e) Vertical deviation from planned drape must not be greater than 15 metres for a distance of 7.0 kilometres or more, subject to the pilot's discretion in the interest of safety.

f) At least four satellites must be common to both the airborne and ground GPS data.

g) Data gaps must be smaller than 0.5 seconds in any of the following channels: time, AirGrav xyz accelerations, and airborne or ground GPS xyz.

The following lines were re-flown for various reasons:

Line No.	Flight	Reflight Line No.	Reflight Flight No.	Reason for Reflight
1053.01	131	1053.02	148	GPS data
1054.01	131	1054.02	148	GPS data
106.00	106	106.04 106.05 106.06 106.07 106.08	137 147 150 205 205	Gravity data
1139.01	150	1139.02	162	GPS problems
1153.00	158	1153.01	162	Gravity data
1136.00	137	1136.01	162	GPS problems
1002.01	161	1002.02	163	CDAC failure
1022.00	128	1022.01 1022.02 1022.03 1022.04	163 163 226 226	Attempted reflights due to GPS problems on original lines, split due to weather. GPS problems on first reflights. Split into 2 flights (weather)
1031.01	140	1031.02	163	Gravity data
1079.00	114	1079.02 1079.03	163 223	Gravity data Gravity data
1093.00	104	1093.01	223	Gravity data
1094.01	105	1094.02 1094.03	164 223	Gravity data Reflight attempt aborted due to weather
1079.00	114	1079.03	223	Gravity data
1077.00	115	1071.01 1077.02	138 223	Gravity data Reflight attempt aborted due to weather
1073.00	117	1073.01 1073.02	223 223	Gravity data – reflight split into 2 lines (weather)
1059.01	155	1059.02	223	Gravity data
105.00	106	105.02	226	Ferry enroute to reflight sortie
1034.02	140	1034.03	226	Gravity data
1020.00	128	1020.01	226	Gravity data
1013.01	152	1013.02	226	Gravity data
1014.01	152	1014.02	226	Gravity data
1016.00	140	1016.01	226	Gravity data
102.00	107	102.02	226	Ferry back from reflight sortie

Survey Line Specifications

Survey lines were flown with the following specifications:

	Line Direction	Line Spacing (m)
Traverse Lines	090°	2000
Control Lines	150.5°	20000

Terrain Clearance

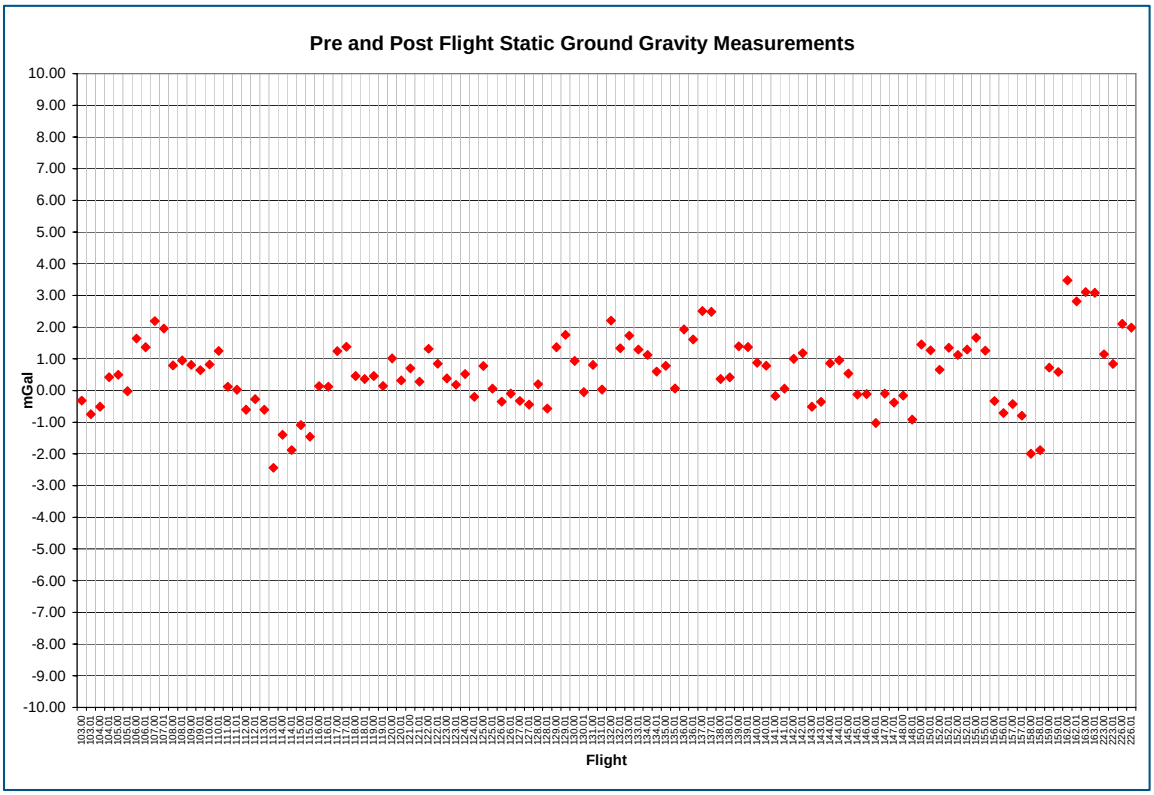
The survey was flown using a pre-planned drape surface designed to guide the aircraft over the topography in a consistent manner as close to minimum clearance as possible. The drape surface was prepared using digital elevation model (DEM) data from CGIAR Consortium for Spatial Information (CGIAR-CSI) (http://srtm.csi.cgiar.org/) sampled at 3 arc-seconds (approximately 90 m). This data are derived from USGS/NASA SRTM data that has been processed to provide continuous data. The DEM included an extension beyond the survey boundary to allow the aircraft to achieve the drape clearance before coming on line. The grid was smoothed using a climb and descent rate of 250 ft/nm along the survey lines. This rate is below the maximum climbing and descending capabilities of the survey aircraft. The nominal terrain clearance of 200 m was added to the drape surface.

V. SYSTEM TESTS

Gravimeter Calibration

The gravimeter's accelerometers were calibrated before the beginning of the survey. The gravimeter was calibrated using the BGI gravity marker in Prince George (9.81162140 +/- 0.000004 m/s^2). On start up before each flight, the AIRGrav system automatically aligns and calibrates its gyros. Before and after each flight, the consistency of the measured gravity was confirmed by recording data at the aircraft parking spot. The results, presented in *Figure 2*, are given as deviations from the local gravity value.

Figure 2: Pre- and Post-Flight Gravimeter Ground Readings



Radar and Laser Altimeter Calibration

Test flights to calibrate the radar altimeter were flown on December 5, 2007, December 8, 2007, December 16, 2007 and February 26, 2008 over the runway at Prince George Airport. The first altimeter test was flown over three days as exhaust from a local pulp and paper mill along with air traffic prevented one continuous test. Five passes were made over the runway at heights from 0 metres to approximately 500 metres above ground level. The second test was flown at heights ranging from 0 metres to approximately 275 metres. The altimeter values were compared to the post-flight differentially corrected GPS altitude information for calibration and new calibration coefficients were determined. An ideal altimeter would yield a slope of 1, and an intercept of 0 m. The test results are plotted in *Figures 3* and *4*.

Figure 3: Radar Altimeter Test, C-GSGX : 5, 8, 16 December 2007

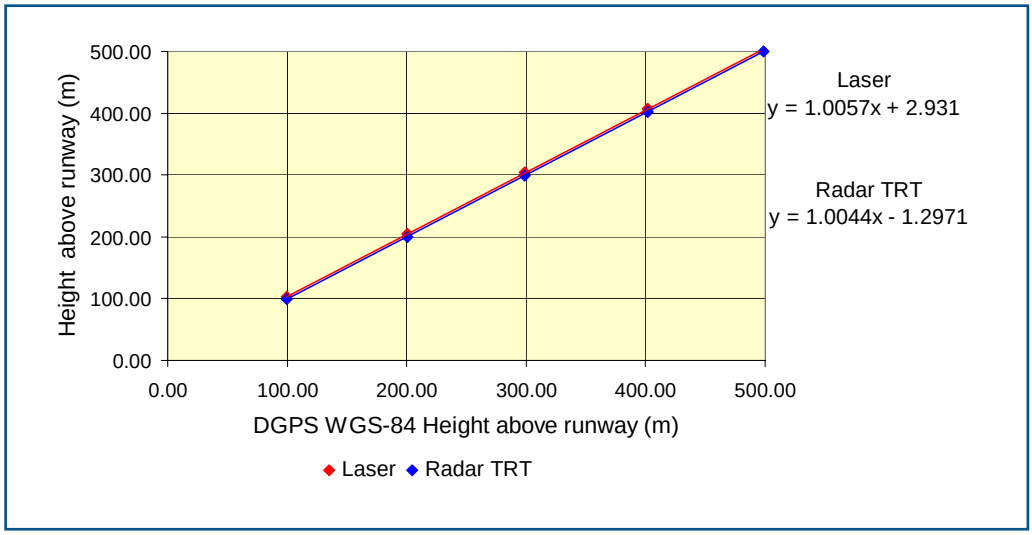
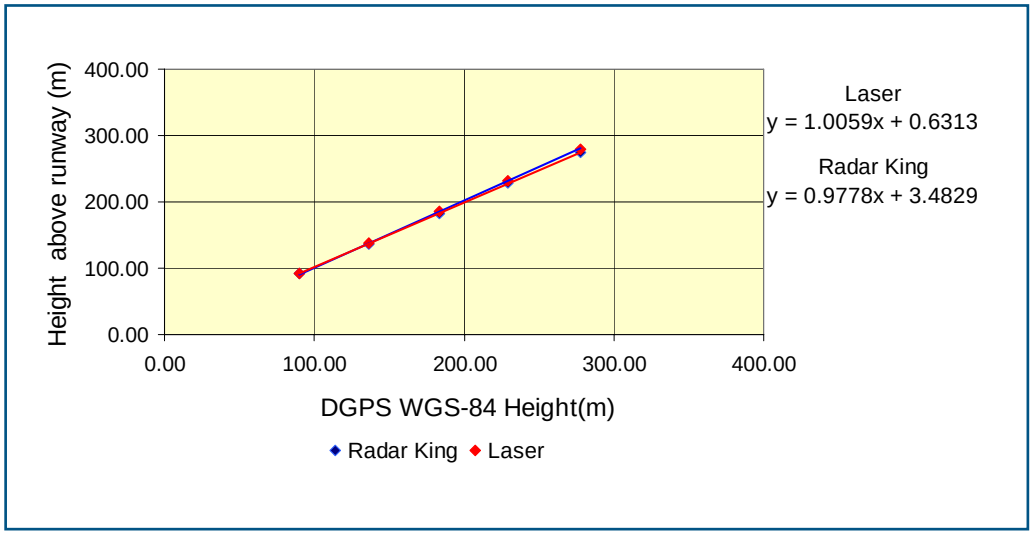


Figure 4: Radar Altimeter Test, C-GSGH : 26 February, 2008



VI. FIELD OPERATIONS

Flight operations were conducted from Prince George Airport. The field office was established in the Sandman Inn and Suites Hotel. Two base stations were set up at the Hill Aircraft Services hangar. Both GPS antennae were located on the hangar roof to provide an unobstructed view of the sky. Power was provided to the ground station using mains electricity and a battery backup. The computers were located on a shelf in the hangar.

The position of the GND1 ground station was differentially corrected using data from GPS reference stations PRDS, WHIT, WILL and YELL, which are part of the International GPS Service (IGS) Network, using data recorded on days 337, 338 and 339 of 2007. The GND2 ground station was differentially corrected using GND1 as the reference point to ensure consistency. The positions of the GPS antennae after differential correction were (WGS-84 datum):

	GND1	GND2
Latitude:	N 53° 53' 07.7507"	N 53°53' 07.5807"
Longitude:	W 122° 40' 15.8702"	W 122° 40' 15.7218"
Elevation:	669.7011 m	670.1868 m

The PRDS (Calgary, AB) and YELL (Yellowknife, NWT) stations were also used as ground stations. 1 Hertz positional data was obtained from the Canadian Spatial Reference System (CACS). The positions published in the CACS log files were used (NAD83 CSRS datum):

	GND3 (PRDS)	GND4 (YELL)
Latitude:	N 50° 52' 16.8449"	N 62°28' 51.1947"
Longitude:	W 114° 17' 36.5309"	W 114° 28' 50.4454"
Elevation:	1248.57 m	181.24 m

These four ground stations were used to apply post-mission differential corrections to the GPS position of the aircraft.

The survey was completed in four months of flying. Please refer to the Weekly Reports in *Appendix VI* for details.

Field Personnel

The following technical personnel participated in field operations:

Party Chief/Geophysicist:	Angella Farr Lutz Wendorff
Geophysicists:	Sol Meyer Leila Ertolahti
Aircraft Maintenance Engineers:	John Sevenhuysen Tim Anderson David Money
Captain:	Keith Hazelton Chris Kiff Trevor Syrowy Brian Simms
Co-pilot	Cam McBride Patrick Auclair Diana Stettler Owen Peterson

VII. DIGITAL DATA COMPILATION

Preliminary processing for on-site quality control was performed in the field as each flight was completed. This included routine tracing of analog records, verifying the data on the computer screen, and plotting of the DGPS flight path data. Final data processing and map production were performed at SGL head office located in Ottawa, Canada.

Gravity Data

Gravity data are recorded at 128 Hz. Accelerations are filtered and decimated to match GPS measurements using specially designed filters to avoid biasing the data. Gravity is calculated by subtracting the GPS-derived aircraft accelerations from the inertial accelerations. In survey flying, accelerations in an aircraft can reach 0.1 G, equivalent to 100,000 mGal. Data processing must extract gravity data from this very noisy environment. This is achieved by modelling the movements of the aircraft in flight by extremely accurate GPS measurements. The calculated gravity is corrected for the Eötvös effect and normal gravity and the sample interval is reduced to 2 Hz. These operations are all performed by SGL's proprietary GRAVGPS software.

The following standard corrections were applied to the gravity data to calculate the Bouguer anomaly data:

a) Eötvös correction, $\text{Eötvös} = -v_x^2/[(r/\sqrt{(1-e_2\sin^2\Phi)}) + h] - 2(0.00007292115\cos\Phi v_x) - v_y^2/[(r(1- e_2)/\sqrt{(1-e_2\sin^2\Phi)^3})) + h]$ where Φ is the latitude of the aircraft, v_x and v_y are the velocities of the aircraft in the x (east) and y (north) direction, r is the Earth's radius at the equator (6378137 m), Φ is the latitude, e_2 is a correction for Earth's flattening towards the poles (0.00669437999013), and h is the altitude of the plane above the GRS-80;
b) Normal gravity, $g = 9.7803267714(1 + 0.00193185138639\sin^2\Phi)$ $/\sqrt{(1- 0.00669437999013\sin^2\Phi)}$, where Φ is the latitude of the aircraft;
c) Free air correction, $g_{fa} = -0.3086h$, where h is height of the aircraft in metres;
d) Bouguer, $g_{sb} = 2\pi\gamma\rho h = 0.041925\rho h$, where γ is the Universal Gravity constant, ρ is density for this project, and h is height of the ground below the aircraft in metres.;
e) Curvature of the earth, $g_{ec} = (1.464\ h - 0.3533\ h^2 + 0.000045\ h^3)(\ \rho/2.67)$, where h is height of the ground in kilometres and ρ is density for the project;
f) Terrain, g_t. See below for a description of the terrain correction technique;
g) Static correction, g_{sc}, based on static ground recordings and repeat lines;
h) Level correction, g_{lc} , based on line intersections;

Thus, Bouguer anomaly = $G - g_{fa} - g_{sb} - g_{ec} + g_t - g_{sc} - g_{lc}$, where G is the calculated gravity adjusted for Eötvös effect and normal gravity.

Terrain Corrections

The full Bouguer correction comprises the standard Bouguer correction, adjusted for terrain using densities appropriate for the local lithology. Terrain corrections were computed using terrain data derived from Shuttle Radar Topography Mission. Terrain corrections were computed using software developed for SGL by the University of Calgary Geomatics department. The algorithm calculates terrain corrections using 2D FFT methods with a constant density. A density of 2.67 g/cm^3 was employed. Terrain corrections are filtered to match the degree of filtering applied to the gravity data as described below.

Line Adjustments

The gravimetric data were adjusted to compensate for instrument variations in two steps. A single constant shift determined from ground static recordings (described above in Section V – SYSTEM TESTS) was applied on a flight-by-flight basis. The pre- and post-flight readings were averaged for each flight and the difference between the average value and the local g value was removed. This acts as a simple but effective course levelling of the data.

Intersection statistics are then used to adjust individual survey lines. Unlike magnetic levelling, individual intersections are not used to make corrections. Instead, intersection differences from whole lines are averaged together thereby reducing errors from noise in the line data, and a single adjustment is applied to each survey line and each control line. The influence of noise on the statistics is further reduced by filtering the data before calculating differences at intersections. The degree of filtering required is dependant on the number of intersections that will be averaged. The more intersections there are the less filtering is required to remove the effects of noise. Therefore, less filtering is required for control lines since they cross many traverse lines, whilst the opposite is true for traverse lines. For very long survey lines it may be necessary to calculate adjustments to sections of each line based on statistics from groups of intersections rather than from entire survey lines.

The adjustments are then smoothed and applied to line data that has been filtered to different degrees as described below. The degree of filtering applied to the data in order to calculate adjustments is independent of the degree of filtering applied to the data itself. Grids of adjusted data are inspected to determine if adjustments as determined are appropriate and the degree of filtering applied may be altered in response.

After intersection adjustments were completed, residual traverse line offsets were identified using a grid of the Bouguer gravity data. A directional and high pass filter were applied to the grid, isolating these errors from the geological signal. The residual offset grid was sampled back into line data and the average offset for each line computed. Each line was adjusted by a single constant offset that cancelled out the average.

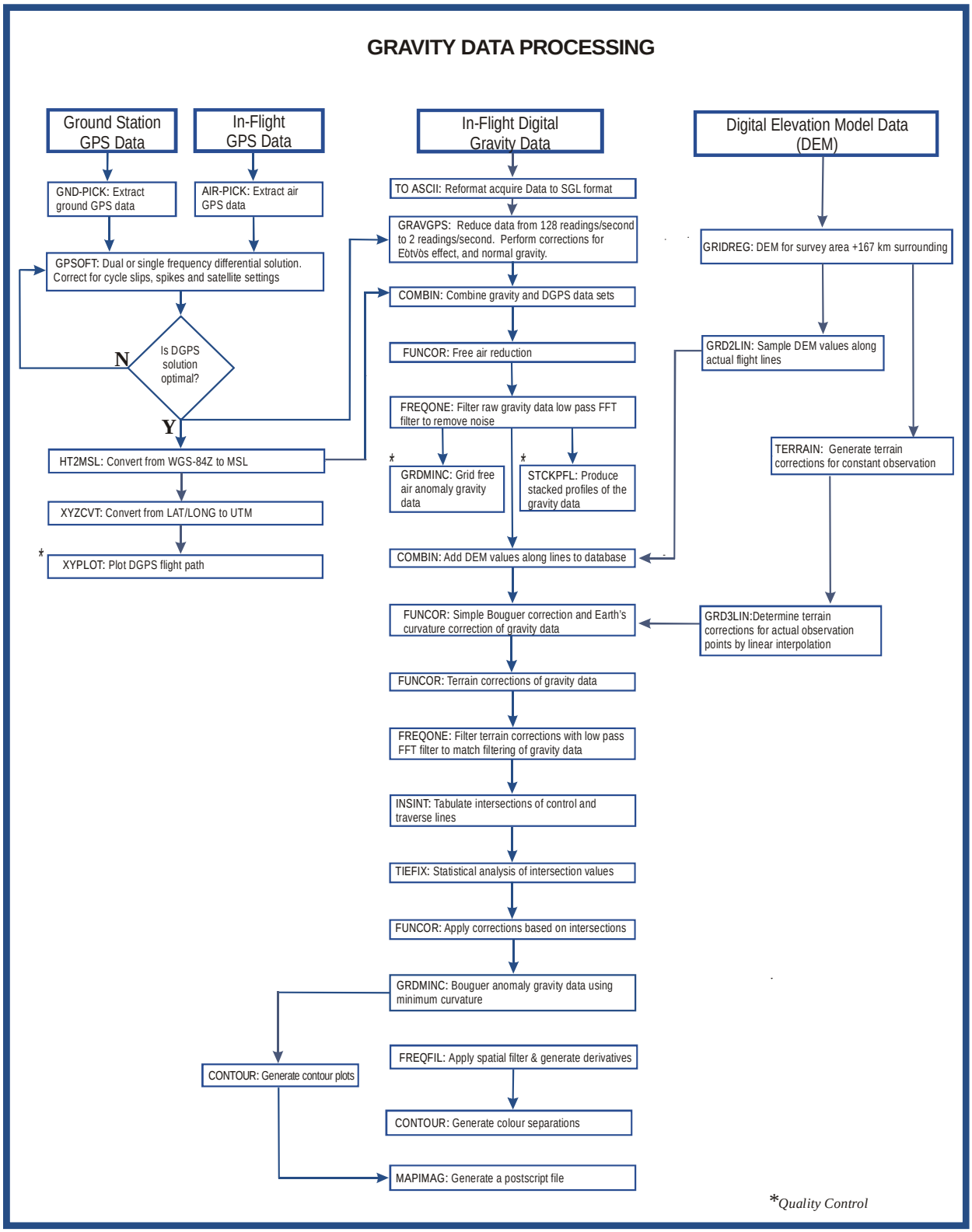
Gridding and Filtering

Statistical noise in the data is reduced by applying a cosine tapered low pass filter to the time series line data. The degree of line filtering employed depends on the noise level of the data and resolution required. The degree of line filtering is always slightly less than the subsequent grid filtering to avoid biasing the data in the grid. For this survey, a 42 second half wavelength filter was employed. Having selected a suitable line filter, the data is gridded using a minimum curvature algorithm that averages all values within any given grid cell and interpolates the data between survey lines to produce a smooth grid. The algorithm produces a smooth grid by iteratively solving a set of difference equations minimizing the total second horizontal derivative while attempting to honour the input data (Briggs, I.C, 1974, Geophysics, v 39, no. 1). Grids were generated using a 250 m grid cell size.

Grids of the free air and Bouguer anomaly are then generated by averaging the filtered line data within the grid using a spatial filter. Spatial filtering averages across adjacent lines to cancel out noise and achieves better noise reduction than is possible with simply more line filtering. Essentially, the survey area is over-sampled by a line spacing that is smaller than the grid filter used. Final data for the survey was filtered with a 3.5 km half-wavelength filter (0% pass at 2625 m, 100% pass at 5250 m).

A gravity processing flowchart is presented in *Figure 5*.

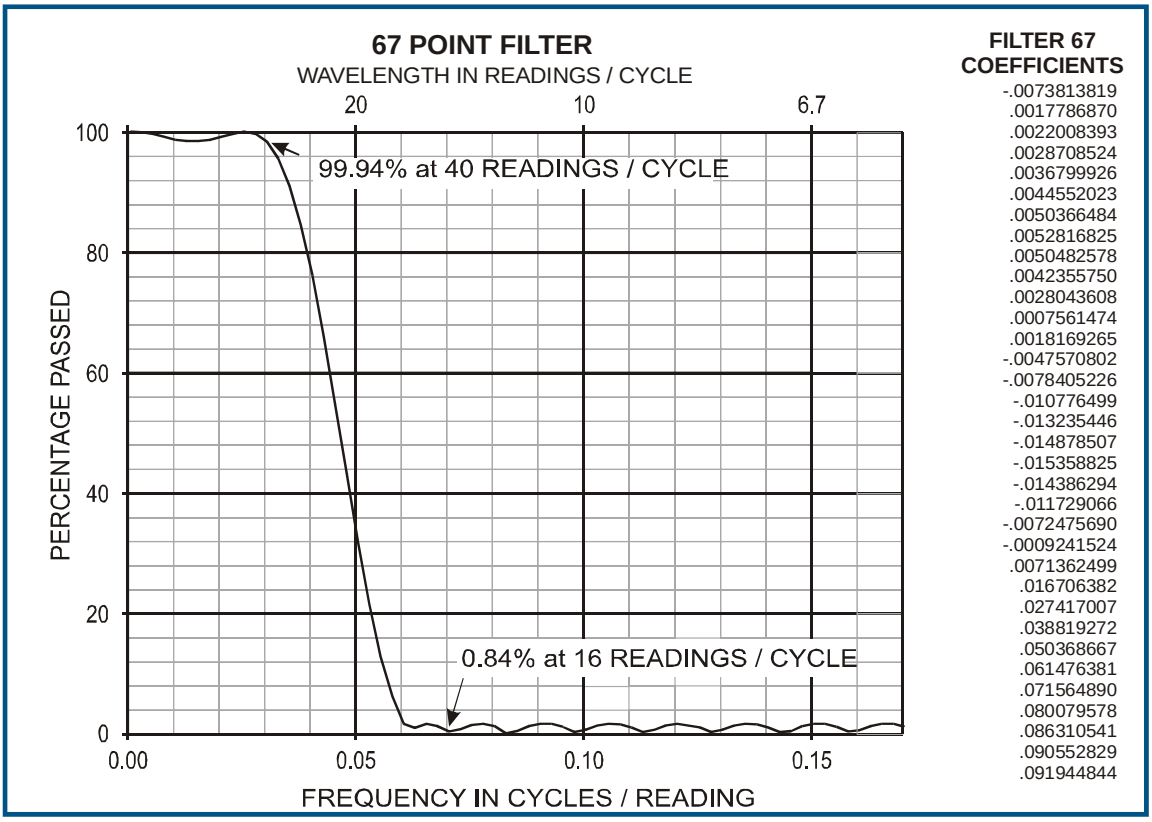
Figure 5: Gravity Data Processing



Radar Data

The terrain clearance measured by the radar altimeter in metres was recorded at 10 Hz. The raw radar data were filtered to remove high frequency noise using a 67-point filter, see *Figure 6* . The final data were plotted and inspected for quality.

Figure 6: 67 Point Filter



Laser Data

Due to the rugged terrain, clearance from the ground was frequently at or beyond the limit of the range of the Riegl laser rangefinder. In addition, reflectivity of the laser was adversely affected by the presence of snow on the ground and ice fog in the air. For these reasons, the data is of variable quality and there were many gaps in the laser data, and therefore the laser altimeter data are not included in the data delivery.

Positional Data

A number of programs were executed for the compilation of navigational data in order to reformat and recalculate the positions in differential mode. SGL's GPS data processing software package, GPSOFT, was used to calculate the DGPS positions from raw range data obtained from the moving (airborne) and stationary (ground) receivers. The GPS data were processed using a number of different signal combinations resulting in multiple position solutions for each flight. The various solutions were automatically ranked based on accuracy and smoothness, and the best solution for each individual line was selected. This automatic

selection process results in accuracy of better than 1 m and good coherency between survey lines. The general data flow of GPSOFT is illustrated in *Figure 7*.

This technique provides a final receiver location accuracy within 0.1 m. The differential location was determined in the field, and all the data were processed using this precisely located ground station position. Positional data (x,y,z) were recorded in WGS-84 geographic coordinates and converted into WGS-84 UTM zone 10N after differential processing. Parameters for the GRS-80 ellipsoid as used by the WGS-84 datum are:

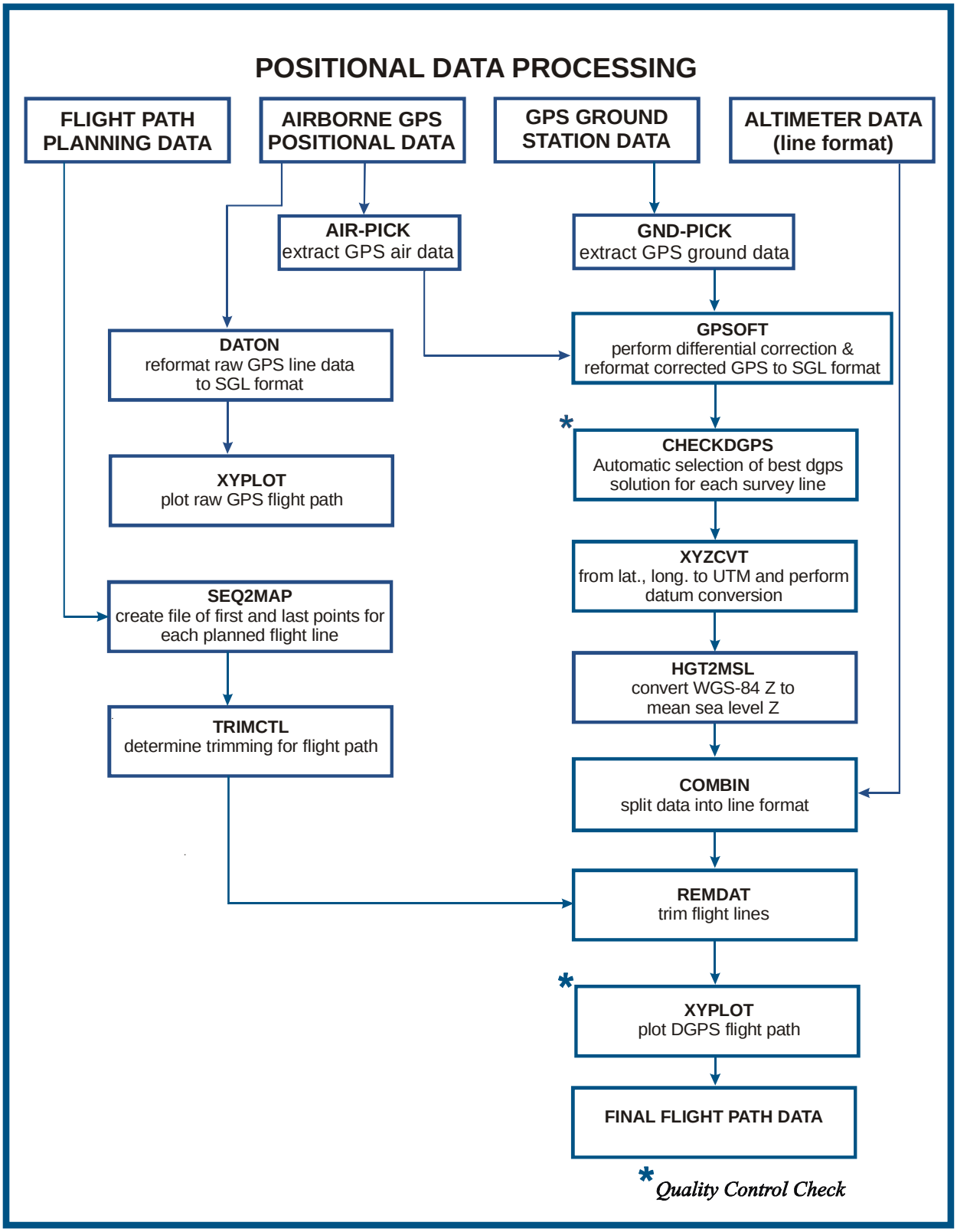
Ellipsoid:	GRS-80
Semi major axis:	6378137.0
1/flattening:	298.257222

Using the difference between DGPS altitude and radar terrain clearance, a digital elevation model was derived with heights referred to mean sea level using the HTv2 model that provides the most accurate conversion within Canada

Final data is delivered in the NAD-83 datum. NAD-83 uses the GRS-80 ellipsoid as defined above. The conversion parameters from WGS-84 to NAD-83 are:

x shift	0.991 m
y shift	-1.9072 m
z shift	-0.5129 m
x rotation	1.2581 E-7 radians
y rotation	0.3599 E-7 radians
z rotation	0.5607 E-7 radians
Scale factor	0

Figure 7: Positional Data Processing



VIII. FINAL PRODUCTS

Digital Data

GRAVITY LINE DATA FORMAT (sampling rate 2 Hz)

COL	NAME	FORMAT	UNIT	DESCRIPTION
1	SECOND	F10.2	second	Seconds past UTC midnight
2	YEAR	A6	-	Year
3	DAY	A5	-	Day of year
4	FLT	A4	-	Flight number
5	LINE	A8	-	Line number
6	LATWGS84	F15.7	degrees	Latitude
7	LONGWGS84	F15.7	degrees	Longitude
8	UTMXNAD83	F15.2	m	NAD-83 UTM 10N X
9	UTMYNAD83	F15.2	m	NAD-83 UTM 10N Y
10	GPSZNAD83	F10.2	m	Height above NAD83 ellipsoid
11	MSLZ	F10.2	m	Height above mean sea level
12	RALT	F10.1	m	Radar altimeter
13	FZ	F12.2	mGal	Gravimeter vertical acceleration
14	AZ	F12.2	mGal	GPS vertical acceleration
15	GRVRAW	F12.2	mGal	Raw gravity (FZ - AZ), unfiltered
16	GRVLAT	F12.2	mGal	Latitude corrected gravity, unfiltered
17	GRVEOT	F12.2	mGal	Eötvös corrected gravity, unfiltered
18	GRVFRA	F12.2	mGal	Free air gravity, unfiltered
19	GRVFRA100	F10.2	mGal	Free air gravity, 100s full-wavelength line filter
20	GRVFRAL100	F10.2	mGal	Free air gravity, intersection adjusted, 100s full-wavelength line filter
21	BTERRAIN	F10.2	m	Terrain used for Bouguer correction
22	SBGCOR	F10.2	mGal	Simple Bouguer correction, 2.67g/cc density
23	GRVBGL100	F10.2	mGal	Simple Bouguer gravity, intersection adjusted, 100s full-wavelength line filter, 2.67g/cc density
24	ISOCORR	F10.2	mGal	Isostatic correction
25	ISOBGL3.5	F10.2	mGal	Isostatic corrected, intersection adjusted, 3.5km half-wavelength spatial filter, 2.67g/cc density
26	GRVFRAL3.5	F10.2	mGal	Isostatic corrected free air gravity, 3.5km half-wavelength spatial filter
27	GRVBGL3.5	F10.2	mGal	Isostatic corrected simple Bouguer gravity, 3.5km half-wavelength spatial filter, 2.67g/cc density

Digital Grids

Grids in Geosoft Exchange ASCII format (gxf)
Datum NAD-83
Projection UTM Zone 32 North
Cell Size 250 m

Name	Units	Description
GRVFA3.5KM.grd	mGal	Free air gravity, 3500m half-wavelength filter
GRVBG3.5KM.grd	mGal	Bouguer gravity, 3500m half-wavelength filter, 2.67 g/cc
FVDBG3.5KM.grd	Eötvös	FVD of Bouguer gravity, 3500m half-wavelength filter, 2.67 g/cc
ISOBG3.5KM.grd	mGal	Isostatically corrected Bouguer gravity, 3500m half-wavelength filter, 2.67 g/cc

Notes:

100s full-wavelength line filter = 100s full-wavelength mid-point,
= 0% pass at 75s, 100% pass at 150s

Update this
- 3.5km half-wavelength spatial filter = 7km full-wavelength mid point,
= 0% pass at 5.25km, 100% pass at 10.5km

Format of line numbers in line number channel is XXXX.YZ where:
- XXXX is the line number (3-digits for control lines and 4-digits for traverse lines)
- Y indicates the section number, used in the case where planned lines are broken into more than one part due to odd shaped survey boundaries or restricted zones inside a survey area that are not to be flown, etc. (0 is the first section, 1 is the second section and so on)
- Z indicates reflights, or partial lines being flown to complete a survey line (0 is first flown, 1 is first reflight, etc.)

Map Products

Paper map products provided at 1:250000 in NAD-83 UTM Zone10 N as follows:

1. Free Air gravity colour and contours plus flight path
2. Bouguer gravity colour and contours plus flight path
3. First vertical derivative of Bouguer gravity colour
4. Topography colour and contours

Three map sheets of each product (1:North, 2:Central, 3:South).
Two (2) laminated copies of each map.

Refer to *Appendix VIII* for copies of map products (page size copies).

IX. PROJECT SUMMARY

SURVEY LOCATION		
Survey Title:	An Airborne Gravimetric Survey in the Quesnellia Area of British Columbia	
Survey Location:	Central British Columbia	
Survey Duration:	December 1, 2007 – March 28, 2008	
Client:	Geoscience British Columbia Society	
Address:	410 – 890 W. Pender St. Vancouver, BC V6C 1J9	
Client Contacts:	C.D. ('Lyn) Anglin, PhD Tel: (604)662-4147 ext 23 Email: angling@geosciencebc.com	
Field Office Location:	Prince George, BC	
Airport Used:	Prince George Airport (CYXS)	
SURVEY SPECIFICATIONS		
Horizontal/Vertical Datum:	WGS-84	
Raw Recorded Data:	WGS-84	
Delivered Data:	NAD83	
Line Direction:	Traverse: 90º	Control: 150.5º
Line Spacing:	Traverse: 2000 m	Control:20000 m
Total lkm Flown:	27,480 lkm excluding gravity line extensions	
Survey Speed:	100 knots	
Survey Altitude:	200 m (above smooth flyable drape)	
Survey Flight Numbers:	103-164 (Islander) + 205, 223, 226 (A-Star)	

SURVEY AIRCRAFT AND EQUIPMENT	
Aircraft Used:	Britten-Norman Islander BN2B-21 (registration C-GSGX) Eurocopter AS-350 (C-GSGH)
Radar Altimeter:	TRT ERT 530A / King KRA-10A
Laser Range Finder:	Riegl
Barometric Sensor:	Sensotec
Magnetometer (Air and Ground):	Geometrics G-822A Caesium
Gravimeter (Air):	G2-4 (C-GSGX) G2-7 (C-GSGH)
GPS Receiver (Air):	NovAtel OEMV, 12 channels
DGPS Receiver (Air)	CDGPS (built-in NovAtel OEMV)
GPS Receiver (Ground):	NovAtel OEMV, 12 channels
FIELD PERSONNEL	
Party Chief\Geophysicist:	Angella Farr, Lutz Wendorff
Geophysicist:	Sol Meyer, Leila Ertolahti
Captain:	Chris Kiff, Trevor Syrowy
Co-pilot\Operator:	Cam McBride, Patrick Auclair
Aircraft Maintenance Engineer:	John Sevenhuysen, Tim Anderson
PROCESSING PERSONNEL	
Manager	Martin Bates
Gravity Data	Angella Farr, Sol Meyer
Maps	Carsten Mueller

Appendix I

SANDER GEOPHYSICS
COMPANY PROFILE

Sander **G**eophysics **L**imited (SGL) specializes in high resolution airborne surveys for petroleum and mineral exploration, and environmental mapping. The company carries out airborne gravity, magnetic, electromagnetic and radiometric surveys worldwide using fixed-wing aircraft and helicopters.

HISTORY

SGL was founded in 1956. The first airborne surveys were performed as early as 1958, and by 1967 airborne geophysical surveying had become the mainstay of the company. Operations have continued and expanded under the same ownership since 1956.

WORLDWIDE OPERATIONS

The company's head office and aircraft maintenance hangar are located at the International Airport in Ottawa, Canada. SGL also has operational bases strategically located around the world.

Sander Geophysics' head office and hangar

Sander Geophysics maintains a fully-equipped electronics workshop for research, development and production of geophysical instruments. SGL has a state-of-the-art data processing department and a fully digital cartographic department. Sander Geophysics is also an Approved Maintenance Organization (AMO), which allows us to perform all required aircraft maintenance and modifications.

PERSONNEL

Sander Geophysics has over 150 experienced full-time employees, including geophysicists, software and hardware engineers, aircraft maintenance engineers and pilots.

Department

- Data Processing and Software Development: Luise Sander
- Engineering and Development: Stephen Ferguson
- Flight Operations: Keith Hazelton
- Geophysical Operations: Stephan Sander / Reed Archer
- Aircraft Maintenance: Gerry McGrath
- Cartographic Services: Yves Collins
- Administration and Accounts: Patrick Wu
- Sales and Marketing Malcolm Argyle

SGL's founder and Chairman, Dr. G. W. Sander, is still closely involved in all aspects of the company's operations.

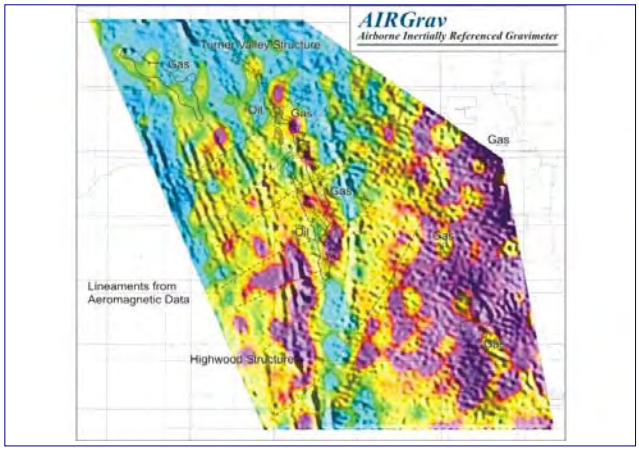
SERVICES

The company specializes in airborne surveys using the following methods: gravity, magnetic total field, magnetic gradient, electromagnetic and radiometric. Surveys are performed using SGL's specially modified airplanes or helicopters. A standard product on all of our surveys is a digital elevation model (DEM) derived from a laser scanner (LIDAR) or a combination of radar and laser profiler data.

Sander Geophysics offers gravimetric surveying with AIRGrav (Airborne Inertially Referenced Gravimeter). AIRGrav was designed specifically for the unique characteristics of the airborne environment, and is the highest resolution airborne gravimeter available. In addition, AIRGrav can be flown in an efficient survey aircraft during normal daytime conditions. AIRGrav is routinely flown in combination with magnetometer and/or gamma-ray spectrometer systems in the company's airplanes and helicopters.

SGL also provides environmental monitoring services using gamma-ray spectrometers and specialized processing to detect and quantify natural and anthropogenic radiation.

SANDER GEOPHYSICS
260 Hunt Club Road, Ottawa, Ontario K1V 1C1 Canada
Phone: (613) 521-9626 Fax: (613) 521-0215 E-mail: info@sgl.com Website: www.sgl.com



First Vertical Derivative (FVD) of the Terrain Corrected Bouguer Gravity with Shadow of the FVD of the Total Magnetic Intensity

Immediate data processing is part of our standard quality control procedure, and provides our clients with rapid results for evaluation while the survey is in progress. SGL offers a full range of data enhancement programs and provides complete interpretational services by experienced geoscientists. Available products include:

- Vertical gradient contour and colour maps
- Shaded relief maps of any parameter
- NASVD processed gamma-ray spectrometer data
- Frequency slices - high/low-pass or band-pass filtered
- Calculated digital terrain models
- Amplitude of the analytic signal
- Reduction-to-the-pole
- Upward or downward continuation
- Three-dimensional modeling

SAFETY

Sander Geophysics is a founding member of the International Airborne Geophysics Safety Association (IAGSA) which promotes the safe operation of helicopters and fixed-wing aircraft on airborne geophysical surveys.

SGL is proud of its perfect safety record, and attributes its safe operations to the quality and experience of its field crews and flight operations crew, combined with management's ongoing commitment to safety.

AIRCRAFT

SGL owns and operates fourteen geophysical aircraft, including eight Cessna Grand Caravans, all equipped for geophysical surveys. Several of the Grand Caravans have been modified to allow the installation of a tri-axial magnetic gradiometer system, consisting of two wingtip magnetometers to measure the horizontal gradient, and two vertically separated, tail boom mounted magnetometers to measure the vertical gradient. SGL also has an AS350-B3 helicopter equipped for gravity, magnetic and radiometric surveys. The B3 is a modern, high powered helicopter suitable for operating in areas of high altitude and steep terrain. Extensive modifications have been made to all of SGL's survey aircraft to reduce their magnetic effect. Typical Figures of Merit for SGL's fixed-wing aircraft are less than 1 nT. All of SGL's aircraft are flown and maintained by permanent employees of Sander Geophysics.

SGL's AS350-B3 helicopter

RESEARCH & DEVELOPMENT

SGL is dedicated to research and development. Nearly one-third of the company's resources are devoted to developing new and more efficient instrumentation for airborne geophysical surveying. In addition, the company has an ongoing program of designing, developing and refining a full suite of software for geophysical data processing.

Appendix II

GeoScience Quesnellia British Columbia 2008
Planned Lines WGS-84 UTM 10 N

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
C0101.0	N52:18.67	W122:08.07	N56:13.86	W126:03.73	272.94	505.48
C0102.0	N52:18.52	W121:50.48	N56:14.31	W125:44.40	272.94	505.48
C0103.0	N52:18.32	W121:32.88	N56:14.71	W125:25.06	272.94	505.48
C0104.0	N52:18.09	W121:15.29	N55:19.75	W124:07.15	208.42	386.00
C0105.0	N52:17.80	W120:57.70	N55:19.90	W123:48.24	208.42	386.00
C0106.0	N52:17.48	W120:40.12	N55:20.00	W123:29.32	208.42	386.00
T1001.0	N52:18.73	W122:16.87	N52:17.30	W120:31.33	64.79	120.00
T1002.0	N52:19.81	W122:17.85	N52:18.40	W120:32.26	64.79	120.00
T1003.0	N52:20.90	W122:18.83	N52:19.50	W120:33.20	64.79	120.00
T1004.0	N52:21.98	W122:19.81	N52:20.60	W120:34.13	64.79	120.00
T1005.0	N52:23.07	W122:20.79	N52:21.69	W120:35.07	64.79	120.00
T1006.0	N52:24.15	W122:21.77	N52:22.79	W120:36.01	64.79	120.00
T1007.0	N52:25.24	W122:22.76	N52:23.89	W120:36.94	64.79	120.00
T1008.0	N52:26.32	W122:23.74	N52:24.99	W120:37.88	64.79	120.00
T1009.0	N52:27.40	W122:24.72	N52:26.09	W120:38.82	64.79	120.00
T1010.0	N52:28.49	W122:25.71	N52:27.18	W120:39.76	64.79	120.00
T1011.0	N52:29.57	W122:26.69	N52:28.28	W120:40.70	64.79	120.00
T1012.0	N52:30.65	W122:27.68	N52:29.38	W120:41.65	64.79	120.00
T1013.0	N52:31.74	W122:28.67	N52:30.48	W120:42.59	64.79	120.00
T1014.0	N52:32.82	W122:29.65	N52:31.57	W120:43.53	64.79	120.00
T1015.0	N52:33.90	W122:30.64	N52:32.67	W120:44.48	64.79	120.00
T1016.0	N52:34.99	W122:31.63	N52:33.77	W120:45.42	64.79	120.00
T1017.0	N52:36.07	W122:32.62	N52:34.86	W120:46.37	64.79	120.00
T1018.0	N52:37.15	W122:33.61	N52:35.96	W120:47.31	64.79	120.00
T1019.0	N52:38.23	W122:34.61	N52:37.06	W120:48.26	64.79	120.00
T1020.0	N52:39.32	W122:35.60	N52:38.15	W120:49.21	64.79	120.00
T1021.0	N52:40.40	W122:36.59	N52:39.25	W120:50.16	64.79	120.00
T1022.0	N52:41.48	W122:37.59	N52:40.35	W120:51.11	64.79	120.00
T1023.0	N52:42.56	W122:38.58	N52:41.44	W120:52.06	64.79	120.00
T1024.0	N52:43.64	W122:39.58	N52:42.54	W120:53.01	64.79	120.00
T1025.0	N52:44.73	W122:40.57	N52:43.64	W120:53.96	64.79	120.00
T1026.0	N52:45.81	W122:41.57	N52:44.73	W120:54.91	64.79	120.00
T1027.0	N52:46.89	W122:42.57	N52:45.83	W120:55.87	64.79	120.00
T1028.0	N52:47.97	W122:43.57	N52:46.92	W120:56.82	64.79	120.00
T1029.0	N52:49.05	W122:44.57	N52:48.02	W120:57.77	64.79	120.00
T1030.0	N52:50.13	W122:45.57	N52:49.11	W120:58.73	64.79	120.00
T1031.0	N52:51.21	W122:46.57	N52:50.21	W120:59.69	64.79	120.00
T1032.0	N52:52.29	W122:47.57	N52:51.30	W121:00.64	64.79	120.00
T1033.0	N52:53.37	W122:48.58	N52:52.40	W121:01.60	64.79	120.00
T1034.0	N52:54.45	W122:49.58	N52:53.49	W121:02.56	64.79	120.00
T1035.0	N52:55.53	W122:50.59	N52:54.59	W121:03.52	64.79	120.00
T1036.0	N52:56.61	W122:51.59	N52:55.68	W121:04.48	64.79	120.00
T1037.0	N52:57.69	W122:52.60	N52:56.78	W121:05.44	64.79	120.00
T1038.0	N52:58.77	W122:53.61	N52:57.87	W121:06.41	64.79	120.00
T1039.0	N52:59.85	W122:54.62	N52:58.97	W121:07.37	64.79	120.00
T1040.0	N53:00.93	W122:55.62	N53:00.06	W121:08.33	64.79	120.00
T1041.0	N53:02.01	W122:56.64	N53:01.15	W121:09.30	64.79	120.00
T1042.0	N53:03.09	W122:57.65	N53:02.25	W121:10.26	64.79	120.00
T1043.0	N53:04.17	W122:58.66	N53:03.34	W121:11.23	64.79	120.00
T1044.0	N53:05.25	W122:59.67	N53:04.43	W121:12.20	64.79	120.00
T1045.0	N53:06.33	W123:00.68	N53:05.53	W121:13.16	64.79	120.00
T1046.0	N53:07.41	W123:01.70	N53:06.62	W121:14.13	64.79	120.00
T1047.0	N53:08.48	W123:02.71	N53:07.71	W121:15.10	64.79	120.00
T1048.0	N53:09.56	W123:03.73	N53:08.81	W121:16.07	64.79	120.00
T1049.0	N53:10.64	W123:04.75	N53:09.90	W121:17.04	64.79	120.00

GeoScience Quesnellia British Columbia 2008
Planned Lines WGS-84 UTM 10 N

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T1050.0	N53:11.72	W123:05.76	N53:10.99	W121:18.02	64.79	120.00
T1051.0	N53:12.80	W123:06.78	N53:12.09	W121:18.99	64.79	120.00
T1052.0	N53:13.87	W123:07.80	N53:13.18	W121:19.96	64.79	120.00
T1053.0	N53:14.95	W123:08.82	N53:14.27	W121:20.94	64.79	120.00
T1054.0	N53:16.03	W123:09.84	N53:15.36	W121:21.91	64.79	120.00
T1055.0	N53:17.11	W123:10.87	N53:16.45	W121:22.89	64.79	120.00
T1056.0	N53:18.18	W123:11.89	N53:17.55	W121:23.86	64.79	120.00
T1057.0	N53:19.26	W123:12.91	N53:18.64	W121:24.84	64.79	120.00
T1058.0	N53:20.34	W123:13.94	N53:19.73	W121:25.82	64.79	120.00
T1059.0	N53:21.41	W123:14.96	N53:20.82	W121:26.80	64.79	120.00
T1060.0	N53:22.49	W123:15.99	N53:21.91	W121:27.78	64.79	120.00
T1061.0	N53:23.57	W123:17.02	N53:23.00	W121:28.76	64.79	120.00
T1062.0	N53:24.64	W123:18.04	N53:24.10	W121:29.74	64.79	120.00
T1063.0	N53:25.72	W123:19.07	N53:25.19	W121:30.73	64.79	120.00
T1064.0	N53:26.79	W123:20.10	N53:26.28	W121:31.71	64.79	120.00
T1065.0	N53:27.87	W123:21.13	N53:27.37	W121:32.69	64.79	120.00
T1066.0	N53:28.94	W123:22.16	N53:28.46	W121:33.68	64.79	120.00
T1067.0	N53:30.02	W123:23.20	N53:29.55	W121:34.66	64.79	120.00
T1068.0	N53:31.10	W123:24.23	N53:30.64	W121:35.65	64.79	120.00
T1069.0	N53:32.17	W123:25.26	N53:31.73	W121:36.64	64.79	120.00
T1070.0	N53:33.25	W123:26.30	N53:32.82	W121:37.63	64.79	120.00
T1071.0	N53:34.32	W123:27.33	N53:33.91	W121:38.62	64.79	120.00
T1072.0	N53:35.39	W123:28.37	N53:35.00	W121:39.61	64.79	120.00
T1073.0	N53:36.47	W123:29.41	N53:36.09	W121:40.60	64.79	120.00
T1074.0	N53:37.54	W123:30.45	N53:37.18	W121:41.59	64.79	120.00
T1075.0	N53:38.62	W123:31.49	N53:38.27	W121:42.58	64.79	120.00
T1076.0	N53:39.69	W123:32.53	N53:39.36	W121:43.58	64.79	120.00
T1077.0	N53:40.77	W123:33.57	N53:40.45	W121:44.57	64.79	120.00
T1078.0	N53:41.84	W123:34.61	N53:41.54	W121:45.57	64.79	120.00
T1079.0	N53:42.91	W123:35.65	N53:42.63	W121:46.56	64.79	120.00
T1080.0	N53:43.99	W123:36.70	N53:43.71	W121:47.56	64.79	120.00
T1081.0	N53:45.06	W123:37.74	N53:44.80	W121:48.56	64.79	120.00
T1082.0	N53:46.13	W123:38.79	N53:45.89	W121:49.56	64.79	120.00
T1083.0	N53:47.21	W123:39.83	N53:46.98	W121:50.55	64.79	120.00
T1084.0	N53:48.28	W123:40.88	N53:48.07	W121:51.56	64.79	120.00
T1085.0	N53:49.35	W123:41.93	N53:49.16	W121:52.56	64.79	120.00
T1086.0	N53:50.42	W123:42.98	N53:50.24	W121:53.56	64.79	120.00
T1087.0	N53:51.50	W123:44.03	N53:51.33	W121:54.56	64.79	120.00
T1088.0	N53:52.57	W123:45.08	N53:52.42	W121:55.57	64.79	120.00
T1089.0	N53:53.64	W123:46.13	N53:53.51	W121:56.57	64.79	120.00
T1090.0	N53:54.71	W123:47.18	N53:54.60	W121:57.58	64.79	120.00
T1091.0	N53:55.78	W123:48.24	N53:55.68	W121:58.58	64.79	120.00
T1092.0	N53:56.85	W123:49.29	N53:56.77	W121:59.59	64.79	120.00
T1093.0	N53:57.93	W123:50.35	N53:57.86	W122:00.60	64.79	120.00
T1094.0	N53:59.00	W123:51.40	N53:58.94	W122:01.61	64.79	120.00
T1095.0	N54:00.07	W123:52.46	N54:00.03	W122:02.62	64.79	120.00
T1096.0	N54:01.14	W123:53.52	N54:01.12	W122:03.63	64.79	120.00
T1097.0	N54:02.21	W123:54.58	N54:02.20	W122:04.64	64.79	120.00
T1098.0	N54:03.28	W123:55.64	N54:03.29	W122:05.65	64.79	120.00
T1099.0	N54:04.35	W123:56.70	N54:04.38	W122:06.66	64.79	120.00
T1100.0	N54:05.42	W123:57.76	N54:05.46	W122:07.68	64.79	120.00
T1101.0	N54:06.49	W123:58.82	N54:06.55	W122:08.69	64.79	120.00
T1102.0	N54:07.56	W123:59.89	N54:07.63	W122:09.71	64.79	120.00
T1103.0	N54:08.63	W124:00.95	N54:08.72	W122:10.73	64.79	120.00
T1104.0	N54:09.70	W124:02.02	N54:09.80	W122:11.75	64.79	120.00

GeoScience Quesnellia British Columbia 2008
Planned Lines WGS-84 UTM 10 N

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T1105.0	N54:10.77	W124:03.08	N54:10.89	W122:12.76	64.79	120.00
T1106.0	N54:11.84	W124:04.15	N54:11.97	W122:13.78	64.79	120.00
T1107.0	N54:12.91	W124:05.22	N54:13.06	W122:14.80	64.79	120.00
T1108.0	N54:13.98	W124:06.29	N54:14.14	W122:15.83	64.79	120.00
T1109.0	N54:15.04	W124:07.36	N54:15.23	W122:16.85	64.79	120.00
T1110.0	N54:16.11	W124:08.43	N54:16.31	W122:17.87	64.79	120.00
T1111.0	N54:17.18	W124:09.50	N54:17.40	W122:18.89	64.79	120.00
T1112.0	N54:18.25	W124:10.57	N54:18.48	W122:19.92	64.79	120.00
T1113.0	N54:19.32	W124:11.65	N54:19.57	W122:20.95	64.79	120.00
T1114.0	N54:20.38	W124:12.72	N54:20.65	W122:21.97	64.79	120.00
T1115.0	N54:21.45	W124:13.80	N54:21.73	W122:23.00	64.79	120.00
T1116.0	N54:22.52	W124:14.87	N54:22.82	W122:24.03	64.79	120.00
T1117.0	N54:23.59	W124:15.95	N54:23.90	W122:25.06	64.79	120.00
T1118.0	N54:24.65	W124:17.03	N54:24.98	W122:26.09	64.79	120.00
T1119.0	N54:25.72	W124:18.11	N54:26.07	W122:27.12	64.79	120.00
T1120.0	N54:26.79	W124:19.19	N54:27.15	W122:28.15	64.79	120.00
T1121.0	N54:27.86	W124:20.27	N54:28.23	W122:29.18	64.79	120.00
T1122.0	N54:28.92	W124:21.35	N54:29.32	W122:30.22	64.79	120.00
T1123.0	N54:29.99	W124:22.44	N54:30.40	W122:31.25	64.79	120.00
T1124.0	N54:31.05	W124:23.52	N54:31.48	W122:32.29	64.79	120.00
T1125.0	N54:32.12	W124:24.61	N54:32.56	W122:33.33	64.79	120.00
T1126.0	N54:33.19	W124:25.69	N54:33.65	W122:34.36	64.79	120.00
T1127.0	N54:34.25	W124:26.78	N54:34.73	W122:35.40	64.79	120.00
T1128.0	N54:35.32	W124:27.87	N54:35.81	W122:36.44	64.79	120.00
T1129.0	N54:36.38	W124:28.96	N54:36.89	W122:37.48	64.79	120.00
T1130.0	N54:37.45	W124:30.05	N54:37.97	W122:38.52	64.79	120.00
T1131.0	N54:38.51	W124:31.14	N54:39.06	W122:39.57	64.79	120.00
T1132.0	N54:39.58	W124:32.23	N54:40.14	W122:40.61	64.79	120.00
T1133.0	N54:40.64	W124:33.32	N54:41.22	W122:41.65	64.79	120.00
T1134.0	N54:41.71	W124:34.42	N54:42.30	W122:42.70	64.79	120.00
T1135.0	N54:42.77	W124:35.51	N54:43.38	W122:43.74	64.79	120.00
T1136.0	N54:43.83	W124:36.61	N54:44.46	W122:44.79	64.79	120.00
T1137.0	N54:44.90	W124:37.70	N54:45.54	W122:45.84	64.79	120.00
T1138.0	N54:45.96	W124:38.80	N54:46.62	W122:46.89	64.79	120.00
T1139.0	N54:47.03	W124:39.90	N54:47.70	W122:47.94	64.79	120.00
T1140.0	N54:48.09	W124:41.00	N54:48.78	W122:48.99	64.79	120.00
T1141.0	N54:49.15	W124:42.10	N54:49.86	W122:50.04	64.79	120.00
T1142.0	N54:50.22	W124:43.20	N54:50.94	W122:51.09	64.79	120.00
T1143.0	N54:51.28	W124:44.30	N54:52.02	W122:52.14	64.79	120.00
T1144.0	N54:52.34	W124:45.41	N54:53.10	W122:53.20	64.79	120.00
T1145.0	N54:53.40	W124:46.51	N54:54.18	W122:54.25	64.79	120.00
T1146.0	N54:54.47	W124:47.61	N54:55.26	W122:55.31	64.79	120.00
T1147.0	N54:55.53	W124:48.72	N54:56.34	W122:56.37	64.79	120.00
T1148.0	N54:56.59	W124:49.83	N54:57.42	W122:57.42	64.79	120.00
T1149.0	N54:57.65	W124:50.94	N54:58.50	W122:58.48	64.79	120.00
T1150.0	N54:58.71	W124:52.05	N54:59.57	W122:59.54	64.79	120.00
T1151.0	N54:59.77	W124:53.16	N55:00.65	W123:00.60	64.79	120.00
T1152.0	N55:00.84	W124:54.27	N55:01.73	W123:01.67	64.79	120.00
T1153.0	N55:01.90	W124:55.38	N55:02.81	W123:02.73	64.79	120.00
T1154.0	N55:02.96	W124:56.49	N55:03.89	W123:03.79	64.79	120.00
T1155.0	N55:04.02	W124:57.61	N55:04.96	W123:04.86	64.79	120.00
T1156.0	N55:05.08	W124:58.72	N55:06.04	W123:05.92	64.79	120.00
T1157.0	N55:06.14	W124:59.84	N55:07.12	W123:06.99	64.79	120.00
T1158.0	N55:07.20	W125:00.95	N55:08.20	W123:08.06	64.79	120.00
T1159.0	N55:08.26	W125:02.07	N55:09.27	W123:09.13	64.79	120.00

GeoScience Quesnellia British Columbia 2008
Planned Lines WGS-84 UTM 10 N

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T1160.0	N55:09.32	W125:03.19	N55:10.35	W123:10.19	64.79	120.00
T1161.0	N55:10.38	W125:04.31	N55:11.43	W123:11.27	64.79	120.00
T1162.0	N55:11.44	W125:05.43	N55:12.50	W123:12.34	64.79	120.00
T1163.0	N55:12.50	W125:06.56	N55:13.58	W123:13.41	64.79	120.00
T1164.0	N55:13.56	W125:07.68	N55:14.66	W123:14.48	64.79	120.00
T1165.0	N55:14.62	W125:08.80	N55:15.73	W123:15.56	64.79	120.00
T1166.0	N55:15.67	W125:09.93	N55:16.81	W123:16.63	64.79	120.00
T1167.0	N55:16.73	W125:11.05	N55:17.88	W123:17.71	64.79	120.00
T1168.0	N55:17.79	W125:12.18	N55:18.96	W123:18.79	64.79	120.00
T1169.0	N55:18.85	W125:13.31	N55:20.04	W123:19.86	64.79	120.00
T1170.0	N55:19.91	W125:14.44	N55:20.73	W124:17.71	32.40	60.00
T1171.0	N55:20.97	W125:15.57	N55:21.80	W124:18.81	32.40	60.00
T1172.0	N55:22.02	W125:16.70	N55:22.86	W124:19.92	32.40	60.00
T1173.0	N55:23.08	W125:17.83	N55:23.93	W124:21.03	32.40	60.00
T1174.0	N55:24.14	W125:18.96	N55:24.99	W124:22.14	32.40	60.00
T1175.0	N55:25.19	W125:20.10	N55:26.06	W124:23.25	32.40	60.00
T1176.0	N55:26.25	W125:21.23	N55:27.13	W124:24.36	32.40	60.00
T1177.0	N55:27.31	W125:22.37	N55:28.19	W124:25.47	32.40	60.00
T1178.0	N55:28.36	W125:23.51	N55:29.26	W124:26.58	32.40	60.00
T1179.0	N55:29.42	W125:24.65	N55:30.32	W124:27.69	32.40	60.00
T1180.0	N55:30.48	W125:25.79	N55:31.39	W124:28.81	32.40	60.00
T1181.0	N55:31.53	W125:26.93	N55:32.45	W124:29.92	32.40	60.00
T1182.0	N55:32.59	W125:28.07	N55:33.52	W124:31.04	32.40	60.00
T1183.0	N55:33.64	W125:29.21	N55:34.58	W124:32.16	32.40	60.00
T1184.0	N55:34.70	W125:30.35	N55:35.65	W124:33.28	32.40	60.00
T1185.0	N55:35.75	W125:31.50	N55:36.71	W124:34.39	32.40	60.00
T1186.0	N55:36.81	W125:32.64	N55:37.77	W124:35.52	32.40	60.00
T1187.0	N55:37.86	W125:33.79	N55:38.84	W124:36.64	32.40	60.00
T1188.0	N55:38.92	W125:34.94	N55:39.90	W124:37.76	32.40	60.00
T1189.0	N55:39.97	W125:36.09	N55:40.96	W124:38.88	32.40	60.00
T1190.0	N55:41.03	W125:37.24	N55:42.03	W124:40.01	32.40	60.00
T1191.0	N55:42.08	W125:38.39	N55:43.09	W124:41.13	32.40	60.00
T1192.0	N55:43.14	W125:39.54	N55:44.15	W124:42.26	32.40	60.00
T1193.0	N55:44.19	W125:40.69	N55:45.22	W124:43.39	32.40	60.00
T1194.0	N55:45.24	W125:41.84	N55:46.28	W124:44.52	32.40	60.00
T1195.0	N55:46.30	W125:43.00	N55:47.34	W124:45.65	32.40	60.00
T1196.0	N55:47.35	W125:44.15	N55:48.40	W124:46.78	32.40	60.00
T1197.0	N55:48.40	W125:45.31	N55:49.46	W124:47.91	32.40	60.00
T1198.0	N55:49.45	W125:46.47	N55:50.53	W124:49.04	32.40	60.00
T1199.0	N55:50.51	W125:47.63	N55:51.59	W124:50.17	32.40	60.00
T1200.0	N55:51.56	W125:48.79	N55:52.65	W124:51.31	32.40	60.00
T1201.0	N55:52.61	W125:49.95	N55:53.71	W124:52.45	32.40	60.00
T1202.0	N55:53.66	W125:51.11	N55:54.77	W124:53.58	32.40	60.00
T1203.0	N55:54.71	W125:52.28	N55:55.83	W124:54.72	32.40	60.00
T1204.0	N55:55.77	W125:53.44	N55:56.89	W124:55.86	32.40	60.00
T1205.0	N55:56.82	W125:54.61	N55:57.95	W124:57.00	32.40	60.00
T1206.0	N55:57.87	W125:55.77	N55:59.01	W124:58.14	32.40	60.00
T1207.0	N55:58.92	W125:56.94	N56:00.07	W124:59.28	32.40	60.00
T1208.0	N55:59.97	W125:58.11	N56:01.13	W125:00.43	32.40	60.00
T1209.0	N56:01.02	W125:59.28	N56:02.19	W125:01.57	32.40	60.00
T1210.0	N56:02.07	W126:00.45	N56:03.25	W125:02.72	32.40	60.00
T1211.0	N56:03.12	W126:01.62	N56:04.31	W125:03.86	32.40	60.00
T1212.0	N56:04.17	W126:02.79	N56:05.37	W125:05.01	32.40	60.00
T1213.0	N56:05.22	W126:03.97	N56:06.43	W125:06.16	32.40	60.00
T1214.0	N56:06.27	W126:05.14	N56:07.49	W125:07.31	32.40	60.00

GeoScience Quesnellia British Columbia 2008
Planned Lines WGS-84 UTM 10 N

SEGMENT	START		END		LENGTH	
NO	LAT	LONG	LAT	LONG	NM	KM
T1215.0	N56:07.32	W126:06.32	N56:08.55	W125:08.46	32.40	60.00
T1216.0	N56:08.37	W126:07.50	N56:09.61	W125:09.61	32.40	60.00
T1217.0	N56:09.42	W126:08.67	N56:10.66	W125:10.76	32.40	60.00
T1218.0	N56:10.47	W126:09.85	N56:11.72	W125:11.92	32.40	60.00
T1219.0	N56:11.51	W126:11.03	N56:12.78	W125:13.07	32.40	60.00
T1220.0	N56:12.56	W126:12.22	N56:13.84	W125:14.23	32.40	60.00
T1221.0	N56:13.61	W126:13.40	N56:14.90	W125:15.39	32.40	60.00

Total control line length = 1444.08 nautical miles
= 2674.43 kilometers.

Total traverse line length = 12634.99 nautical miles
= 23400.00 kilometers.

Total length of all lines = 14079.07 nautical miles
= 26074.43 kilometers.

Appendix III

Geoscience 2007
ACTUAL FLOWN LINES
NAD 83 UTM 10 N

LINE	START TIME	END TIME	MIN X (m)	MAX X (m)	MIN Y (m)	MAX Y (m)	FLT	DAY	YEAR
101.00	6554450	6753650	390117.38	442866.65	6001380.23	6094653.01	107	349	2007
101.01	7602000	8028150	442868.03	559041.46	5795919.72	6001359.33	107	349	2007
101.02	6325850	6648550	310142.24	390094.35	6094690.78	6236080.20	111	354	2007
102.00	7414750	7552450	544526.95	579057.55	5795903.41	5856975.08	107	349	2007
102.01	7621950	7903450	330141.12	406868.65	6100400.82	6236076.95	111	354	2007
102.02	8687900	8865000	498881.94	544481.76	5857022.85	5937686.23	226	88	2008
102.03	6858250	7228550	406884.12	498866.42	5937700.12	6100363.11	107	349	2007
103.00	6853700	7131700	521182.19	599047.34	5795921.28	5933610.82	119	11	2008
103.01	6424950	7063500	350152.18	521191.61	5933614.50	6236084.32	121	15	2008
103.02	6919450	6986900	513309.35	530019.94	5917988.60	5947550.30	130	26	2008
103.03	7398500	7459950	471323.77	487582.90	5993034.45	6021763.94	133	34	2008
103.04	6318250	6384050	513165.82	530020.49	5917964.57	5947775.59	134	37	2008
103.05	6852900	6916700	513877.22	529918.29	5918168.34	5946538.01	136	43	2008
104.00	7426900	7810850	428937.52	536948.49	5941090.68	6132090.19	121	15	2008
104.01	6010250	6369250	524740.05	619046.59	5795910.13	5962725.76	128	24	2008
104.02	6061550	6121150	524381.19	540021.85	5935668.84	5963327.24	129	25	2008
105.00	6767000	6934700	598974.83	639053.92	5795917.02	5866789.70	106	348	2007
105.01	6349000	6644950	448950.14	522617.24	6001801.85	6132074.83	123	17	2008
105.02	6630100	6856350	541745.76	598962.88	5866808.62	5967984.63	226	88	2008
105.03	6421250	6501700	522637.37	541736.88	5968020.16	6001774.55	106	348	2007
106.00	6136900	6231900	539384.49	565302.36	5961686.29	6007530.92	106	348	2007
106.01	7864250	8018700	468948.10	514024.74	6052385.24	6132095.32	123	17	2008
106.03	6405750	6764150	565314.98	659049.31	5795902.42	5961666.96	127	23	2008
106.04	6173800	6426350	468945.46	535714.12	6014020.01	6132080.47	137	44	2008
106.07	6927550	7047700	514038.91	539367.57	6007554.09	6052351.01	205	66	2008
1001.00	7023950	7239300	548921.61	669096.23	5795986.23	5796007.72	106	348	2007
1002.00	7387000	7527450	599176.99	667962.15	5797977.29	5798006.63	106	348	2007
1002.02	7729700	7832300	547776.92	599147.04	5797977.59	5798026.16	163	79	2008
1003.00	7562450	7781000	546654.80	666837.03	5799974.88	5800004.68	106	348	2007
1004.00	7823650	8063650	545509.84	665699.58	5801982.24	5802012.65	106	348	2007
1005.00	6831250	7044450	544381.32	664560.79	5803981.49	5804018.24	127	23	2008
1006.00	7091550	7308250	543261.49	663441.53	5805983.13	5806019.85	127	23	2008
1007.00	7353050	7565450	542138.60	662290.15	5807981.70	5808020.84	127	23	2008
1008.00	7616650	7838250	540995.84	661169.40	5809984.77	5810015.91	127	23	2008
1009.00	7878350	7977250	603355.91	660026.97	5811985.33	5812008.47	127	23	2008
1009.01	6432550	6554450	539875.01	603325.70	5811973.24	5812007.74	128	24	2008
1010.00	6604800	6827400	538745.00	658910.62	5813986.64	5814012.45	128	24	2008
1011.00	6880250	7099250	537604.60	657784.29	5815980.66	5816027.35	128	24	2008
1012.00	7633550	7851400	536478.42	656654.48	5817982.47	5818025.08	128	24	2008
1013.00	6659600	6791750	535337.17	610171.63	5819985.01	5820013.91	150	59	2008
1013.02	8165700	8252050	610196.83	655511.18	5819987.74	5820021.18	226	88	2008
1014.00	6469950	6617000	534210.69	612206.77	5821992.64	5822009.71	150	59	2008
1014.02	8276100	8358600	612246.62	654375.03	5821978.23	5822006.05	226	88	2008
1015.00	6285350	6422500	533074.32	609847.84	5823988.72	5824015.87	150	59	2008
1015.01	6567700	6656750	606384.42	653247.54	5823976.33	5824016.12	152	62	2008
1016.01	8384700	8609550	531953.24	652125.57	5825948.58	5826035.48	226	88	2008
1017.00	6852900	7084700	530829.33	650982.48	5827992.07	5828015.04	140	48	2008
1018.00	6591900	6805650	529696.06	649857.45	5829988.10	5830015.94	140	48	2008
1019.00	6305900	6539700	528567.82	648729.92	5831987.34	5832013.93	140	48	2008
1020.01	7866050	8098750	527417.25	647592.04	5833974.17	5834033.55	226	88	2008
1021.00	8177150	8391150	526300.70	646470.25	5835978.50	5836023.09	128	24	2008
1022.00	8473450	8490150	612242.08	622192.10	5837987.74	5838006.06	128	24	2008
1022.03	7132000	7178900	622230.28	645348.12	5837976.03	5838020.12	226	88	2008
1022.04	7201550	7372900	525174.12	612204.15	5837994.62	5838009.61	226	88	2008
1023.00	8706500	8820700	524027.24	588716.53	5839986.63	5840014.34	128	24	2008
1023.01	6577650	6674350	588757.64	644188.73	5839984.60	5840016.28	129	25	2008
1024.00	6301850	6527100	522896.19	643066.83	5841982.96	5842013.13	129	25	2008
1025.00	7618950	7759650	521757.45	594998.26	5843990.92	5844013.39	120	13	2008
1025.01	6718400	6797350	595170.65	641931.70	5843983.90	5844015.69	129	25	2008
1026.00	6852300	7068900	520647.67	640817.42	5845979.43	5846014.99	129	25	2008

Geoscience 2007
ACTUAL FLOWN LINES
NAD 83 UTM 10 N

LINE	START TIME	END TIME	MIN X (m)	MAX X (m)	MIN Y (m)	MAX Y (m)	FLT	DAY	YEAR
1027.00	7114300	7337600	519515.04	639683.60	5847983.76	5848015.17	129	25	2008
1028.00	7390950	7611700	518391.57	638561.83	5849984.51	5850017.37	129	25	2008
1029.00	7404000	7513350	517235.84	576120.66	5851987.20	5852021.99	134	37	2008
1029.01	7874950	7996100	576146.31	637417.51	5851986.02	5852013.43	140	48	2008
1030.00	7550050	7665800	516106.69	580428.63	5853978.20	5854014.22	134	37	2008
1030.01	8041800	8140600	580436.09	636287.40	5853988.32	5854006.27	140	48	2008
1031.00	8092150	8208500	514997.87	573865.60	5855988.36	5856007.43	134	37	2008
1031.02	8272000	8398600	567333.74	635147.67	5855970.03	5856038.69	163	79	2008
1032.00	8252250	8363400	513870.35	575869.82	5857982.03	5858021.97	134	37	2008
1032.01	8363950	8466900	575915.43	634025.41	5857988.67	5858006.72	140	48	2008
1033.00	8407650	8517000	512729.76	571432.59	5859986.22	5860011.08	134	37	2008
1033.01	8521000	8638450	571461.67	632883.71	5859979.37	5860011.39	140	48	2008
1034.01	8535200	8646850	511582.43	571487.44	5861981.13	5862012.07	135	41	2008
1034.03	6942300	7062700	571524.87	631776.19	5861978.40	5862032.09	226	88	2008
1035.00	6690400	6770500	510462.95	555442.89	5863974.38	5864015.73	118	9	2008
1035.01	8858150	9006350	555461.50	630640.56	5863989.57	5864011.99	140	48	2008
1036.00	8677250	8791550	509320.37	571601.80	5865992.12	5866010.74	135	41	2008
1036.01	8280100	8393800	571633.00	629515.36	5865990.44	5866009.77	145	53	2008
1037.00	8432750	8657550	508206.97	628373.68	5867985.06	5868014.06	145	53	2008
1038.00	8700650	8915700	507082.13	627237.41	5869987.61	5870007.88	145	53	2008
1039.00	6201800	6313250	505943.97	561482.65	5871992.05	5872006.54	146	54	2008
1039.01	6473500	6594400	561517.17	626105.27	5871991.67	5872010.58	148	56	2008
1040.00	6369550	6485100	504812.22	563991.30	5873992.53	5874006.18	146	54	2008
1040.01	6638750	6748250	564027.09	624985.52	5873989.10	5874013.46	148	56	2008
1041.00	8369800	8482850	503688.62	560829.13	5875990.68	5876009.87	135	41	2008
1041.01	7953000	8076550	560873.24	623857.72	5875989.34	5876010.59	145	53	2008
1042.00	8212500	8325650	502535.33	561630.36	5877985.45	5878021.50	135	41	2008
1042.01	8114950	8223300	561639.57	622721.82	5877989.88	5878011.14	145	53	2008
1043.00	8042750	8165650	501405.17	563978.50	5879989.23	5880015.62	135	41	2008
1043.01	6801000	6911800	564005.17	621594.62	5879986.72	5880015.69	148	56	2008
1044.00	7752350	7877450	500294.00	563981.72	5881980.56	5882008.97	135	41	2008
1044.01	6964750	7065650	564005.38	620445.18	5881975.49	5882009.53	148	56	2008
1045.00	8825250	8941400	499151.95	558430.10	5883980.86	5884011.17	132	33	2008
1045.01	7116950	7234150	558459.75	619327.34	5883988.26	5884017.12	148	56	2008
1046.00	8671500	8782200	498022.29	558469.69	5885991.34	5886010.36	132	33	2008
1046.01	7271650	7376550	558525.90	618181.97	5885982.42	5886010.93	148	56	2008
1047.00	8523750	8639150	496877.12	555480.07	5887985.80	5888013.80	132	33	2008
1047.01	7753000	7871900	555500.71	617057.32	5887991.92	5888015.10	148	56	2008
1048.00	8378100	8484850	495754.81	555000.86	5889980.43	5890012.47	132	33	2008
1048.01	7910550	8028850	555014.39	615928.94	5889988.20	5890010.13	148	56	2008
1049.00	8231350	8346350	494632.11	554101.07	5891981.18	5892011.97	132	33	2008
1049.01	8075550	8187950	554119.73	614811.44	5891989.29	5892011.25	148	56	2008
1050.01	8091250	8182700	493498.21	543719.26	5893993.11	5894013.27	132	33	2008
1050.02	8227200	8365700	543741.75	613678.97	5893987.92	5894009.68	148	56	2008
1051.00	7921250	8048000	492352.35	554109.18	5895987.92	5896013.56	132	33	2008
1051.01	8409800	8519800	554144.32	612533.58	5895990.06	5896011.76	148	56	2008
1052.00	8237000	8458550	491240.72	611401.92	5897978.12	5898018.69	131	32	2008
1053.00	7925250	8033700	490100.95	546985.90	5899990.02	5900014.45	130	26	2008
1053.02	8549700	8676150	547001.87	610276.52	5899988.00	5900011.34	148	56	2008
1054.00	7774800	7887200	488973.05	546973.06	5901985.29	5902015.12	130	26	2008
1054.02	6985600	7102350	547007.69	609133.70	5901975.71	5902012.18	152	62	2008
1055.00	7627100	7733050	487840.69	544242.12	5903984.81	5904013.50	130	26	2008
1055.01	7142200	7257100	544247.20	608003.02	5903987.45	5904009.69	152	62	2008
1056.00	7473300	7585900	486709.57	544225.58	5905986.64	5906009.12	130	26	2008
1056.01	7301700	7419050	544253.23	606883.77	5905988.34	5906017.41	152	62	2008
1057.00	7321550	7434350	485580.74	547578.37	5907991.18	5908015.59	130	26	2008
1057.01	7456150	7564050	547626.05	605742.37	5907989.74	5908007.71	152	62	2008
1058.00	7162200	7293400	484445.16	547592.05	5909977.69	5910012.92	130	26	2008
1058.01	8676950	8791750	547619.47	604627.67	5909989.20	5910013.36	155	66	2008
1059.00	7036750	7119500	483325.49	530157.20	5911989.88	5912008.68	130	26	2008

Geoscience 2007
ACTUAL FLOWN LINES
NAD 83 UTM 10 N

LINE	START TIME	END TIME	MIN X (m)	MAX X (m)	MIN Y (m)	MAX Y (m)	FLT	DAY	YEAR
1059.02	7929050	8074550	530202.04	603503.41	5911970.68	5912013.13	223	84	2008
1060.00	8464400	8573600	482194.26	540949.68	5913979.78	5914012.28	122	16	2008
1060.01	8322000	8444000	540985.34	602351.89	5913992.80	5914007.41	155	66	2008
1061.00	8319500	8429750	481051.70	540727.05	5915980.13	5916022.31	122	16	2008
1061.01	8161300	8274550	540755.03	601229.52	5915988.34	5916008.59	155	66	2008
1062.00	8164950	8279850	479936.11	539810.53	5917987.87	5918011.67	122	16	2008
1062.01	8003900	8121800	539832.21	600111.06	5917993.85	5918004.95	155	66	2008
1063.00	8012750	8124000	478783.12	538314.53	5919987.97	5920042.95	122	16	2008
1063.01	7845850	7957850	538343.13	598959.90	5919977.99	5920010.69	155	66	2008
1064.00	6320800	6546900	477654.02	597828.10	5921985.12	5922015.45	110	352	2007
1065.00	6062100	6294750	476526.74	596710.64	5923989.21	5924015.11	110	352	2007
1066.00	7850950	7979050	475402.47	541754.40	5925983.30	5926012.05	122	16	2008
1066.01	6609250	6712500	541780.16	595578.28	5925989.95	5926009.18	146	54	2008
1067.00	7698950	7811700	474264.67	534364.92	5927984.34	5928031.57	122	16	2008
1067.01	6748850	6862050	534368.40	594445.76	5927988.96	5928006.79	146	54	2008
1068.00	7560300	7670500	473133.43	532069.65	5929990.51	5930013.06	122	16	2008
1068.01	6906300	7025550	532099.38	593324.16	5929990.20	5930009.71	146	54	2008
1069.00	7434400	7523000	472013.27	519370.20	5931986.08	5932027.96	122	16	2008
1069.01	7067150	7206700	519403.50	592191.13	5931989.58	5932007.24	146	54	2008
1070.00	8009150	8127950	470868.15	539682.29	5933974.08	5934020.58	121	15	2008
1070.01	7273950	7375700	539715.97	591048.44	5933990.88	5934008.58	146	54	2008
1071.01	7848800	7960300	469760.60	527614.54	5935992.81	5936011.15	121	15	2008
1071.02	7418300	7537400	527653.52	589929.33	5935986.50	5936004.93	146	54	2008
1072.00	8265600	8478750	468615.70	588787.01	5937988.16	5938016.19	117	7	2008
1073.01	7038100	7153650	467491.58	525986.13	5939984.47	5940026.67	223	84	2008
1073.02	7627900	7749350	526018.04	587670.96	5939988.28	5940017.52	223	84	2008
1074.00	7766550	7973050	466361.48	586521.17	5941976.92	5942051.17	117	7	2008
1075.00	7498600	7720900	465213.25	585380.94	5943979.88	5944017.10	117	7	2008
1076.00	7407050	7589100	464085.70	561557.65	5945965.98	5946033.45	115	5	2008
1076.01	7405650	7444350	561596.11	584253.16	5945983.10	5946008.65	117	7	2008
1077.02	6760050	7004600	462968.40	583128.79	5947991.59	5948020.97	223	84	2008
1078.00	6814700	7049200	461824.06	581995.12	5949943.75	5950135.02	115	5	2008
1079.01	6651500	6779900	460714.60	530790.79	5951959.85	5952022.22	115	5	2008
1079.03	6634850	6731500	530813.03	580870.59	5951989.19	5952016.29	223	84	2008
1080.00	7383100	7624050	459578.09	579743.23	5953984.09	5954028.73	114	4	2008
1081.00	7130800	7343900	458444.22	578624.11	5955936.08	5956054.52	114	4	2008
1082.00	6846750	7085650	457295.15	577466.00	5957871.76	5958029.01	114	4	2008
1083.00	6575500	6802450	456163.47	576348.90	5959924.49	5960025.16	114	4	2008
1084.00	5842650	5954600	455037.22	511913.92	5961992.76	5962011.69	110	352	2007
1084.01	7590100	7712500	511931.29	575208.97	5961982.42	5962007.07	110	352	2007
1085.00	5983550	6102850	453904.74	513712.27	5963986.06	5964005.24	104	342	2007
1085.01	5910450	5917300	513743.66	516540.80	5963988.65	5964002.18	106	348	2007
1085.02	5964050	6089900	516572.06	574097.55	5963990.52	5964009.19	106	348	2007
1086.00	6138650	6376150	452773.36	572949.27	5965991.61	5966010.31	104	342	2007
1087.00	6411200	6650150	451660.48	571831.33	5967988.13	5968007.75	104	342	2007
1088.00	6684600	6921650	450531.48	570700.28	5969990.61	5970012.80	104	342	2007
1089.00	6959200	7197050	449377.37	569554.95	5971982.56	5972014.74	104	342	2007
1090.00	7231600	7465000	448262.47	568422.67	5973986.84	5974011.68	104	342	2007
1091.00	7499050	7730150	447116.32	567301.60	5975981.38	5976010.98	104	342	2007
1092.00	7765900	7996700	445989.94	566169.63	5977974.88	5978021.98	104	342	2007
1093.00	8132900	8263200	444872.25	512192.76	5979983.35	5980010.04	104	342	2007
1093.01	6315750	6423100	512211.55	565030.27	5979985.07	5980012.20	223	84	2008
1094.00	8298500	8428700	443744.57	511996.90	5981992.57	5982009.24	104	342	2007
1094.01	8607600	8703550	512413.55	563911.85	5981992.64	5982013.75	105	346	2007
1094.03	6451900	6556050	512021.85	563918.85	5981977.45	5982014.16	223	84	2008
1095.00	8546100	8685850	442594.74	514491.06	5983991.13	5984006.08	103	341	2007
1095.01	5881200	5980000	514510.51	562790.06	5983992.66	5984013.29	107	349	2007
1096.00	6015600	6256500	441483.56	561657.15	5985988.68	5986017.21	107	349	2007
1097.00	6293050	6383400	440349.78	486028.77	5987990.08	5988014.75	107	349	2007
1097.01	6120950	6263450	486060.33	560511.27	5987991.65	5988008.66	108	350	2007

Geoscience 2007
ACTUAL FLOWN LINES
NAD 83 UTM 10 N

LINE	START TIME	END TIME	MIN X (m)	MAX X (m)	MIN Y (m)	MAX Y (m)	FLT	DAY	YEAR
1098.00	6422800	6501950	439205.76	480309.13	5989991.64	5990009.28	107	349	2007
1098.01	5923150	6075550	480334.61	559391.82	5989987.12	5990008.24	108	350	2007
1099.00	8084400	8249050	438090.21	526590.57	5991990.76	5992017.21	107	349	2007
1099.01	5828050	5891450	526624.91	558256.02	5991993.15	5992003.93	108	350	2007
1100.00	8045850	8153950	498141.10	557116.90	5993989.17	5994007.16	108	350	2007
1100.01	6934100	7052150	436950.35	498125.19	5993990.33	5994005.31	109	351	2007
1101.00	7092000	7318800	435815.38	555996.34	5995992.84	5996006.28	109	351	2007
1102.00	7351300	7581600	434688.35	554873.54	5997985.45	5998007.23	109	351	2007
1103.00	7620600	7844700	433550.35	553735.67	5999989.57	6000004.06	109	351	2007
1104.00	7877150	8105150	432437.39	552609.61	6001987.53	6002009.10	109	351	2007
1105.00	8141550	8369850	431288.39	551465.16	6003991.14	6004007.55	109	351	2007
1106.00	8400450	8619850	430158.36	550349.20	6005993.01	6006009.80	109	351	2007
1107.00	6715750	6937900	429028.07	549191.54	6007989.15	6008011.37	110	352	2007
1108.00	6976850	7205650	427909.89	548078.61	6009984.38	6010007.88	110	352	2007
1109.00	7241300	7466050	426780.47	546945.83	6011985.94	6012008.88	110	352	2007
1110.00	5918850	6155200	425639.99	545814.68	6013993.60	6014011.86	111	354	2007
1111.00	8040700	8204700	424513.93	516778.33	6015988.78	6016009.42	111	354	2007
1111.01	6212300	6268050	516803.02	544684.77	6015991.45	6016003.94	112	355	2007
1112.00	6301100	6526550	423382.27	543556.30	6017983.10	6018010.73	112	355	2007
1113.00	6566250	6799450	422255.17	542415.25	6019988.56	6020007.86	112	355	2007
1114.00	6832000	7054850	421104.10	541288.42	6021985.43	6022004.29	112	355	2007
1115.00	7091100	7318850	419978.02	540155.69	6023985.37	6024009.63	112	355	2007
1116.00	7351550	7574500	418860.25	539032.99	6025989.45	6026006.02	112	355	2007
1117.00	6348550	6565950	417716.76	537881.09	6027988.25	6028013.49	108	350	2007
1118.00	6603700	6845100	416580.20	536765.89	6029992.59	6030015.38	108	350	2007
1119.00	6876650	7095500	415474.66	535625.91	6031992.59	6032016.49	108	350	2007
1120.00	7134150	7364600	414326.09	534511.90	6033983.88	6034018.46	108	350	2007
1121.00	7397150	7613600	413212.01	533378.74	6035984.30	6036012.55	108	350	2007
1122.00	7651800	7884350	412070.69	532242.07	6037987.94	6038012.52	108	350	2007
1123.00	7626500	7853150	410928.85	531112.65	6039983.84	6040009.81	112	355	2007
1124.00	7883900	8109300	409819.92	529982.65	6041968.31	6042008.53	112	355	2007
1125.00	8146450	8371900	408671.94	528848.87	6043987.05	6044010.10	112	355	2007
1126.01	6235300	6463150	407533.42	527712.78	6045986.44	6046034.85	116	6	2008
1127.00	6498850	6715950	406407.13	526590.71	6047946.42	6048100.99	116	6	2008
1128.00	6764650	6984000	405291.13	525448.31	6049975.70	6050010.32	116	6	2008
1129.00	7028500	7253750	404154.98	524323.57	6051940.26	6052025.37	116	6	2008
1130.00	7296750	7519500	403037.34	523200.33	6053979.39	6054009.14	116	6	2008
1131.00	7562450	7783200	401881.35	522063.51	6055960.25	6056017.32	116	6	2008
1132.00	8395750	8618150	400752.97	520939.12	6057985.05	6058018.37	125	21	2008
1133.00	8661900	8880900	399630.54	519799.38	6059989.93	6060012.36	125	21	2008
1134.00	7010600	7228250	398494.63	518682.91	6061974.57	6062020.20	137	44	2008
1135.00	7812050	8046700	397365.42	517529.75	6063990.08	6064009.71	137	44	2008
1136.01	6613900	6843100	396242.95	516416.26	6065969.02	6066061.62	162	79	2008
1137.00	8360300	8583900	395107.07	515263.29	6067986.01	6068014.53	137	44	2008
1138.00	8629850	8850850	393963.21	514149.76	6069980.84	6070013.73	137	44	2008
1139.00	8900050	9010100	454544.74	513001.58	6071980.92	6072005.53	137	44	2008
1139.02	6197600	6331200	392829.33	460493.18	6071967.29	6072028.05	162	79	2008
1140.00	7554900	7769600	391716.69	511884.18	6073978.52	6074009.01	150	59	2008
1141.00	6787350	6907550	390587.05	454293.84	6075988.65	6076014.98	153	64	2008
1141.01	6646600	6757900	454322.47	510751.42	6075989.68	6076011.95	156	68	2008
1142.00	6941050	7057100	389455.15	453396.95	6077989.51	6078007.86	153	64	2008
1142.01	6501200	6603000	453407.55	509626.32	6077989.87	6078018.71	156	68	2008
1143.00	6347400	6443350	461420.56	508489.92	6079989.97	6080012.73	156	68	2008
1143.01	6809750	6939300	388326.56	461400.03	6079986.66	6080006.35	159	73	2008
1144.01	6310800	6533500	387182.41	507350.71	6081984.03	6082009.85	157	70	2008
1145.01	6573400	6802000	386069.10	506226.53	6083986.96	6084010.25	157	70	2008
1146.00	6982950	7208850	384919.15	505092.95	6085989.52	6086010.02	159	73	2008
1147.00	7244350	7464950	383795.24	503964.49	6087983.67	6088015.47	159	73	2008
1148.00	7506150	7733500	382670.15	502848.62	6089992.17	6090013.42	159	73	2008
1149.00	7769200	7989400	381535.60	501691.85	6091980.79	6092009.58	159	73	2008

Geoscience 2007
ACTUAL FLOWN LINES
NAD 83 UTM 10 N

LINE	START TIME	END TIME	MIN X (m)	MAX X (m)	MIN Y (m)	MAX Y (m)	FLT	DAY	YEAR
1150.00	8531000	8748200	380409.44	500575.89	6093983.48	6094033.62	158	72	2008
1151.00	8266850	8494050	379265.97	499437.29	6095982.35	6096020.98	158	72	2008
1152.00	7577850	7790900	378127.66	498303.39	6097988.17	6098021.52	158	72	2008
1153.00	7310300	7450400	425473.68	497171.09	6099974.95	6100014.32	158	72	2008
1153.01	6412700	6508250	376998.00	425579.48	6099969.63	6100040.53	162	79	2008
1154.00	7052850	7262500	375877.29	496059.53	6101983.16	6102014.52	158	72	2008
1155.00	6793400	7017250	374755.03	494919.42	6103984.91	6104014.56	158	72	2008
1156.00	8340750	8446900	437764.27	493778.56	6105984.91	6106006.78	147	55	2008
1156.01	7142850	7258550	373615.57	437740.63	6105989.69	6106008.96	153	64	2008
1157.00	8062250	8295450	372476.17	492652.58	6107990.95	6108012.18	147	55	2008
1158.00	7796300	8019950	371360.56	491530.35	6109984.65	6110010.66	147	55	2008
1159.00	7525000	7753650	370225.06	490389.14	6111990.60	6112011.35	147	55	2008
1160.00	8286850	8392050	434000.48	489272.09	6113987.58	6114010.65	144	52	2008
1160.01	7292550	7414450	369093.09	433979.50	6113991.18	6114010.50	153	64	2008
1161.00	8022150	8245250	367959.13	488125.79	6115993.92	6116011.48	144	52	2008
1162.00	7750050	7979750	366823.69	487016.02	6117989.53	6118015.40	144	52	2008
1163.00	7476250	7705800	365704.48	485875.93	6119991.18	6120015.55	144	52	2008
1164.00	7203050	7431150	364565.55	484731.14	6121986.18	6122007.93	144	52	2008
1165.00	7256400	7476500	363444.56	483598.90	6123983.98	6124012.98	147	55	2008
1166.00	7565750	7776100	362294.14	482467.39	6125989.66	6126021.66	123	17	2008
1167.00	7297250	7527050	361182.32	481353.86	6127979.46	6128025.60	123	17	2008
1168.00	7030300	7242400	360050.40	480202.89	6129991.40	6130016.41	123	17	2008
1169.00	6756350	6990300	358900.37	479078.33	6131984.55	6132027.83	123	17	2008
1170.00	7385500	7506900	357789.88	417963.89	6133986.40	6134009.10	143	51	2008
1171.00	7231600	7343750	356651.89	416825.57	6135987.64	6136006.17	143	51	2008
1172.00	7066800	7190000	355510.02	415705.43	6137992.40	6138011.00	143	51	2008
1173.00	6911800	7023850	354380.04	414548.42	6139993.22	6140009.30	143	51	2008
1174.00	6754150	6873450	353259.23	413424.36	6141993.04	6142008.66	143	51	2008
1175.00	6595300	6714200	352127.76	412310.71	6143991.29	6144010.33	143	51	2008
1176.00	6435850	6555000	351008.24	411174.26	6145985.76	6146009.54	143	51	2008
1177.00	8017550	8138300	349866.96	410043.71	6147990.13	6148008.55	142	50	2008
1178.00	7858050	7977200	348744.95	408911.96	6149993.69	6150006.10	142	50	2008
1179.00	7696800	7815150	347596.57	407784.14	6151987.58	6152006.00	142	50	2008
1180.00	7537600	7653650	346471.52	406631.79	6153992.83	6154007.32	142	50	2008
1181.00	7370450	7488750	345350.62	405518.71	6155989.82	6156007.76	142	50	2008
1182.00	7210350	7327000	344211.09	404391.89	6157992.57	6158005.56	142	50	2008
1183.00	8718300	8826950	343072.07	403259.18	6159993.16	6160010.66	141	49	2008
1184.00	8558500	8678250	341940.23	402131.34	6161979.34	6162014.35	141	49	2008
1185.00	8409000	8515450	340823.32	400983.15	6163984.98	6164010.03	141	49	2008
1186.00	8253700	8368400	339678.87	399857.15	6165986.38	6166010.91	141	49	2008
1187.00	8108650	8216900	338550.20	398740.02	6167988.65	6168009.26	141	49	2008
1188.00	7953050	8065200	337419.30	397596.34	6169978.31	6170005.78	141	49	2008
1189.00	7164700	7268500	336284.48	396473.32	6171991.60	6172006.27	141	49	2008
1190.01	7013400	7128000	335150.72	395337.25	6173981.45	6174005.43	141	49	2008
1191.00	6868600	6970800	334036.45	394199.85	6175983.21	6176012.28	141	49	2008
1192.00	6713100	6830550	332913.88	393071.39	6177988.57	6178007.23	141	49	2008
1193.00	6557550	6667450	331776.29	391933.26	6179983.12	6180013.45	141	49	2008
1194.00	6402000	6514950	330635.65	390822.55	6181988.15	6182004.77	141	49	2008
1195.00	8577750	8683400	329520.58	389687.70	6183990.76	6184010.64	139	47	2008
1196.00	8424550	8539100	328372.56	388559.00	6185984.09	6186012.66	139	47	2008
1197.00	8265350	8373550	327248.54	387423.26	6187994.33	6188008.65	139	47	2008
1198.00	8112700	8225850	326105.57	386277.53	6189986.58	6190013.96	139	47	2008
1199.00	7955350	8064950	324981.67	385164.37	6191994.36	6192009.40	139	47	2008
1200.00	7801650	7910600	323850.46	384038.86	6193986.95	6194013.01	139	47	2008
1201.00	6926650	7036600	322715.83	382890.73	6195990.29	6196019.63	139	47	2008
1202.00	6772200	6884750	321599.48	381756.67	6197991.59	6198009.57	139	47	2008
1203.00	6618100	6723900	320473.85	380647.90	6199961.88	6200016.53	139	47	2008
1204.00	6464800	6575550	319324.55	379512.24	6201991.86	6202008.26	139	47	2008
1205.00	7502700	7611750	318189.23	378354.05	6203986.60	6204017.25	125	21	2008
1206.00	7347700	7459250	317071.04	377251.69	6205985.74	6206023.68	125	21	2008

Geoscience 2007
ACTUAL FLOWN LINES
NAD 83 UTM 10 N

LINE	START TIME	END TIME	MIN X (m)	MAX X (m)	MIN Y (m)	MAX Y (m)	FLT	DAY	YEAR
1207.00	7191550	7298300	315943.64	376116.47	6207989.36	6208015.80	125	21	2008
1208.00	7043500	7152950	314807.92	374982.74	6209985.48	6210018.03	125	21	2008
1209.00	6882550	6988950	313674.74	373853.84	6211978.65	6212009.92	125	21	2008
1210.00	6731150	6838500	312546.42	372726.64	6213982.64	6214019.97	125	21	2008
1211.00	7345000	7457000	311409.78	371588.59	6215981.35	6216009.60	124	20	2008
1212.00	7192700	7295450	310299.17	370450.15	6217969.39	6218013.36	124	20	2008
1213.00	7036150	7146750	309153.96	369314.49	6219988.81	6220005.51	124	20	2008
1214.00	6881150	6985300	308016.64	368186.57	6221970.53	6222018.62	124	20	2008
1215.00	6724000	6834050	306881.05	367074.51	6223987.13	6224002.96	124	20	2008
1216.00	7445150	7555650	305767.06	365932.90	6225985.51	6226009.52	111	354	2007
1217.00	7293650	7404850	304621.72	364799.05	6227983.29	6228012.26	111	354	2007
1218.00	7144350	7257100	303492.53	363679.68	6229989.23	6230016.43	111	354	2007
1219.00	6996200	7104600	302373.29	362525.39	6231986.70	6232007.63	111	354	2007
1220.00	6850750	6962200	301234.81	361413.04	6233986.63	6234012.65	111	354	2007
1221.00	6707250	6816450	300095.66	360285.90	6235971.70	6236014.90	111	354	2007
2001.00	7226550	7359700	542707.11	617932.97	5806981.02	5807011.34	119	11	2008
2002.00	6599000	6742400	541568.00	616816.89	5808987.81	5809010.08	134	37	2008
2003.00	6792700	6932050	540425.30	615675.47	5810985.18	5811010.77	134	37	2008
2004.00	6977500	7119700	539304.64	614565.10	5812989.23	5813015.60	134	37	2008
2005.00	7162650	7302200	538158.90	613427.83	5814981.98	5815022.64	134	37	2008
2006.00	7412800	7540550	537028.62	612296.11	5816940.45	5817033.36	120	13	2008
2007.00	7887750	8031700	535904.30	611157.38	5818989.66	5819008.57	138	46	2008
2008.00	8076650	8211550	534788.76	610036.92	5820977.65	5821016.16	138	46	2008
2009.00	8254250	8398550	533648.43	608900.45	5822983.17	5823008.87	138	46	2008
2010.01	7716550	7853600	532527.00	607772.01	5824984.17	5825020.05	138	46	2008
2011.00	7096300	7251650	531386.93	606647.62	5826977.77	5827016.59	136	43	2008
2012.00	7190700	7335850	530268.64	605517.96	5828983.37	5829015.55	120	13	2008
2013.00	7019050	7146800	529113.02	604374.29	5830979.60	5831039.26	120	13	2008
2014.00	6835150	6975700	527987.10	603255.08	5832984.49	5833009.11	120	13	2008
3001.00	7597950	7661650	423906.28	456170.51	6098993.60	6099010.38	133	34	2008
3002.00	7706850	7767300	422787.73	455031.51	6100995.28	6101007.47	133	34	2008
3003.00	7808550	7872850	421664.06	453900.77	6102984.63	6103007.02	133	34	2008
3004.00	7918200	7976800	420514.01	452774.23	6104990.58	6105005.30	133	34	2008
3005.00	8023900	8085750	419376.25	451653.24	6106992.50	6107013.61	133	34	2008
3006.00	8123650	8184600	418253.93	450502.90	6108995.85	6109011.70	133	34	2008
3007.00	8228300	8288800	417122.67	449370.83	6110993.64	6111030.77	133	34	2008
3008.00	8334150	8391450	415989.79	448261.65	6112990.57	6113011.37	133	34	2008
3009.00	8434900	8494000	414872.84	447105.46	6114984.60	6115008.90	133	34	2008
3010.00	8538250	8597250	413737.88	445990.02	6116994.99	6117006.35	133	34	2008
3011.00	8639550	8703250	412614.55	444868.24	6118987.44	6119006.09	133	34	2008

Appendix IV

Equipment List
Geoscience – 2007
Quesnellia, BC

Item Name	Description	Manufacturer	Serial Number
MPEG-4 Encoder	CTR-1472, PC104+ MPEG-4 encoder, 4 inputs, -40/+85C	Parvus Corporation	170400250
AIRGrav Voltage Converter	Middle & Outer Gimbal Booster	SGL	24-48VDC-002
Sat Phone (6253) 8816-4147-6253	Motorola MS1-20, Satellite Series 9505	Motorola	300003000324200
Mini-terminal	model ST/2000	Warner Power	420066
Video Camera	Model TNC4604X, Colour CCD TV Camera, 12VDC	Elmo	619429
DGPS Antenna	P/N AT1665-OW-TNCF-000-RG-38-NM	Aero Antenna Technology Inc.	7025
Digital camera	Canon, Power Shot SD110, Digital Elph	Canon	8353202728
AIRGrav Data Acquisition Computer		SGL	G-DAC-04
AIRGrav Control Computer		SGL	GEER-08
Gravimeter System	Airborne Gravimeter Platform	SGL	GRV G2-7
Monitor LCD 6.4"	model LS64PA30A	Stealth Computers	MON-01
Monitor LCD 6.4"	model LS64PA30A		S025966340013
Monitor LCD 6.4"	model SV-640-OEM	Stealth Computers	STL0507SV10376
Camera lens	Auto iris camera lens	Pentax	1928G
Frequency Standard	(RB12) Rubidium Vapor Frequency Standard, model 5065A	HP	2644A01514
Sat Phone (8365) 8816-2143-8365	Motorola MS1-20, Satellite Series 9505	Motorola	300001001511430
Mini-terminal	model ST/2000	Warner Power	424171
GPS Antenna	model 512C, rev. 1, L1/L2	AeroAntenna Technology Inc.	512C-7484
Monitor LCD 5" cockpit monitor	Model FD270AID 'The Flipper' 5" cockpit LCD monitor	Flight data Systems	7217003
Laser Profilometer	LD90-31K-HiP, 11-28VDC laser rangefinder. Serial output/serial input 1-1500m capability	Riegl	9995928
Data acquisition computer		SGL	CDAC-03
GPS Receiver	Wi-Sys CDGPS Real time DGPS Unit	NovAtel	CDGPS-01
INMARSAT Transceiver	Transceiver D+, P/N SM200217-BHG, Model DMR200L	Skywave Mobile Communications Inc.	DCC00783BFCF
Magnetometer Sensor Coupler - Dual	Dual input, rack mounted	SGL	DMC-02
AIRGrav Data Acquisition Computer		SGL	G-DAC-05
AIRGrav Control Computer		SGL	GEER-06
Gravimeter System	Airborne Gravimeter Platform	SGL	GRV G2-4
Power Distribution Box	Aircraft -28/12V distribution box	SGL	PODB15
Monitor LCD 6.4"	model SV-640-OEM	Stealth Computers	STL0507SV10376
Cell phone 613-762-6551	Nokia model 2610	Nokia	
Cell phone 613-852-8842	Nokia model 6061	Nokia	
Cell phone 613-762-6512	Nokia model 6061	Nokia	
Splitter	LDCBS1X4 4 channel GPS splitter, network hi-isolation amplified antenna	040/00/417965/4	11452

Equipment List
Geoscience – 2007
Quesnellia, BC

Item Name	Description	Manufacturer	Serial Number
Sat Phone (2226) 8816-2145-2226	Motorola MS1-20, Satellite Series 9505	Motorola	300001001706820
Aircraft C-GSGH	Eurocopter AS350 B3, Engine Turbomeca, mod. Arriel 2B, S/N 22419,	Eurocopter	3748
Aircraft C-GSGX	model: Islander BN2B-21	Britten Norman	596
GPS Receiver	Millennium Standard OEMV-3, 72-ch, L1/L2	NovAtel	DAB06340140
Power inverter 110V - 60Hz	Outback sealed 2024 with Turbo inverter, Modular series/parallel 55A charger	Outback	FX02680
Power inverter 110V - 60Hz	Outback FX2524T power inverter	Outback	FX029687
Ground station computer	input 12 VDC	SGL	GND-38
Ground station computer	input 12VDC	SGL	GND-48
GPS Antenna	Model 702, L1/L2 Kinematic GPS Antenna	Novatel	NVH04490021
GPS Antenna	Model 702, L1/L2 Kinematic GPS Antenna	Novatel	NVH05410055
Power Distribution Box	110/220 AC to 24DC	DUNN Systems	PODB24-09
GPS Receiver	OEM4 24-channel dual frequency receiver	Novatel	SVA05280062
Monitor LCD 8"	Model 800YV TFT LCD Monitor	Xenarc Technologies	XE8YV-A00648
Monitor LCD 8"	Model 800YV TFT LCD Monitor	Xenarc Technologies	XE8YV-A00685

Appendix V

GEOPHYSICAL SURVEY AIRCRAFT

Britten-Norman Islander BN2B-21

Registration: C-GSGX	Registration: C-GSGR
Serial #: 596	Serial #: 2107

The BN2B Islander is an all metal, high wing, twin-engine, short take-off and landing aircraft powered by two fuel injected engines which drive constant speed, fully feathering propellers. The aircraft has fixed tricycle landing gear, extendable flaps and manually adjustable trim tabs on the rudder and elevator. The aircraft is equipped with de-icing equipment and sufficient avionics for instrument flying. Because of its low take-off speed, high wing, ample propeller clearance, and sturdy fixed landing gear, the Islander is capable of operating from relatively short and rough airstrips. Its excellent low speed capabilities enable it to safely contour much steeper terrain than most other fixed-wing aircraft. Supplementary fuel can be added for transoceanic flight.

The aircraft has an aluminum and composite 2.5 m tail stinger designed to accommodate the magnetometer sensor and wiring. The stinger can be easily removed and the aircraft returned to its original configuration. There is a camera hole in the belly and provisions for numerous other survey and navigation systems.

The electrical system has been modified to reduce the magnetic field variations around the aircraft.

SANDER GEOPHYSICS
260 Hunt Club Road, Ottawa, Ontario K1V 1C1 Canada
Phone: 613-521-9626 Fax: 613-521-0215 Email: info@sgl.com Website: www.sgl.com

BRITTEN-NORMAN ISLANDER BN2B-21 SPECIFICATIONS

Crew Capacity: • 2 pilots, 1 operator (optional)
Fuselage: • semi-monocoque
Wings: • cantilever, high wing
• outboard ailerons
• single-slotted inboard flaps
Tail: • conventional stabilizers
• elevator and rudder with trim tabs

Power Plant:
Engines: • 2 Lycoming IO-540, 300 hp, six cylinder, horizontally-opposed air-cooled, fuel-injected, reciprocating engines, overhaul 2,000 hours
Propellers: • Hartzell two-blade, fully-feathering, constant-speed propellers, overhaul 2,000 hours or 5 years

Systems: • dual flight controls, IFR instruments and avionics
• full airframe and propeller de-icing
• 2-axis autopilot

Dimensions:

Wing span	53 ft	16.15 m
Exterior length (plus stinger)	35 ft 8 in	10.9 m
Exterior height	13 ft 9 in	4.18 m
Interior usable length	15 ft 2 in	4.62 m
Interior usable width	3 ft 7 in	1.09 m
Interior height	4 ft 2 in	1.26 m

Weights:

Empty	4,190 lb	1,905 kg
Maximum take-off	6,600 lb	3,000 kg

Performance (sea level, standard day, maximum take-off weight)**:**

Range at 60% power (plus reserve)	760 nm	1,400 km
Cruise airspeed at 60% power	121 kt	224 km/h
Fuel flow at 60% power	25.5 US gal/h	97 l/h
Stall airspeed, landing configuration	40 kt	74 km/h
Service ceiling	17,200 ft	5,242 m
Minimum required runway length	2,000 ft.	610 m
Two engine rate of climb	1,130 ft/min	345 m/min
Maximum sustained climb gradient	700 ft/nm	115 m/km
Single engine rate of climb	223 ft/min	69 m/min
Usable fuel capacity	189 US gal	700 l

Type of Aviation Fuel: • 100LL Avgas
Maximum Endurance: • 6 hours, 40 minutes plus 45 minutes reserve at 60% power

PROVISIONS FOR GEOPHYSICAL SURVEYING

- **Tail stinger,** 2.5 m long, 21 cm in diameter, capable of housing a 5.5 kg sensor
- **HF radio**
- **Video camera mount** with glass covered opening in aircraft belly
- **Two instrument racks,** standard 48 cm (19 in) width
- **Radar altimeter,** 0-3,000 m
- **Electrical power capacity** 28 VDC at 140 amp
- **Provisions to mount a GPS receiver and antenna plus data link for real-time corrections**
- **Provisions to mount gamma-ray spectrometer** with up to 42 litres (2560 in^3) of detector crystals

GEOPHYSICAL SURVEY AIRCRAFT

Eurocopter AS 350 B3

Registration: C-GSGH
Serial #: 3748

The AS 350 B3 is a modern high performance light helicopter powered by a turbomeca Arriel 2B turbine engine. It has been outfitted for low level airborne geophysical surveys. Sensors are carried either internally or externally in towed "birds" on a cable. Its endurance is between two and four hours depending on the survey configuration. Its performance and effectiveness has been proven on numerous projects in Canada, Central America, and Africa.

SANDER GEOPHYSICS
260 Hunt Club Road, Ottawa, Ontario K1V 1C1 Canada
Phone: 613-521-9626 Fax: 613-521-0215 E-mail: info@sgl.com Website: www.sgl.com

EUROCOPTER AS 350 B3 SPECIFICATIONS

Crew Capacity:
- pilot and 1 operator

General:
- Fuselage comprising of the cabin and 3 luggage holds, cargo tie-down net and access doors. Tail boom with stabilizer, extended anti-torque rotor and fin. High skid landing gear capable of taking handling wheels.

Systems:
- dual flight controls, 3 main rotor and 1 tail rotor hydraulic servo units
- 1 rotor with 3 composite-material blades around a Starflex head
- 1 anti-torque rotor with 2 composite-material blades
- cargo hook with electric and manual releases

Power Plant:
- 1 turbomeca Arriel 2B turbine engine rated at 847 shp for take-off and 790 shp for maximum continuous use

Dimensions:

Length (including rotor)	42 ft 5 in	12.94 m
Width	8 ft 4 in	2.53 m
Height	10 ft 11 in	3.33 m

Weights:

Empty	3,022 lb	1,371 kg
Maximum gross weight	4,961 lb	2,250 kg
Useful load	1,939 lb	879 kg
External load gross weight	6,173 lb	2,800 kg
Maximum external load	3,086 lb	1,400 kg

Performance (sea level, standard day, maximum take-off weight)**:**

Maximum speed	155 kt	287 km/h
Fast cruise speed	142 kt	262 km/h
Recommended (economical) cruise speed	124 kt	230 km/h
Maximum 'bird' towing speed	80 kt	148 km/h
Hover-out-of-ground-effect (HOGE) at 2,250 kg (ISA)	11,500 ft	3,505 m
Range at recommended cruise speed (plus 20 min reserve)	314 nm	582 km
Maximum rate of climb at 65 kt	2,100 ft/min	10.7 m/s
Maximum sustained climb gradient	2,275 ft/nm	374 m/km
Service ceiling	23,000 ft	7,010 m
Fuel capacity	143 US gal	540 l
Fuel flow	50 US gal/h	189 l/h

Maximum Endurance:
- 2 hours and 32 minutes plus 20 minutes reserve at recommended cruise speed
- 4 hours plus 20 minutes reserve at maximum endurance speed (55 kt)

PROVISIONS FOR GEOPHYSICAL SURVEYING

- **VHF communication radios**
- **Iridium satellite telephone**
- **GPS/VOR/ILS navigation equipment**
- **Video camera mount** with downward looking opening
- **Radar altimeter,** 0-750 m
- **Electrical power capacity,** 5.6 kW at 28 VDC; up to 2.8 kW available for equipment
- **Two instrument racks,** standard 48 cm (19 inch) width
- **Provision to mount Inertial Navigation System**
- **Survey GPS antenna mounted on tail fin (clear of rotor) plus data link for real-time corrections**
- **Provision to mount gamma-ray spectrometer** with up to 42 litres (2,560 in^3) of detector crystals
- **Towed "birds" available:** single magnetometer; dual magnetometer vertical gradient with 1.85 m separation; VLF coils

Appendix VI

SANDER GEOPHYSICS AIRBORNE GEOPHYSICAL SURVEY

260 Hunt Club Road, Ottawa, ON K1V 1C1 Canada Tel: +1 (613) 521-9626 Fax: +1 (613) 521-0215 Web Page: www.sgl.com

Week 1

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	0.0	km	**Total km Flown to Date**	0.0	km
Total Remaining	27480.0	km	**Total km Reflown this Week**	0.0	km
% Complete	0.0	%	**Total Flight Time this Week**	0.0	hrs
Average km/Day this Week	0.0	km/day	**Average km/Flt. Time this Week**	0.0	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
26-Nov	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:							
27-Nov	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:							
28-Nov	**Wednesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:							
29-Nov	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:							
30-Nov	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	S. Meyer and A. Farr arrived.						
1-Dec	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Aircraft with C. Kiff and C. McBride arrived. Survey preparations.						
2-Dec	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Survey preparations continued. Altimeter test postoponed due to weather.						
Comments:	**Survey preparations underway.**						

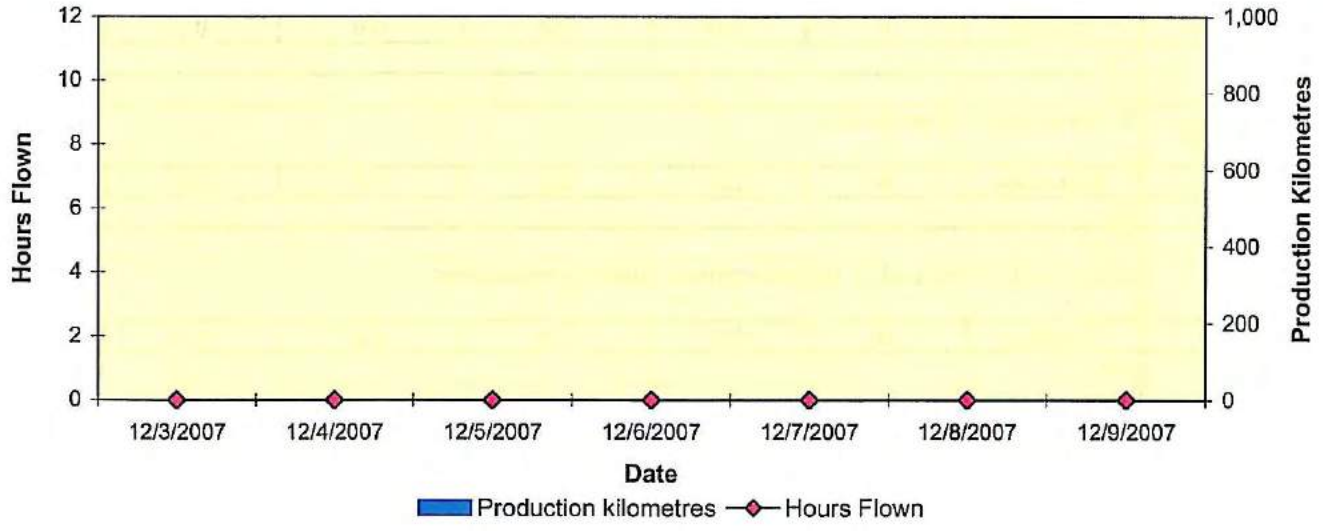
Signed: A.Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride	1-Dec		ON SITE	2	2
Sol Meyer	30-Nov		ON SITE	3	3
Angella Farr	30-Nov		ON SITE	3	3
John Sevenhuysen				0	0
Chris Kiff	1-Dec		ON SITE	2	2
Dave Vipond				0	0
Trevor Syrowy				0	0
Patrick Auclair				0	0
Sol Meyer				0	0
Angella Farr				0	0
Tim Anderson				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	75.0	75.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 2

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	1163.0	km	**Total km Flown to Date**	1163.0	km
Total Remaining	26317.0	km	**Total km Reflown this Week**	0.0	km
% Complete	4.2	%	**Total Flight Time this Week**	9.3	hrs
Average km/Day this Week	166.1	km/day	**Average km/Flt. Time this Week**	125.1	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**9.3**	**9.7**	**0.0**	**1,163.0**	**0.0**
3-Dec	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Survey preparations continued. Altimeter test postoponed due to weather.						
4-Dec	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Survey preparations continued. Altimeter test postoponed due to weather.						
5-Dec	**Wednesday**	**101, 102**	**1.4**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Test flights aborted prior to production. Technical issues encountered in the sorties. Issues are now believed to be resolved.						
6-Dec	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	Aircraft maintenance performed as weather poor.						
7-Dec	**Friday**	**103**	**0.9**	**0.6**	**0.0**	**72.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	Production.						
8-Dec	**Saturday**	**104**	**7.0**	**9.1**	**0.0**	**1,091.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production.						
9-Dec	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Aircraft maintenance performed as weather poor.						
Comments:	**Production is underway.**						

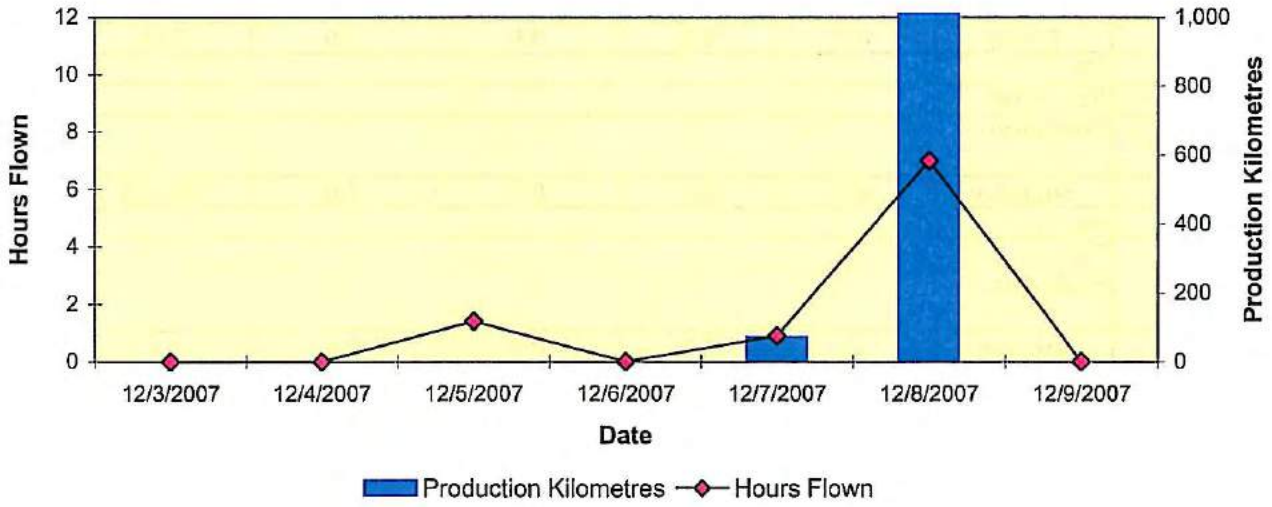
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	**Arrival this Week**	**Departure this Week**	**On Site?**	**# of Days on Site this Week**	**# of Days on Site to Date**
Cam McBride			ON SITE	7	9
Sol Meyer			ON SITE	7	10
Angella Farr			ON SITE	7	10
John Sevenhuysen	4-Dec		ON SITE	6	6
Chris Kiff			ON SITE	7	9
Dave Vipond				0	0
Trevor Syrowy				0	0
Patrick Auclair				0	0
Sol Meyer				0	0
Angella Farr				0	0
Tim Anderson				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	255.0	330.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 3

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	2916.7	km	**Total km Flown to Date**	4079.7	km
Total Remaining	23400.3	km	**Total km Reflown this Week**	0.0	km
% Complete	14.8	%	**Total Flight Time this Week**	21.8	hrs
Average km/Day this Week	416.7	km/day	**Average km/Flt. Time this Week**	133.8	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**21.8**	**17.9**	**0.0**	**2,916.7**	**0.0**
10-Dec	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight - weather.						
11-Dec	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	Flight aborted shortly after take-off - aircraft maintenance issue.						
12-Dec	**Wednesday**	**105**	**0.9**	**0.4**	**0.0**	**51.5**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Aircraft maintenance. Late afternoon production flight.						
13-Dec	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight - weather.						
14-Dec	**Friday**	**106**	**7.0**	**5.3**	**0.0**	**861.9**	**0.0**
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Production flight. Aircraft maintenance.						
15-Dec	**Saturday**	**107**	**6.9**	**4.2**	**0.0**	**1,037.3**	**0.0**
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Production flight. Aircraft maintenance.						
16-Dec	**Sunday**	**108**	**7.0**	**8.0**	**0.0**	**966.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight. Altimeter test completed. Aircraft maintenance.						
Comments:	**Production continued.**						

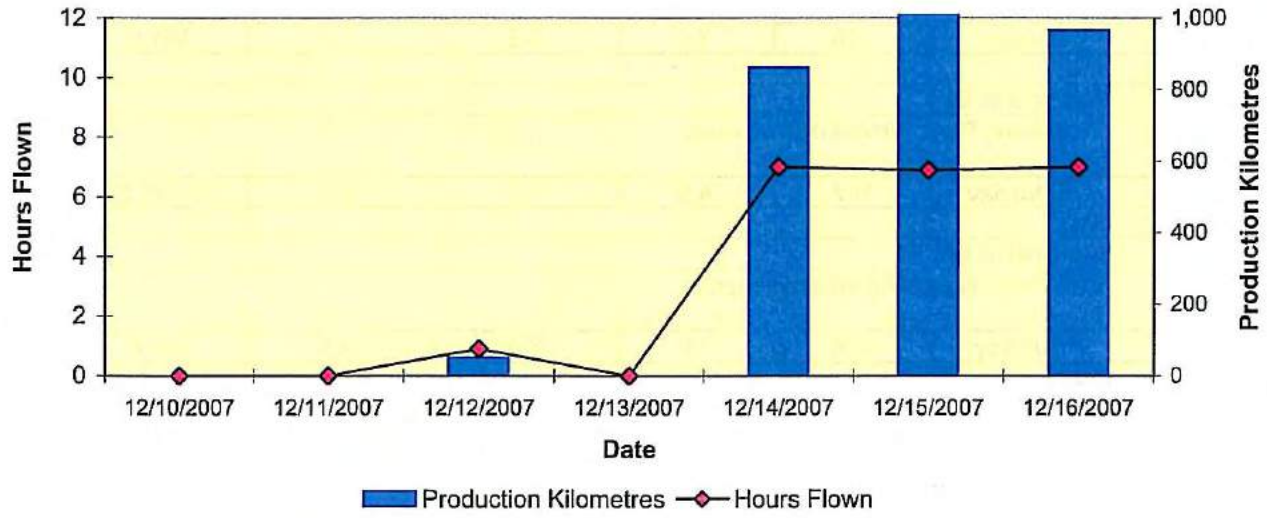
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	**Arrival this Week**	**Departure this Week**	**On Site?**	**# of Days on Site this Week**	**# of Days on Site to Date**
Cam McBride			ON SITE	7	16
Sol Meyer			ON SITE	7	17
Angella Farr			ON SITE	7	17
John Sevenhuysen			ON SITE	7	13
Chris Kiff			ON SITE	7	16
Dave Vipond				0	0
Trevor Syrowy				0	0
Patrick Auclair				0	0
Sol Meyer				0	0
Angella Farr				0	0
Tim Anderson				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	592.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 4

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	3382.0	km	**Total km Flown to Date**	7461.7	km
Total Remaining	20018.3	km	**Total km Reflown this Week**	0.0	km
% Complete	27.2	%	**Total Flight Time this Week**	24.4	hrs
Average km/Day this Week	483.1	km/day	**Average km/Flt. Time this Week**	138.6	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production (km)	Reflown (km)
TOTALS			**24.4**	**29.1**	**0.0**	**3,382.0**	**0.0**
17-Dec	**Monday**	**109**	**5.3**	**6.5**	**0.0**	**781.2**	**0.0**
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Production flight. Aircraft maintenance.						
18-Dec	**Tuesday**	**110**	**5.5**	**6.0**	**0.0**	**720.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Production flight.						
19-Dec	**Wednesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Pilot rest day. Aircraft maintenance. System tests.						
20-Dec	**Thursday**	**111**	**6.9**	**8.4**	**0.0**	**890.8**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight.						
21-Dec	**Friday**	**112**	**6.7**	**8.2**	**0.0**	**990.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight. Preliminary grids uploaded into GBC folder on SGL's sftp site.						
22-Dec	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Crew departed PG. Field office closed, and equipment put into secure storage.						
23-Dec	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
Comments:	**Survey operations will recommence next year. Survey preparations to begin on 01-01-2008, and the pilots are to arrive on 02-01-2008.**						

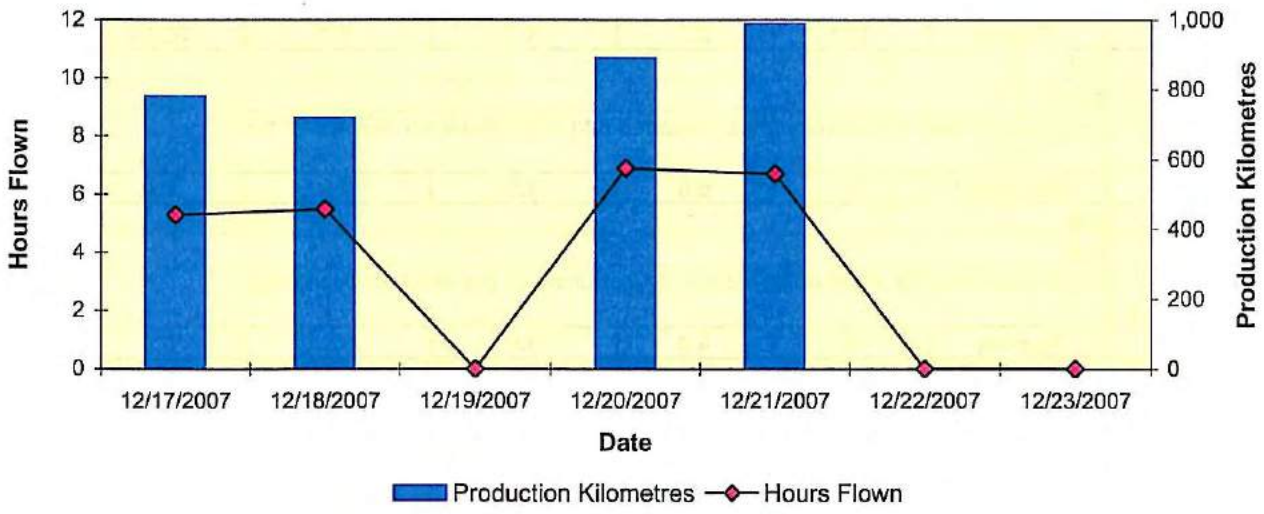
Signed: Crew Chief

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride		22-Dec	ON SITE	6	22
Sol Meyer		22-Dec	ON SITE	6	23
Angella Farr		22-Dec	ON SITE	6	23
John Sevenhuysen		22-Dec	ON SITE	6	19
Chris Kiff		22-Dec	ON SITE	6	22
Dave Vipond				0	0
Trevor Syrowy				0	0
Patrick Auclair				0	0
Sol Meyer				0	0
Angella Farr				0	0
Tim Anderson				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	225.0	817.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 5

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**	sglbc@sgl.cm		

SURVEY PRODUCTION SUMMARY					
Production km this Week	0.0	km	**Total km Flown to Date**	7461.7	km
Total Remaining	20018.3	km	**Total km Reflown this Week**	0.0	km
% Complete	27.2	%	**Total Flight Time this Week**	0.0	hrs
Average km/Day this Week	0.0	km/day	**Average km/Flt. Time this Week**	0.0	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
24-Dec	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
25-Dec	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
26-Dec	**Wednesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
27-Dec	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
28-Dec	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
29-Dec	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
30-Dec	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	n\a						
Comments:	**n\a**						

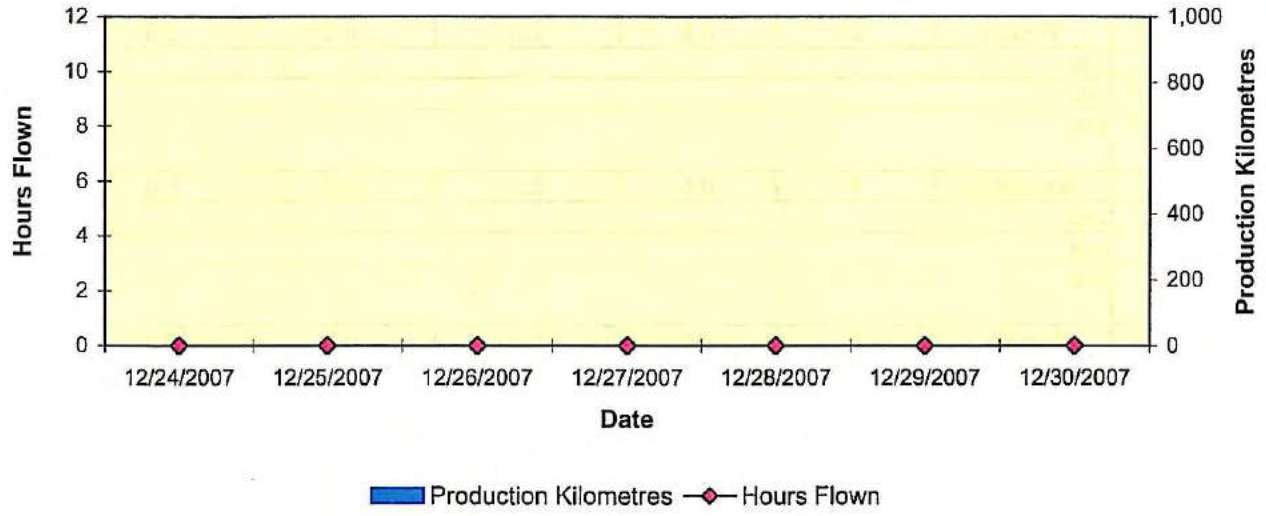
Signed: n\a

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	0
Trevor Syrowy				0	0
Patrick Auclair				0	0
Sol Meyer				0	0
Angella Farr				0	0
Tim Anderson				0	0

HSE Statistics	This Week	Project Totals
SGL Person Hours	0.0	817.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 6

SURVEY DETAILS

Survey Name	Quesnellia		**Client Name**	Geoscience BC	
Survey Location	British Columbia, CAN		**Contact Name**	'Lyn Anglin	
Project Code	Geosci07.BC		**Contact Phone**	+1 (604) 662-4147 ext 23	
Total Size	27,480.0 km		**Client Address**	410 - 890 W. Pender St.	
Line Spacing	2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada		
Aircraft C-GSGX	**Type**	GRAV	**Email**	sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY

Production km this Week	1657.6	km	**Total km Flown to Date**	9119.3	km
Total Remaining	18360.7	km	**Total km Reflown this Week**	0.0	km
% Complete	33.2	%	**Total Flight Time this Week**	15.2	hrs
Average km/Day this Week	236.8	km/day	**Average km/Flt. Time this Week**	109.1	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**15.2**	**13.8**	**0.0**	**1,657.6**	**0.0**
31-Dec	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	-						
1-Jan	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	System tests.						
2-Jan	**Wednesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	D. Vipond, T. Syrowy, P. Auclair and S. Meyer arrived. System tests.						
3-Jan	**Thursday**	**113**	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	Training flight aborted prior to production - weather. T. Anderson arrived.						
4-Jan	**Friday**	**114**	**4.2**	**4.0**	**0.0**	**480.0**	**0.0**
Geomag:	n\a						
Weather:	Fair to poor.						
Remarks:	Training/production flight aborted due to weather. Safety meeting.						
5-Jan	**Saturday**	**115**	**4.2**	**3.8**	**0.0**	**457.6**	**0.0**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Training/production flight aborted due to aircraft issue. Aircraft maintenance.						
6-Jan	**Sunday**	**116**	**5.3**	**6.0**	**0.0**	**720.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Training/production flight. Aircraft maintenance.						
Comments:	**Survey recommenced after holiday break, i.e. week 5.**						

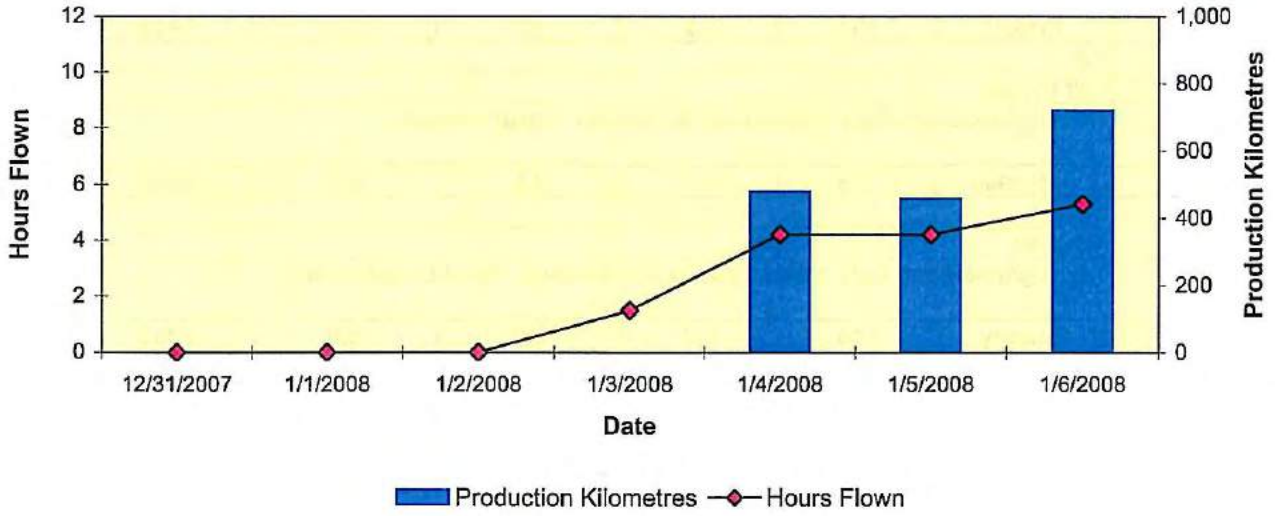
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond	2-Jan		ON SITE	5	5
Trevor Syrowy	2-Jan		ON SITE	5	5
Patrick Auclair	2-Jan		ON SITE	5	5
Sol Meyer	2-Jan		ON SITE	5	5
Angella Farr	1-Jan		ON SITE	6	6
Tim Anderson	3-Jan		ON SITE	4	4

HSE Statistics	This Week	Project Totals
SGL Person Hours	225.0	1042.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 7

SURVEY DETAILS							
Survey Name		Quesnellia		Client Name		Geoscience BC	
Survey Location		British Columbia, CAN		Contact Name		'Lyn Anglin	
Project Code		Geosci07.BC		Contact Phone		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		Client Address		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	Type	GRAV	Email		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	1225.2	km	Total km Flown to Date	10344.5	km
Total Remaining	17135.5	km	Total km Reflown this Week	0.0	km
% Complete	37.6	%	Total Flight Time this Week	13.7	hrs
Average km/Day this Week	175.0	km/day	Average km/Flt. Time this Week	89.4	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			13.7	10.9	0.0	1,225.2	0.0
7-Jan	Monday	117	4.0	4.7	0.0	569.8	0.0
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Production flight.						
8-Jan	Tuesday	0	0.0	0.0	0.0	0.0	0.0
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Training circuits as weather not suitable for survey operations. Chief Pilot Vipond departed.						
9-Jan	Wednesday	118	2.0	0.3	0.0	45.0	0.0
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	Production attempt - poor weather.						
10-Jan	Thursday	0	0.0	0.0	0.0	0.0	0.0
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight - weather.						
11-Jan	Friday	119	2.5	1.3	0.0	233.4	0.0
Geomag:	n\a						
Weather:	Marginal to fair.						
Remarks:	Production flight aborted to technical issue. Adjustments made to survey guidance system.						
12-Jan	Saturday	0	1.0	0.0	0.0	0.0	0.0
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	Production attempt aborted - poor weather.						
13-Jan	Sunday	120	4.2	4.6	0.0	377.0	0.0
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Production flight.						
Comments:	**Production continued.**						

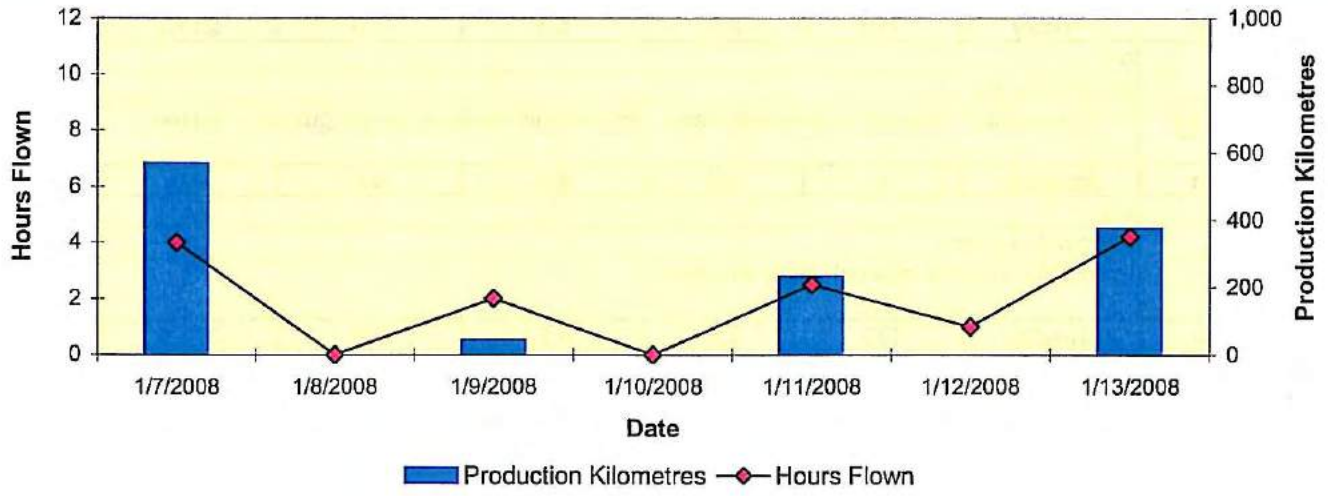
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond		8-Jan	ON SITE	2	7
Trevor Syrowy			ON SITE	7	12
Patrick Auclair			ON SITE	7	12
Sol Meyer			ON SITE	7	12
Angella Farr			ON SITE	7	13
Tim Anderson			ON SITE	7	11

HSE Statistics	This Week	Project Totals
SGL Person Hours	277.5	1320.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)		0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 8

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	2226.3	km	**Total km Flown to Date**	12570.8	km
Total Remaining	14909.2	km	**Total km Reflown this Week**	0.0	km
% Complete	45.7	%	**Total Flight Time this Week**	18.9	hrs
Average km/Day this Week	318.0	km/day	**Average km/Flt. Time this Week**	117.8	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**18.9**	**16.3**	**0.0**	**2,226.3**	**0.0**
14-Jan	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight.						
15-Jan	**Tuesday**	**121**	**5.3**	**2.8**	**0.0**	**723.2**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight.						
16-Jan	**Wednesday**	**122**	**3.8**	**3.9**	**0.0**	**471.1**	**0.0**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Production flight. AME Anderson inspected hangar and airport facilities in Mackenzie.						
17-Jan	**Thursday**	**123**	**5.2**	**4.6**	**0.0**	**732.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight. Scheduled aircraft inspection.						
18-Jan	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Aircraft maintenance.						
19-Jan	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Aircraft maintenance.						
20-Jan	**Sunday**	**124**	**4.6**	**5.0**	**0.0**	**300.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight in NW extension.						
Comments:	**Production continued.**						

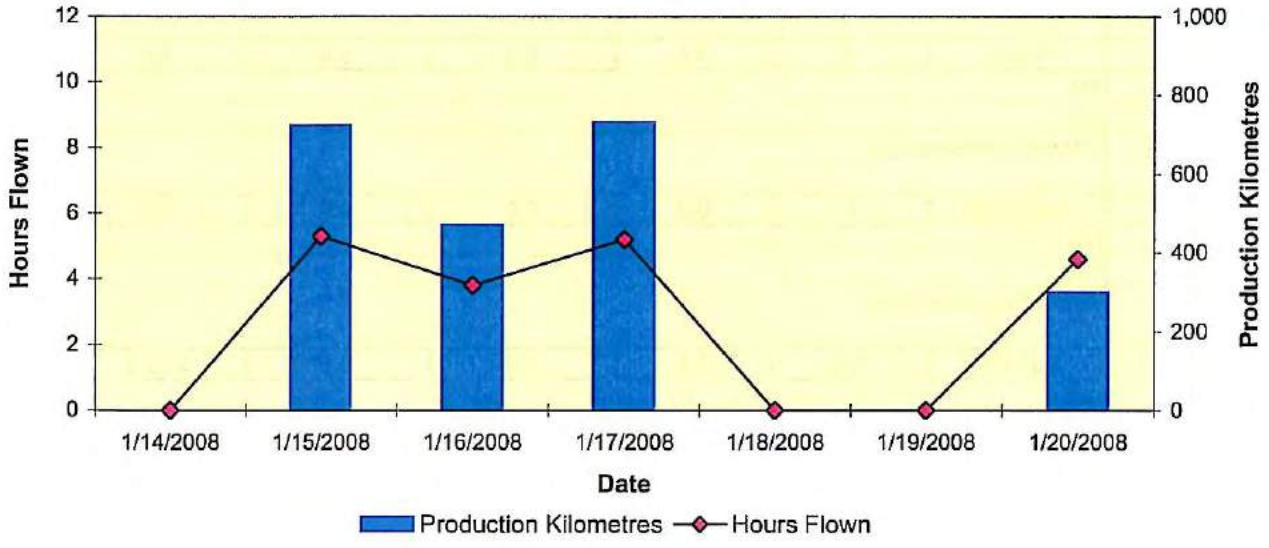
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	19
Patrick Auclair			ON SITE	7	19
Sol Meyer			ON SITE	7	19
Angella Farr			ON SITE	7	20
Tim Anderson			ON SITE	7	18

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	1582.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 9

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	3321.0	km	**Total km Flown to Date**	15891.8	km
Total Remaining	11588.2	km	**Total km Reflown this Week**	61.6	km
% Complete	57.8	%	**Total Flight Time this Week**	30.0	hrs
Average km/Day this Week	474.4	km/day	**Average km/Flt. Time this Week**	110.7	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**30.0**	**28.5**	**0.1**	**3,321.0**	**61.6**
21-Jan	**Monday**	**125**	**7.1**	**8.0**	**0.0**	**600.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight - 2 sorties (4.9hr + 2.2hr)						
22-Jan	**Tuesday**	**126**	**1.1**	**0.1**	**0.0**	**61.6**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight aborted due to adverse VFR conditions at base airport.						
23-Jan	**Wednesday**	**127**	**5.4**	**4.8**	**0.1**	**665.6**	**61.6**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight.						
24-Jan	**Thursday**	**128**	**7.7**	**7.5**	**0.0**	**1,014.5**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight with refuel in Williams Lake (3.5hr + 4.2hr).						
25-Jan	**Friday**	**129**	**5.0**	**4.8**	**0.0**	**578.1**	**0.0**
Geomag:	n\a						
Weather:	Fair to marginal.						
Remarks:	Production flight.						
26-Jan	**Saturday**	**130**	**3.7**	**3.3**	**0.0**	**401.2**	**0.0**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Production flight.						
27-Jan	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight.						
Comments:	**Production continued.**						

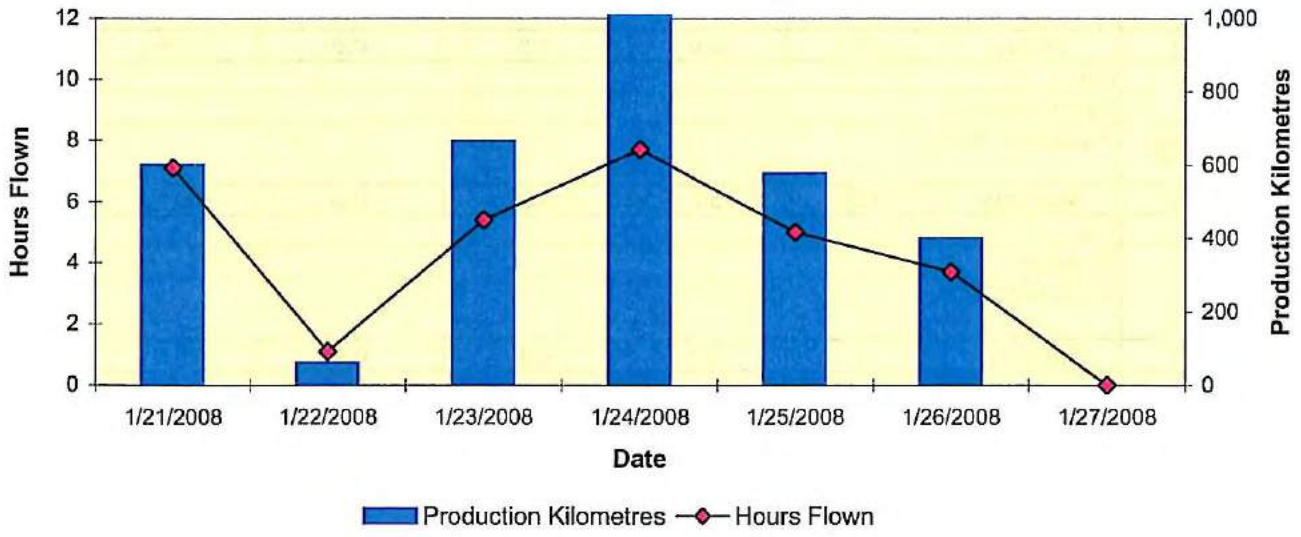
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	26
Patrick Auclair			ON SITE	7	26
Sol Meyer			ON SITE	7	26
Angella Farr			ON SITE	7	27
Tim Anderson			ON SITE	7	25

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	1845.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 10

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	1008.2	km	**Total km Flown to Date**	16900.0	km
Total Remaining	10580.0	km	**Total km Reflown this Week**	0.0	km
% Complete	61.5	%	**Total Flight Time this Week**	11.0	hrs
Average km/Day this Week	144.0	km/day	**Average km/Flt. Time this Week**	91.7	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**11.0**	**16.5**	**0.0**	**1,008.2**	**0.0**
28-Jan	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Temperature below operational range of survey aircraft.						
Remarks:	No flight.						
29-Jan	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Temperature below operational range of survey aircraft.						
Remarks:	No flight.						
30-Jan	**Wednesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight.						
31-Jan	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight.						
1-Feb	**Friday**	**131**	**2.5**	**2.1**	**0.0**	**245.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to marginal.						
Remarks:	Afternoon production flight.						
2-Feb	**Saturday**	**132**	**3.7**	**3.4**	**0.0**	**411.2**	**0.0**
Geomag:	n\a						
Weather:	Poor to marginal.						
Remarks:	Afternoon production flight.						
3-Feb	**Sunday**	**133**	**4.8**	**11.0**	**0.0**	**352.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	Afternoon production flight. All of the northern in-fill lines were flown. 50hr aircraft inspection.						
Comments:	**Production continued.**						

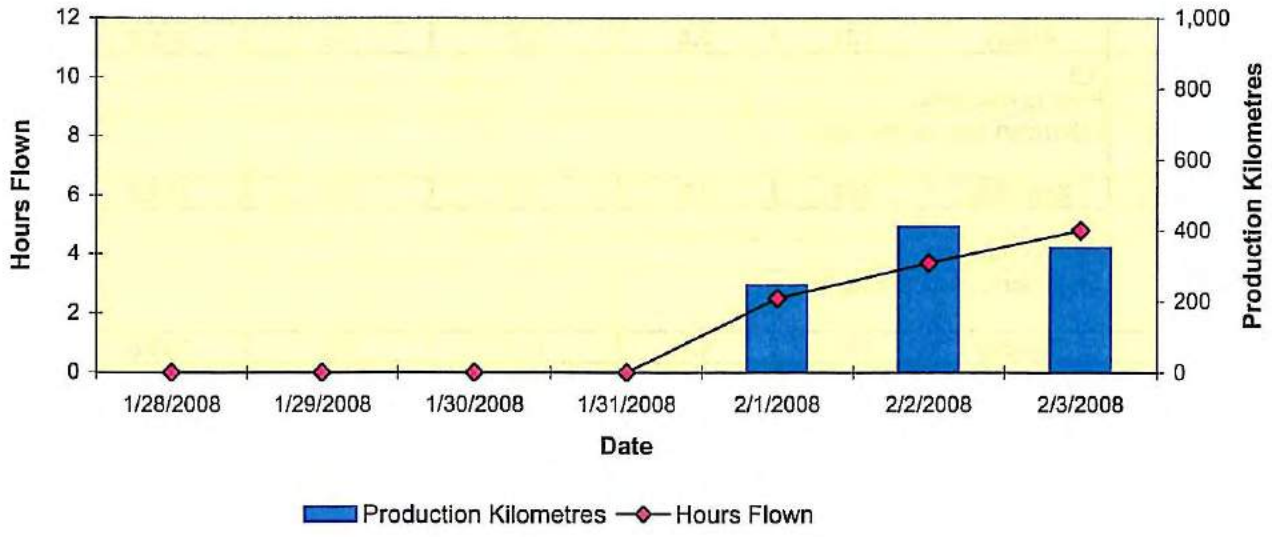
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	33
Patrick Auclair			ON SITE	7	33
Sol Meyer			ON SITE	7	33
Angella Farr			ON SITE	7	34
Tim Anderson			ON SITE	7	32

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	2107.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 11

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	1037.3	km	**Total km Flown to Date**	17937.3	km
Total Remaining	9542.7	km	**Total km Reflown this Week**	0.0	km
% Complete	65.3	%	**Total Flight Time this Week**	10.0	hrs
Average km/Day this Week	148.2	km/day	**Average km/Flt. Time this Week**	103.7	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**10.0**	**10.1**	**0.0**	**1,037.3**	**0.0**
4-Feb	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Aircraft maintenance.						
5-Feb	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Aircraft maintenance.						
6-Feb	**Wednesday**	**134**	**6.1**	**6.5**	**0.0**	**603.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Production flight with refuel in Quesnel (4.1hr + 2.0hr). Aircraft maintenance.						
7-Feb	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Aircraft maintenance.						
8-Feb	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	Aircraft maintenance.						
9-Feb	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	Aircraft maintenance in AM. Poor weather in PM.						
10-Feb	**Sunday**	**135**	**3.9**	**3.6**	**0.0**	**434.3**	**0.0**
Geomag:	n\a						
Weather:	Poor to marginal.						
Remarks:	Production flight in PM.						
Comments:	**Aircraft maintenance with some production**						

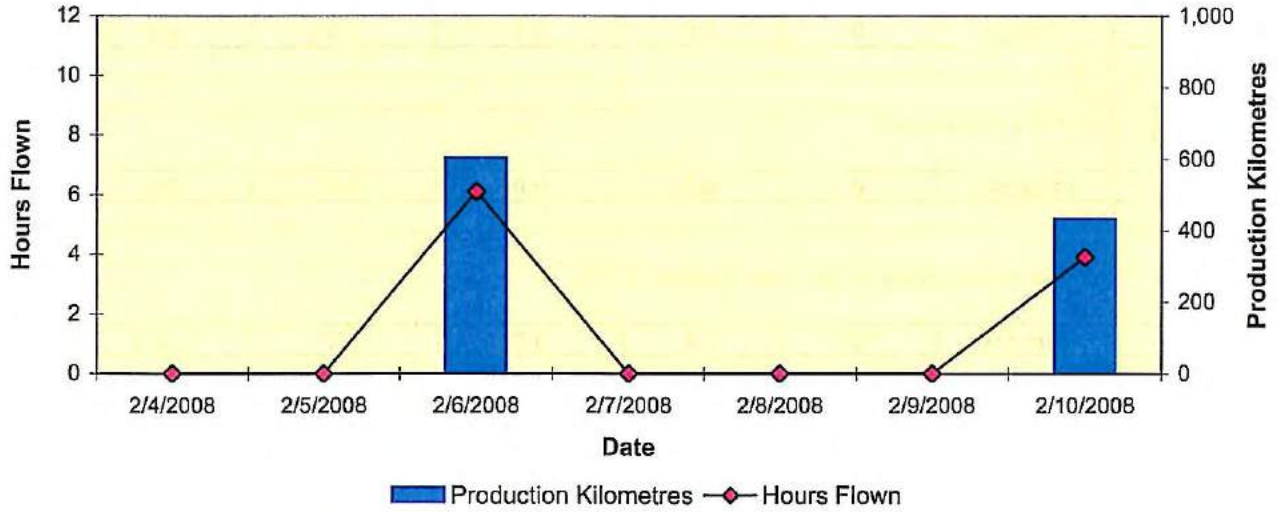
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	40
Patrick Auclair			ON SITE	7	40
Sol Meyer			ON SITE	7	40
Angella Farr			ON SITE	7	41
Tim Anderson			ON SITE	7	39

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	2370.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 12

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	2545.5	km	**Total km Flown to Date**	20482.8	km
Total Remaining	6997.2	km	**Total km Reflown this Week**	195.7	km
% Complete	74.5	%	**Total Flight Time this Week**	29.6	hrs
Average km/Day this Week	363.6	km/day	**Average km/Flt. Time this Week**	86.0	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**29.6**	**28.1**	**0.8**	**2,545.5**	**195.7**
11-Feb	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight.						
12-Feb	**Tuesday**	**136**	**2.3**	**1.0**	**0.0**	**75.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to marginal.						
Remarks:	Production flight aborted due to weather.						
13-Feb	**Wednesday**	**137**	**7.9**	**5.5**	**0.3**	**658.5**	**135.7**
Geomag:	n\a						
Weather:	Fair to marginal.						
Remarks:	Production flight with refueling stop in Mackenzie (3.6hr + 4.3hr).						
14-Feb	**Thursday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Poor.						
Remarks:	No flight.						
15-Feb	**Friday**	**138**	**3.9**	**4.0**	**0.5**	**300.0**	**60.0**
Geomag:	n\a						
Weather:	Poor to marginal.						
Remarks:	Afternoon production flight.						
16-Feb	**Saturday**	**139**	**7.5**	**10.0**	**0.0**	**600.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight with refuelling stop in Mackenzie (3.5hr + 4.0hr).						
17-Feb	**Sunday**	**140**	**8.0**	**7.6**	**0.0**	**912.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight with refuelling in Quesnel (3.8hr +4.2hr)						
Comments:	**Production continued.**						

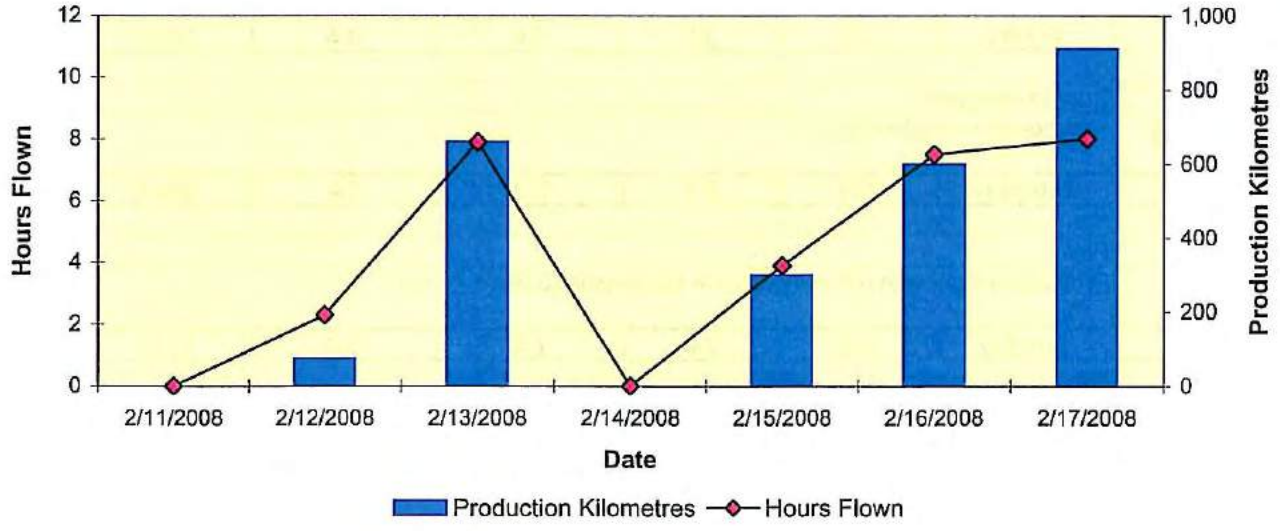
Signed: A. Farr

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	47
Patrick Auclair			ON SITE	7	47
Sol Meyer			ON SITE	7	47
Angella Farr			ON SITE	7	48
Tim Anderson			ON SITE	7	46

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	2632.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 13

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**		sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	3466.3	km	**Total km Flown to Date**	23949.1	km
Total Remaining	3530.9	km	**Total km Reflown this Week**	51.5	km
% Complete	87.2	%	**Total Flight Time this Week**	35.9	hrs
Average km/Day this Week	495.2	km/day	**Average km/Flt. Time this Week**	96.6	km/hr

WEEKLY PRODUCTION

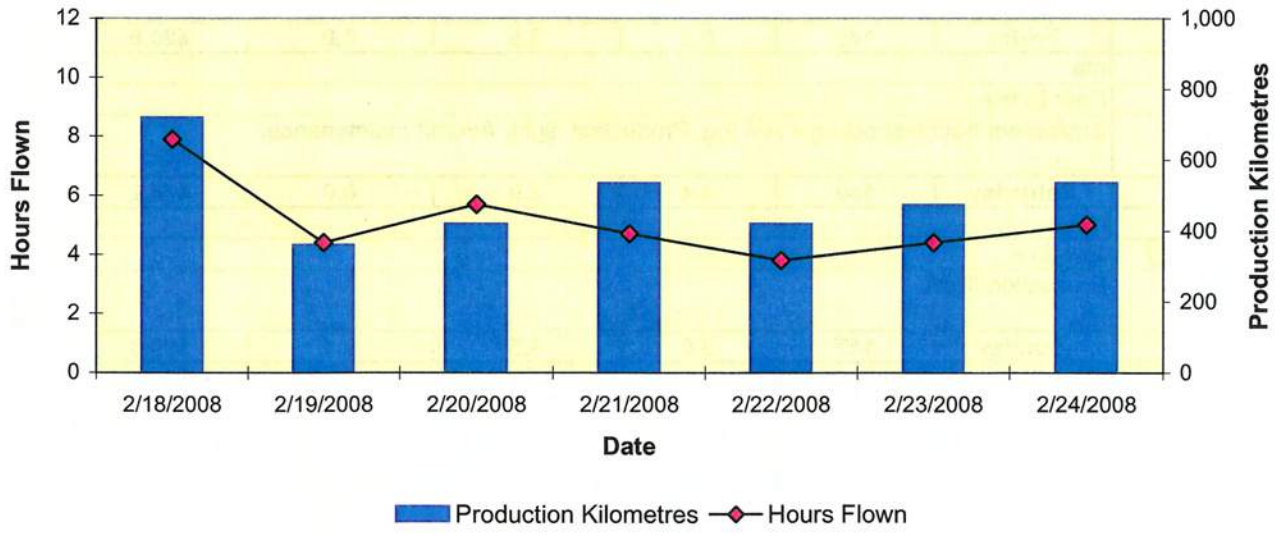
Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**35.9**	**41.3**	**0.1**	**3,466.3**	**51.5**
18-Feb	**Monday**	**141**	**7.9**	**12.0**	**0.0**	**720.0**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight with refueling in Mackenzie (4.0hr + 3.9hr).						
19-Feb	**Tuesday**	**142**	**4.4**	**6.0**	**0.0**	**360.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	Afternoon production flight. 50hr aircraft inspection.						
20-Feb	**Wednesday**	**143**	**5.7**	**7.0**	**0.0**	**420.0**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	AM fog. Production with refueling in Prince George (4.9hr + 0.8hr). Second sortie aborted due to aircraft issue. Aircraft maintenance.						
21-Feb	**Thursday**	**144**	**4.7**	**4.4**	**0.0**	**535.3**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	AM fog. Production flight. Aircraft maintenance.						
22-Feb	**Friday**	**145**	**3.8**	**3.5**	**0.0**	**420.8**	**0.0**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	Equipment troubleshooting + AM fog. Production flight. Aircraft maintenance.						
23-Feb	**Saturday**	**146**	**4.4**	**3.9**	**0.0**	**474.2**	**0.0**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Production flight.						
24-Feb	**Sunday**	**147**	**5.0**	**4.5**	**0.1**	**536.0**	**51.5**
Geomag:	n\a						
Weather:	Poor to fair.						
Remarks:	AM fog. Production flight.						
Comments:	**Production continued.**						

Signed: A. Farr Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	**Arrival this Week**	**Departure this Week**	**On Site?**	**# of Days on Site this Week**	**# of Days on Site to Date**
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	54
Patrick Auclair			ON SITE	7	54
Sol Meyer			ON SITE	7	54
Angella Farr			ON SITE	7	55
Tim Anderson			ON SITE	7	53

HSE Statistics	This Week	Project Totals
SGL Person Hours	262.5	2895.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 14

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**	sglbc@sgl.cm		

SURVEY PRODUCTION SUMMARY					
Production km this Week	1497.1	km	**Total km Flown to Date**	25446.2	km
Total Remaining	2033.8	km	**Total km Reflown this Week**	51.5	km
% Complete	92.6	%	**Total Flight Time this Week**	19.1	hrs
Average km/Day this Week	213.9	km/day	**Average km/Flt. Time this Week**	78.4	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**19.1**	**16.8**	**0.1**	**1,497.1**	**51.5**
25-Feb	**Monday**	**148**	**6.3**	**5.4**	**0.0**	**644.4**	**0.0**
Geomag:	n\a						
Weather:	Fair.						
Remarks:	Production flight with refueling in Quesnel (3.2hr + 3.1hr).						
26-Feb	**Tuesday**	**149**	**2.3**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	Production attempt aborted before significant production due to weather, and an altimeter test was tacked on instead. Crew Chief Lutz Wendorff arrived in PG.						
27-Feb	**Wednesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	n\a						
Remarks:	No flight - pilot rest day.						
28-Feb	**Thursday**	**150**	**5.0**	**3.4**	**0.1**	**411.5**	**51.5**
Geomag:	n\a						
Weather:	Marginal.						
Remarks:	Production flight with refueling in Prince George (2.8hr + 2.2hr).						
29-Feb	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	No flight - due to weather.						
1-Mar	**Saturday**	**151**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n\a						
Weather:	Marginal to poor.						
Remarks:	Production attempt aborted before significant production due to weather.						
2-Mar	**Sunday**	**152**	**4.8**	**8.0**	**0.0**	**441.2**	**0.0**
Geomag:	n\a						
Weather:	Poor, snow / freezing rain in afternoon.						
Remarks:	Production flight in morning.						
Comments:	**Lutz Wendorff took over crew chief position.** **Difficult weather conditions keep productivity limited.**						

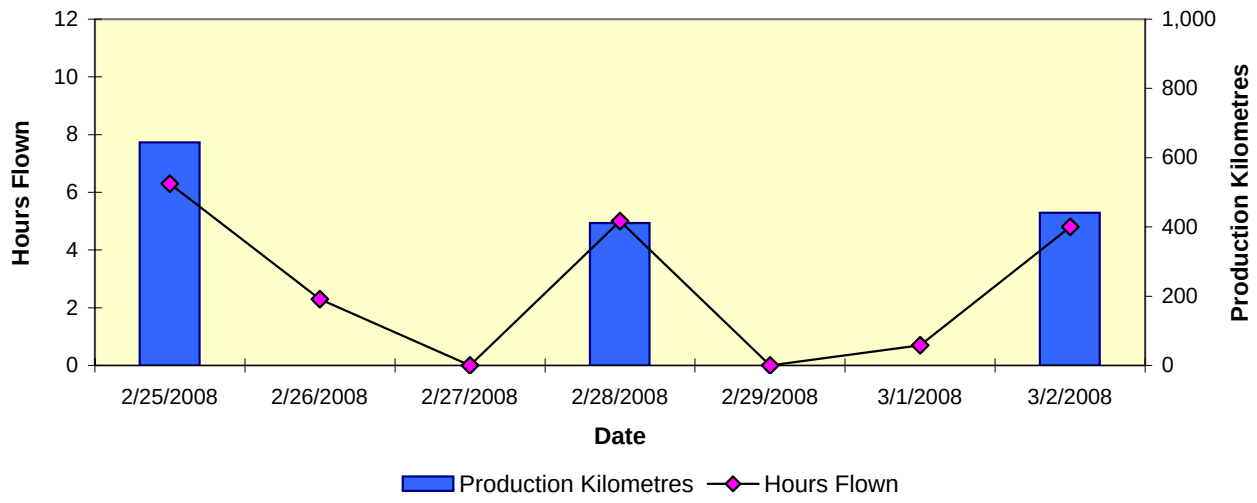
Signed: Lutz Wendorff, Crew Chief

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	**Arrival this Week**	**Departure this Week**	**On Site?**	**# of Days on Site this Week**	**# of Days on Site to Date**
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	61
Patrick Auclair			ON SITE	7	61
Sol Meyer			ON SITE	7	61
Angella Farr		1-Mar	ON SITE	6	61
Tim Anderson			ON SITE	7	60
Lutz Wendorff	26-Feb		ON SITE	6	6

HSE Statistics	This Week	Project Totals
SGL Person Hours	300.0	3195.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 15

SURVEY DETAILS							
Survey Name		Quesnellia		**Client Name**		Geoscience BC	
Survey Location		British Columbia, CAN		**Contact Name**		'Lyn Anglin	
Project Code		Geosci07.BC		**Contact Phone**		+1 (604) 662-4147 ext 23	
Total Size		27,480.0 km		**Client Address**		410 - 890 W. Pender St.	
Line Spacing		2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada			
Aircraft	C-GSGX	**Type**	GRAV	**Email**	sglbc@sgl.cm		

SURVEY PRODUCTION SUMMARY					
Production km this Week	811.8	km	**Total km Flown to Date**	26258.0	km
Total Remaining	1222.0	km	**Total km Reflown this Week**	0.0	km
% Complete	95.6	%	**Total Flight Time this Week**	15.3	hrs
Average km/Day this Week	116.0	km/day	**Average km/Flt. Time this Week**	53.1	km/hr

WEEKLY PRODUCTION

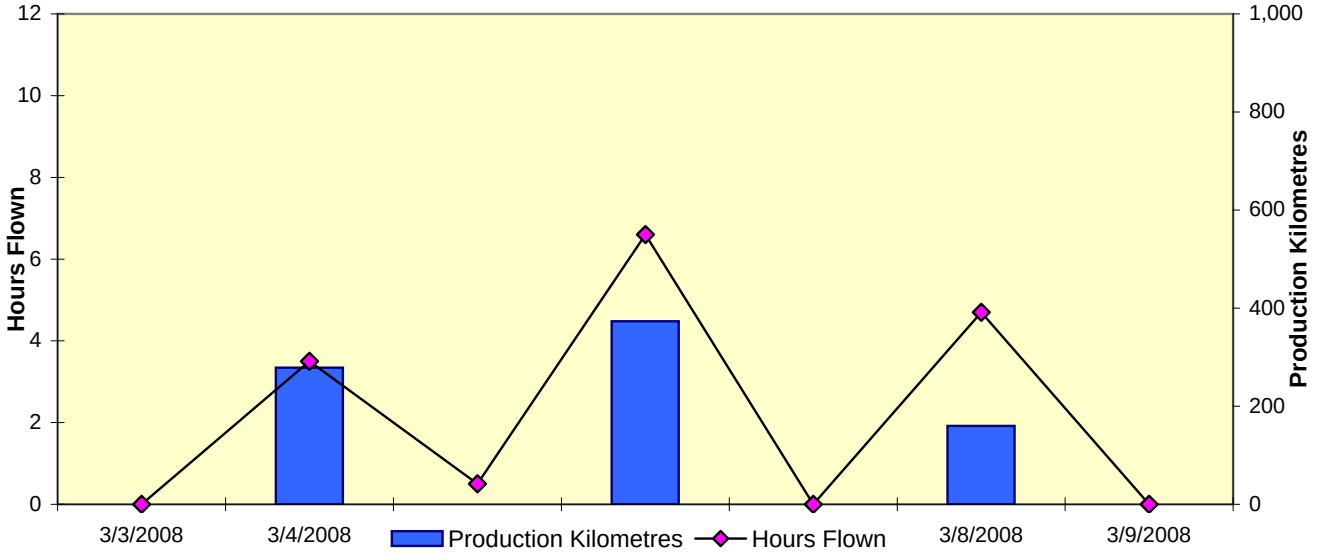
Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**15.3**	**15.0**	**0.0**	**811.8**	**0.0**
3-Mar	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Poor.						
Remarks:	Aircraft maintenance, no flight.						
4-Mar	**Tuesday**	**153**	**3.5**	**4.0**	**0.0**	**278.5**	**0.0**
Geomag:	n/a						
Weather:	Marginal to poor.						
Remarks:	No second sortie into the area because of weather.						
5-Mar	**Wednesday**	**154**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Poor.						
Remarks:	Attempted flight aborted due to weather in the area.						
6-Mar	**Thursday**	**155**	**6.6**	**6.0**	**0.0**	**373.3**	**0.0**
Geomag:	n/a						
Weather:	Marginal to fair.						
Remarks:	Production flight.						
7-Mar	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Marginal.						
Remarks:	Pilot sick, no flight.						
8-Mar	**Saturday**	**156**	**4.7**	**5.0**	**0.0**	**159.9**	**0.0**
Geomag:	n/a						
Weather:	Marginal to poor.						
Remarks:	Aircraft had to leave the area early due to weather. A hard disk crash of the field office computer delayed some of the routine work and priority was given to QC processing.						
9-Mar	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Poor.						
Remarks:	No production due to weather.						
Comments:	**Weather is the major factor for limited productivity.**						

Signed: Crew Chief Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	**Arrival this Week**	**Departure this Week**	**On Site?**	**# of Days on Site this Week**	**# of Days on Site to Date**
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy			ON SITE	7	68
Patrick Auclair			ON SITE	7	68
Sol Meyer		8-Mar	ON SITE	6	67
Angella Farr				0	61
Tim Anderson			ON SITE	7	67
Lutz Wendorff			ON SITE	7	13
Leila Ertolahti	5-Mar		ON SITE	5	5

HSE Statistics	This Week	Project Totals
SGL Person Hours	292.5	3487.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 16

SURVEY DETAILS

Survey Name	Quesnellia		**Client Name**	Geoscience BC	
Survey Location	British Columbia, CAN		**Contact Name**	'Lyn Anglin	
Project Code	Geosci07.BC		**Contact Phone**	+1 (604) 662-4147 ext 23	
Total Size	27,480.0 km		**Client Address**	410 - 890 W. Pender St.	
Line Spacing	2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada		
Aircraft C-GSGX	**Type**	GRAV	**Email**	sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY

Production km this Week	1516.4	km	**Total km Flown to Date**	27774.4	km
Total Remaining	-294.4	km	**Total km Reflown this Week**	0.0	km
% Complete	101.1	%	**Total Flight Time this Week**	14.1	hrs
Average km/Day this Week	216.6	km/day	**Average km/Flt. Time this Week**	107.5	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**14.1**	**13.0**	**0.0**	**1,516.4**	**0.0**
10-Mar	**Monday**	**157**	**2.5**	**2.0**	**0.0**	**240.5**	**0.0**
Geomag:	n/a						
Weather:	Incoming rain from SW.						
Remarks:	Early return due to weather.						
11-Mar	**Tuesday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Strong winds unsuitable to fly.						
Remarks:	No flight due to weather.						
12-Mar	**Wednesday**	**158**	**6.3**	**6.0**	**0.0**	**721.7**	**0.0**
Geomag:	n/a						
Weather:	Fair.						
Remarks:	Production flight.						
13-Mar	**Thursday**	**159**	**4.5**	**5.0**	**0.0**	**554.2**	**0.0**
Geomag:	n/a						
Weather:	Sunny with some clouds.						
Remarks:	All remaining lines covered with this flight.						
14-Mar	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:							
Remarks:	No flight due to maintenance.						
15-Mar	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Snow.						
Remarks:	No flight due to weather.						
16-Mar	**Sunday**	**160**	**0.8**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Marginal in the morning, snow in the afternoon.						
Remarks:	No flight due to monitor cable failure.						
Comments:	**Dave Money arrived March 10th for helicopter maintenance, departed March 16th. Keith Hazelton arrived March 12th. Diana Stettler arrived March 13th. Trevor Syrowy and Pat Auclair departed March 14th.**						

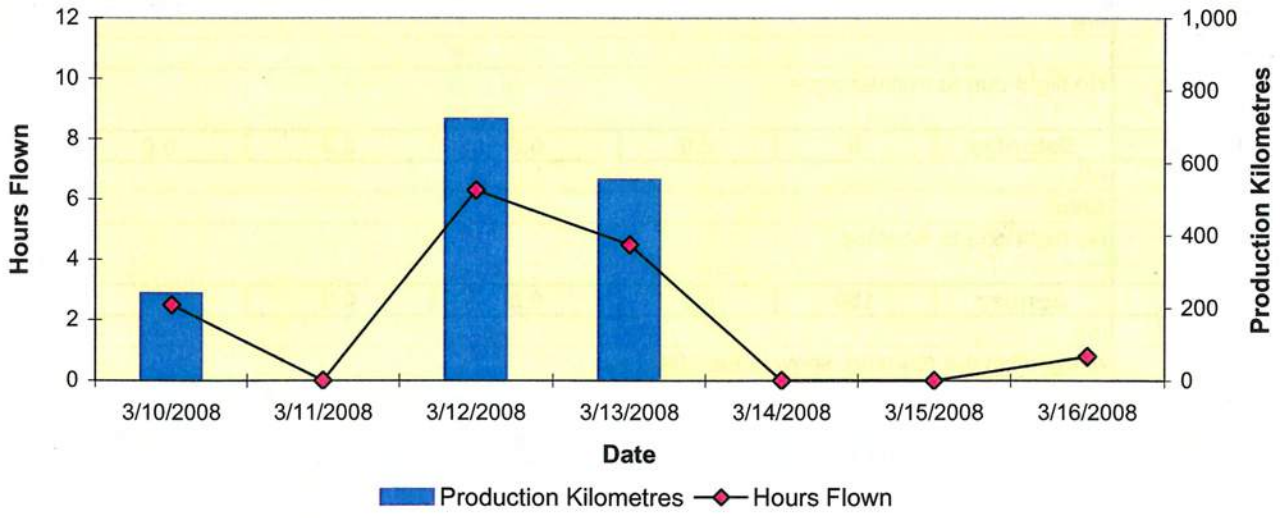
Signed: Lutz Wendorff, Crew Chief

Week Complete?

PERSONNEL ON SITE THIS WEEK					
Name	**Arrival this Week**	**Departure this Week**	**On Site?**	**# of Days on Site this Week**	**# of Days on Site to Date**
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy		14-Mar	ON SITE	5	73
Patrick Auclair		14-Mar	ON SITE	5	73
Sol Meyer				0	67
Angella Farr				0	61
Tim Anderson			ON SITE	7	74
Lutz Wendorff			ON SITE	7	20
Leila Ertolahti			ON SITE	7	12
Keith Hazelton	12-Mar		ON SITE	5	5
Diana Stettler	13-Mar		ON SITE	4	4

HSE Statistics	This Week	Project Totals
SGL Person Hours	232.5	3720.0
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



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Week 17

SURVEY DETAILS					
Survey Name	Quesnellia		**Client Name**	Geoscience BC	
Survey Location	British Columbia, CAN		**Contact Name**	'Lyn Anglin	
Project Code	Geosci07.BC		**Contact Phone**	+1 (604) 662-4147 ext 23	
Total Size	27,480.0 km		**Client Address**	410 - 890 W. Pender St.	
Line Spacing	2,000 m by 20,000 m		Vancouver, BC V6C 1J9 Canada		
Aircraft C-GSGX	**Type**	GRAV	**Email**	sglbc@sgl.cm	

SURVEY PRODUCTION SUMMARY					
Production km this Week	0.0	km	**Total km Flown to Date**	27774.4	km
Total Remaining	-294.4	km	**Total km Reflown this Week**	504.6	km
% Complete	101.1	%	**Total Flight Time this Week**	16.0	hrs
Average km/Day this Week	0.0	km/day	**Average km/Flt. Time this Week**	0.0	km/hr

WEEKLY PRODUCTION

Date	Day	Flight No.	Flight Time	No. of Lines Flown	No. Reflight Lines Flown	Production km	Reflown km
TOTALS			**16.0**	**0.0**	**8.0**	**0.0**	**504.6**
17-Mar	**Monday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Marginal.						
Remarks:	Monitor cable replaced. Difficulties at system initialization. Flight cancelled.						
18-Mar	**Tuesday**	**161**	**5.4**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Marginal to wet snow in area.						
Remarks:	Flight was not successful. Data processing aborted.						
19-Mar	**Wednesday**	**162, 163**	**8.5**	**0.0**	**7.0**	**0.0**	**504.6**
Geomag:	n/a						
Weather:	Marginal.						
Remarks:	Only reflights with much ferrying. Some system problems, separated in two flights for processing, some lines are not useful.						
20-Mar	**Thursday**	**164**	**2.1**	**0.0**	**1.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Marginal to non-flyable.						
Remarks:	Due to weather line could not be flown within specifications. Processing of one line was aborted.						
21-Mar	**Friday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Marginal.						
Remarks:	C-GSGX departed for its return to Ottawa. All system were shut down, breakers pulled. Eventual remaining reflights are to be done with the helicopter C-GSGH.						
22-Mar	**Saturday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	n/a						
Remarks:	No flight planned in this area.						
23-Mar	**Sunday**	**0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Geomag:	n/a						
Weather:	Wind, snow.						
Remarks:	No flight due to weather.						
Comments:	**Some minor technical issues combined with rather poor weather conditions in the higher areas reduced productivity. Only some reflights are planned, all lines are flown. Aircraft departed on Friday. Opportunity for further reflights are with the helicopter C-CSGH.**						

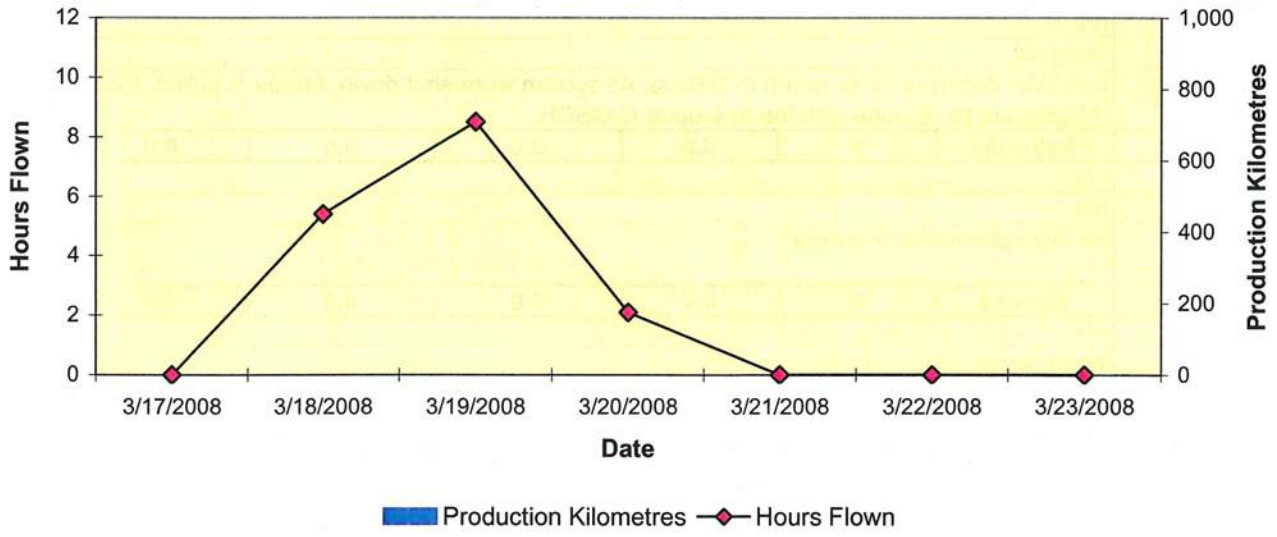
Signed: Lutz Wendorff, Crew Chief

Week Complete?

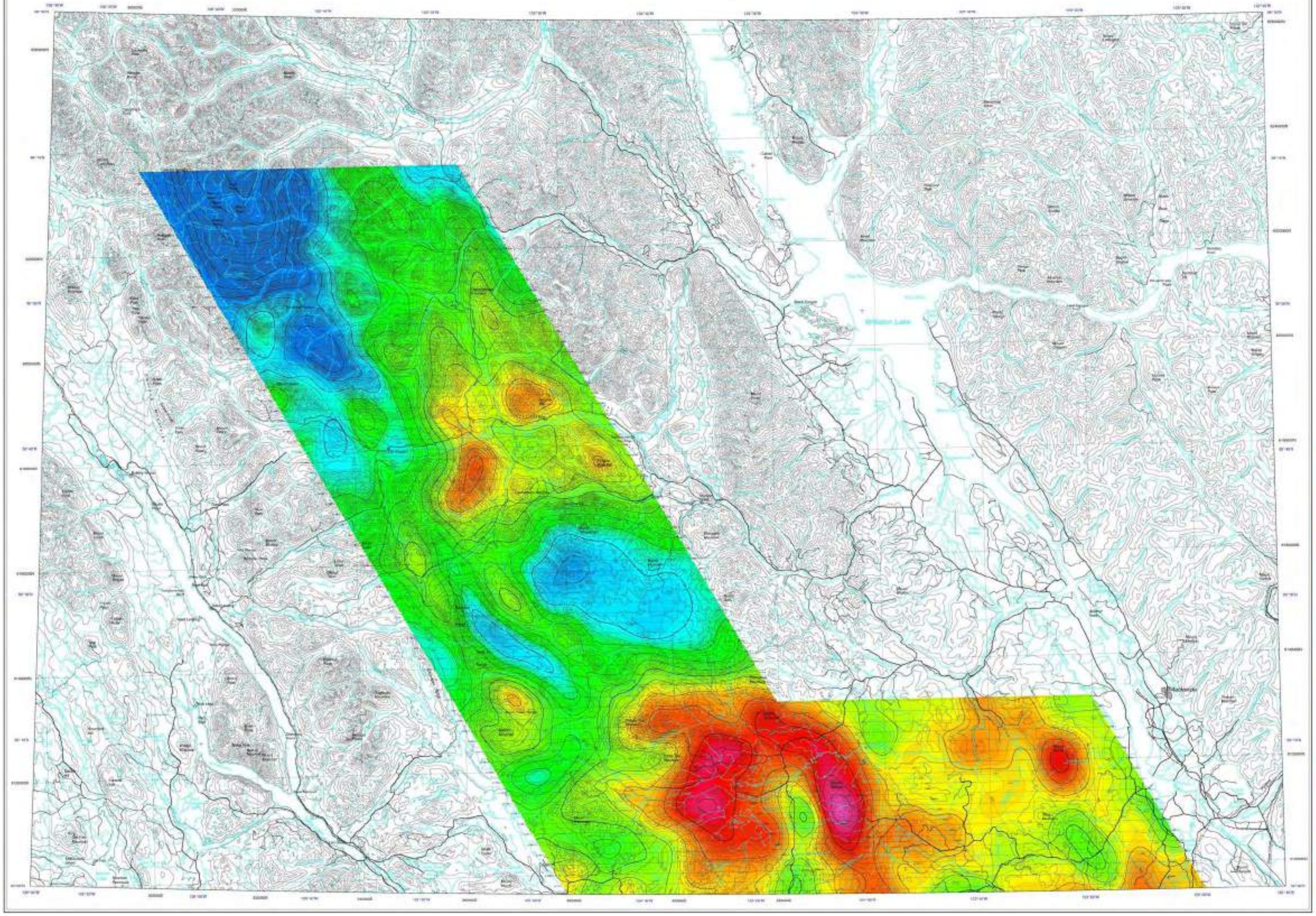
PERSONNEL ON SITE THIS WEEK					
Name	Arrival this Week	Departure this Week	On Site?	# of Days on Site this Week	# of Days on Site to Date
Cam McBride				0	22
Sol Meyer				0	23
Angella Farr				0	23
John Sevenhuysen				0	19
Chris Kiff				0	22
Dave Vipond				0	7
Trevor Syrowy				0	73
Patrick Auclair				0	73
Sol Meyer				0	67
Angella Farr				0	61
Tim Anderson			ON SITE	7	81
Lutz Wendorff			ON SITE	7	27
Leila Ertolahti			ON SITE	7	19
Keith Hazelton		21-Mar	ON SITE	5	10
Diana Stettler		21-Mar	ON SITE	5	9

HSE Statistics	This Week	Project Totals
SGL Person Hours	157.5	3877.5
Inductions	0	0
Near Miss	0	0
First Aid Case (FAC)	0	0
Medical Treatment Case	0	0
Restricted Work Case (RWC)	0	0
Lost Time Injuries (LTI)	0	0

WEEKLY PRODUCTION KILOMETRES AND HOURS FLOWN



Appendix VII



Geoscience BC

High Resolution Airborne Gravity Survey

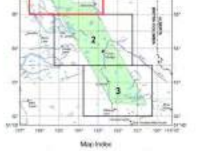
Quest Project Area, British Columbia - 2007

MAP 1

Terrain Corrected Bouguer Gravity (mGal)

Contour Intervals

Flight Lines



Map Index

Survey and Processing Specifications

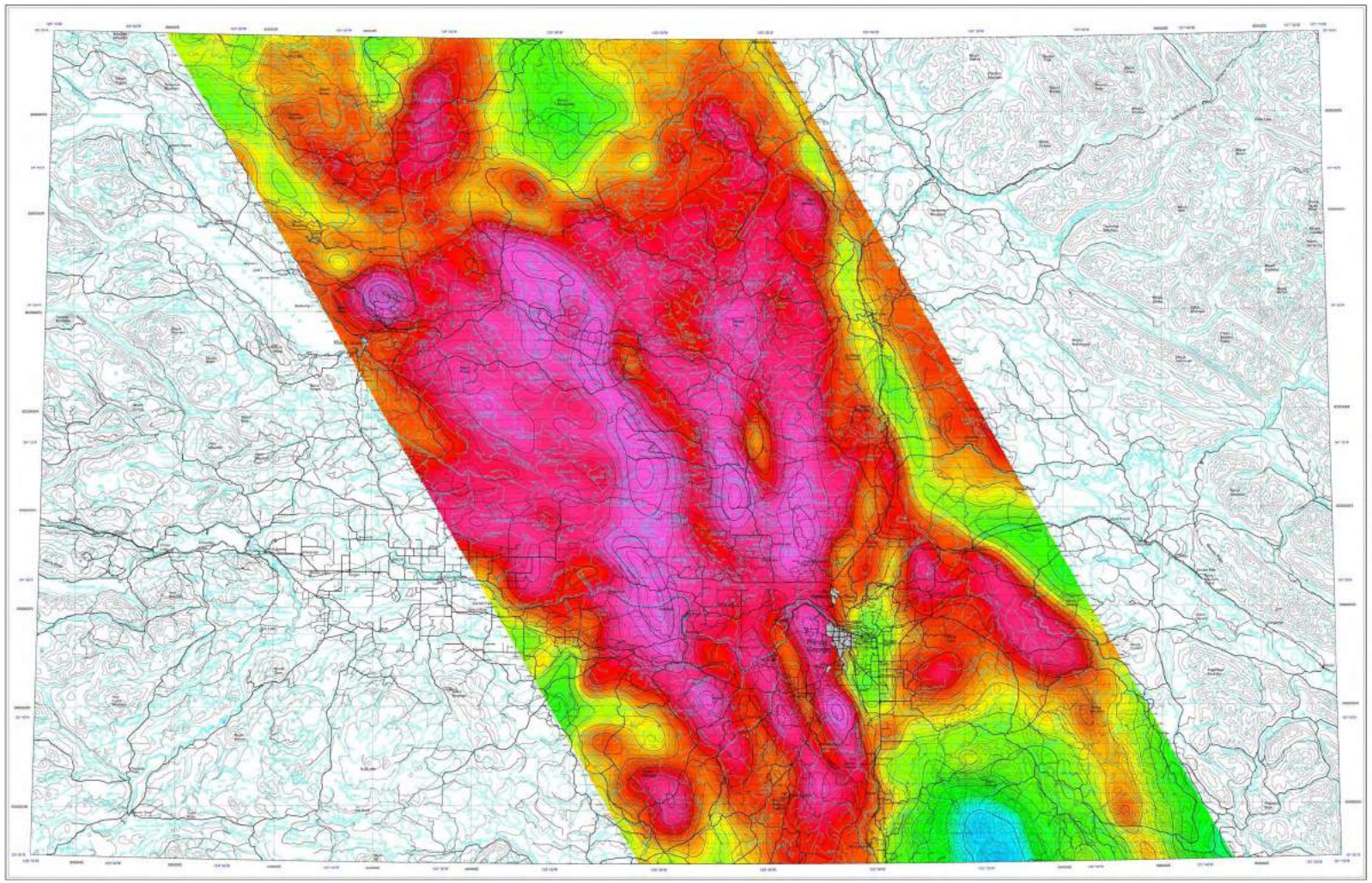
Terrain Corrected Bouguer Gravity

MAP 1

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 2

Terrain Corrected Bouguer Gravity (mGal)

Contour Intervals (mGal)

Flight Lines

Map Index

Survey and Processing Specifications

Ratio 1 : 230 000

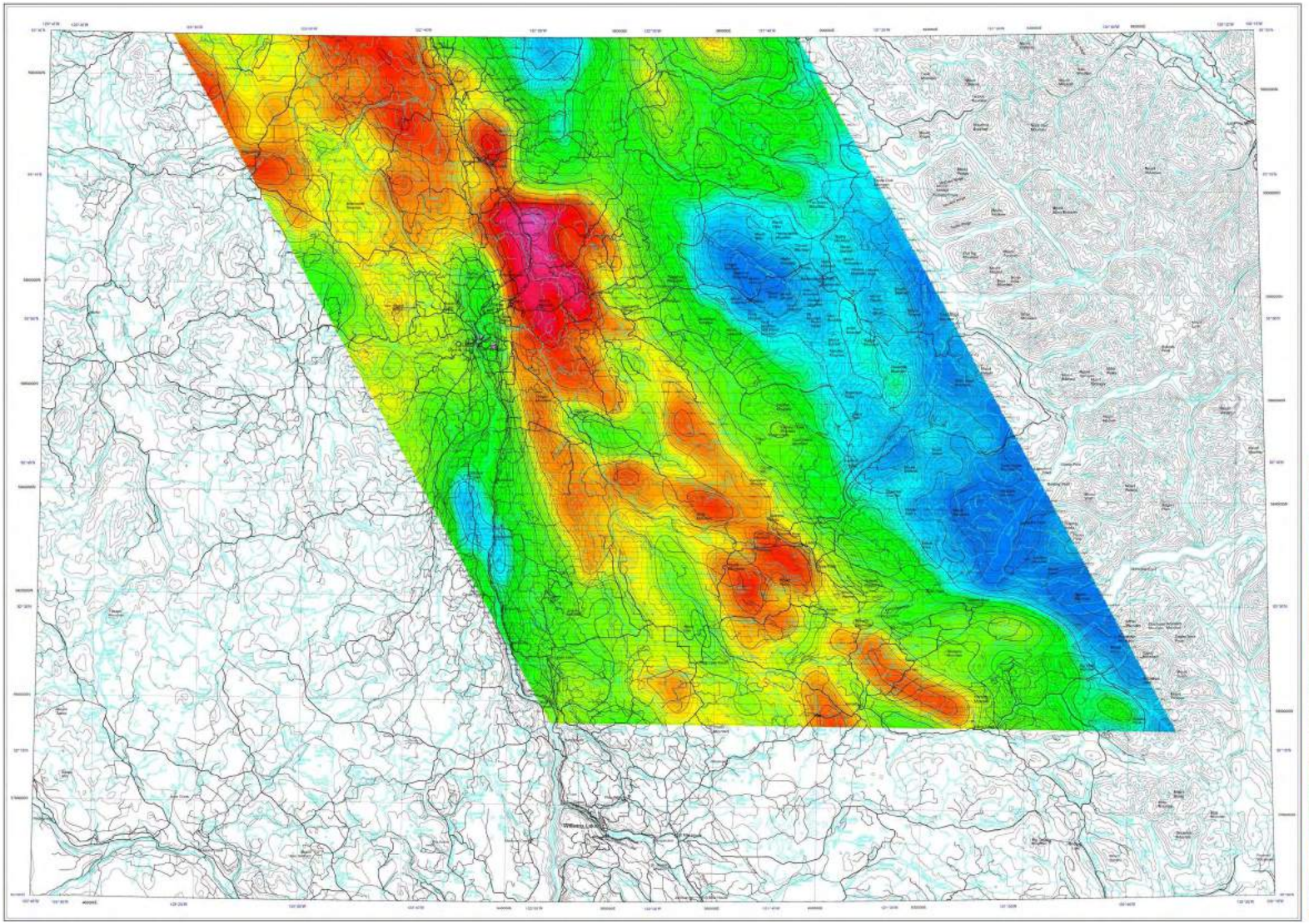
Terrain Corrected Bouguer Gravity (mGal)

MAP 2

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

SAIRGrav

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 3

Terrain Corrected Bouguer Gravity (mGal)

Contour Intervals (mGal)

Flight Lines

Map Index

Survey and Processing Specifications

Scale 1 : 250,000

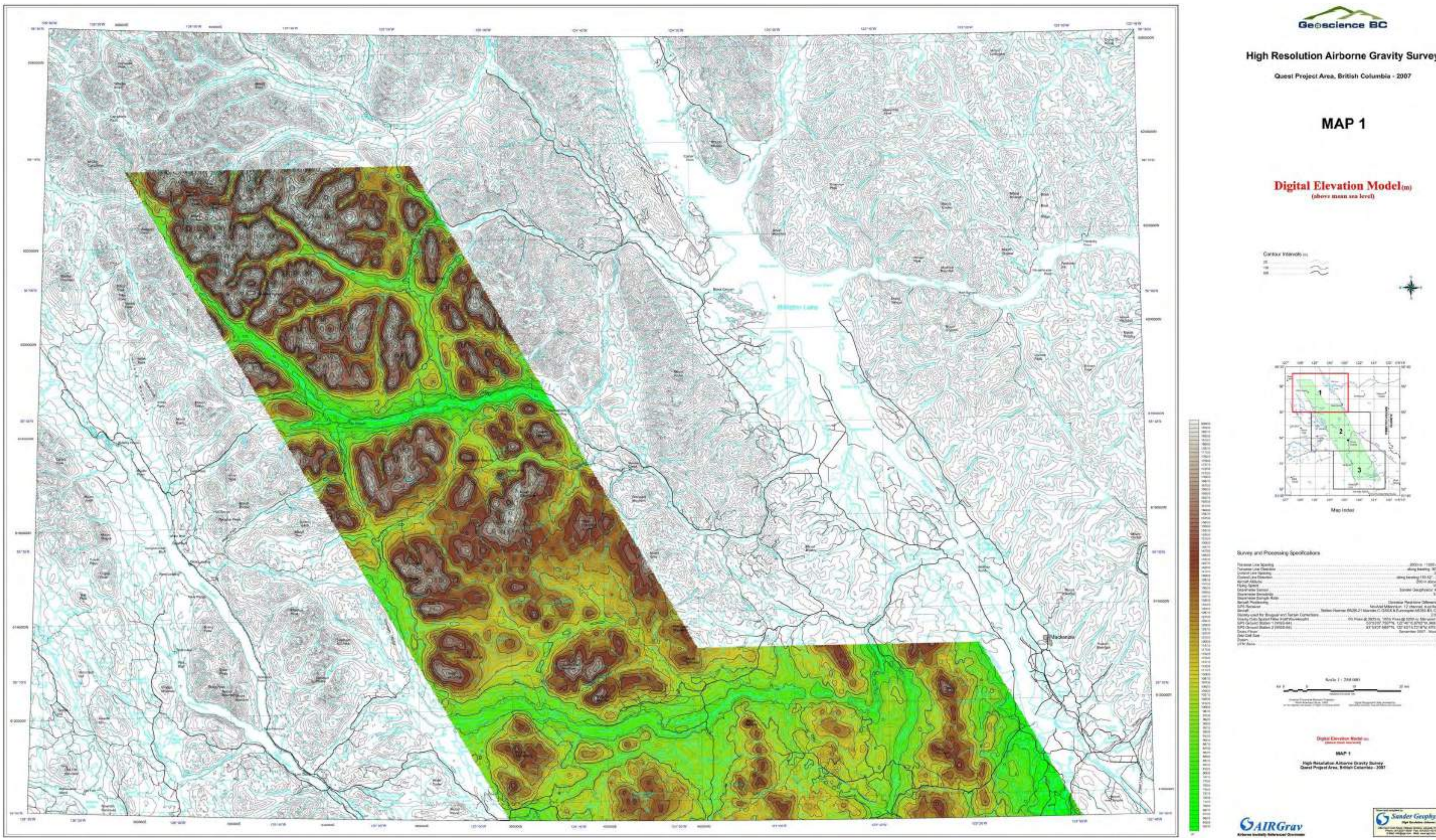
Terrain Corrected Bouguer Gravity (mGal)

MAP 3

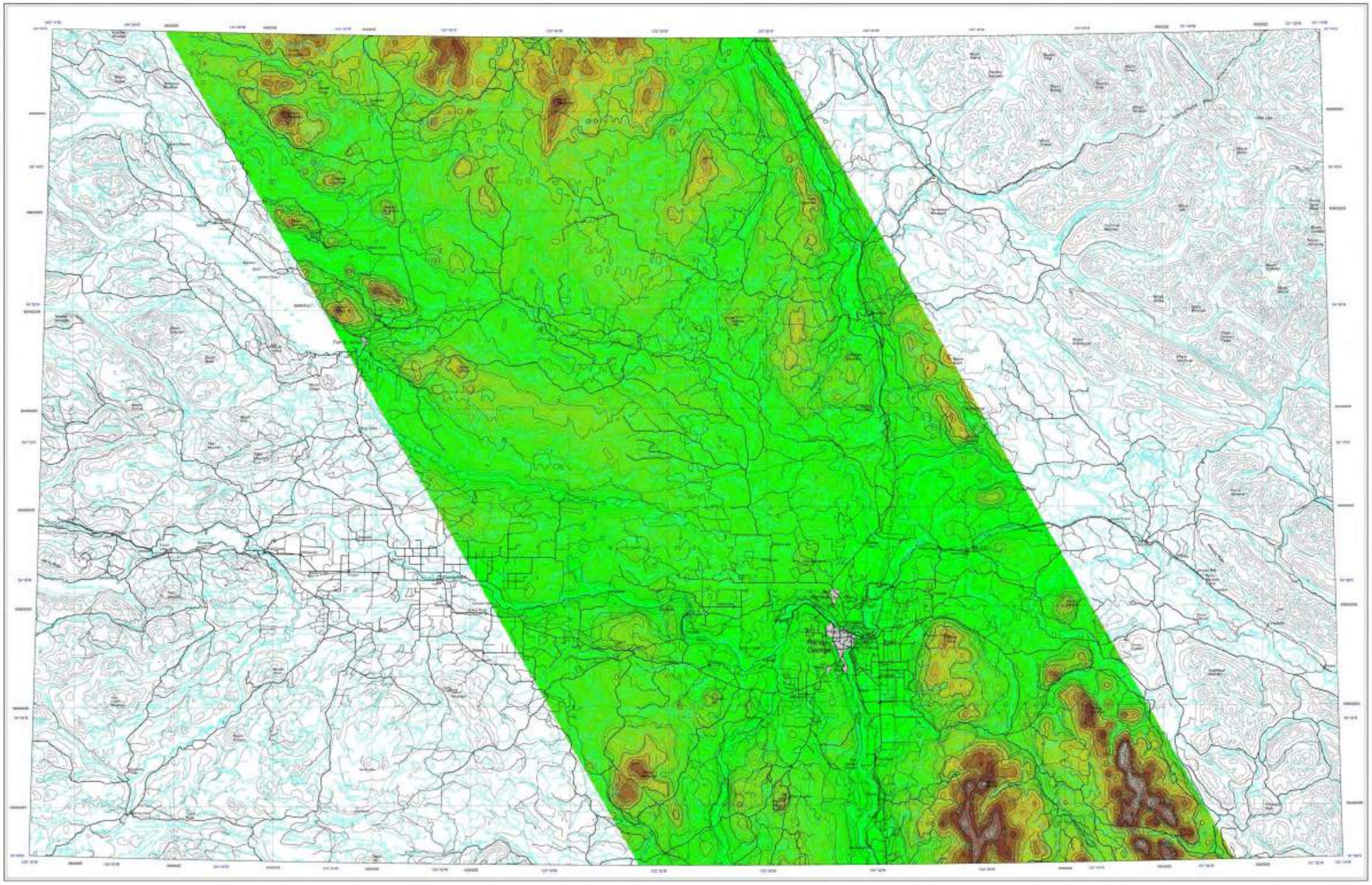
High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav
Airborne Inertially Referenced Gravimeter

Sander Geophysics



Geoscience BC
High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007
MAP 1
Digital Elevation Model(m)
(above mean sea level)
Contour Intervals
Map Index
Survey and Processing Specifications
Digital Elevation Model
MAP 1
AIRGrav
Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

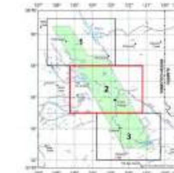
Quest Project Area, British Columbia - 2007

MAP 2

Digital Elevation Model (m)

(above mean sea level)

Contour Intervals



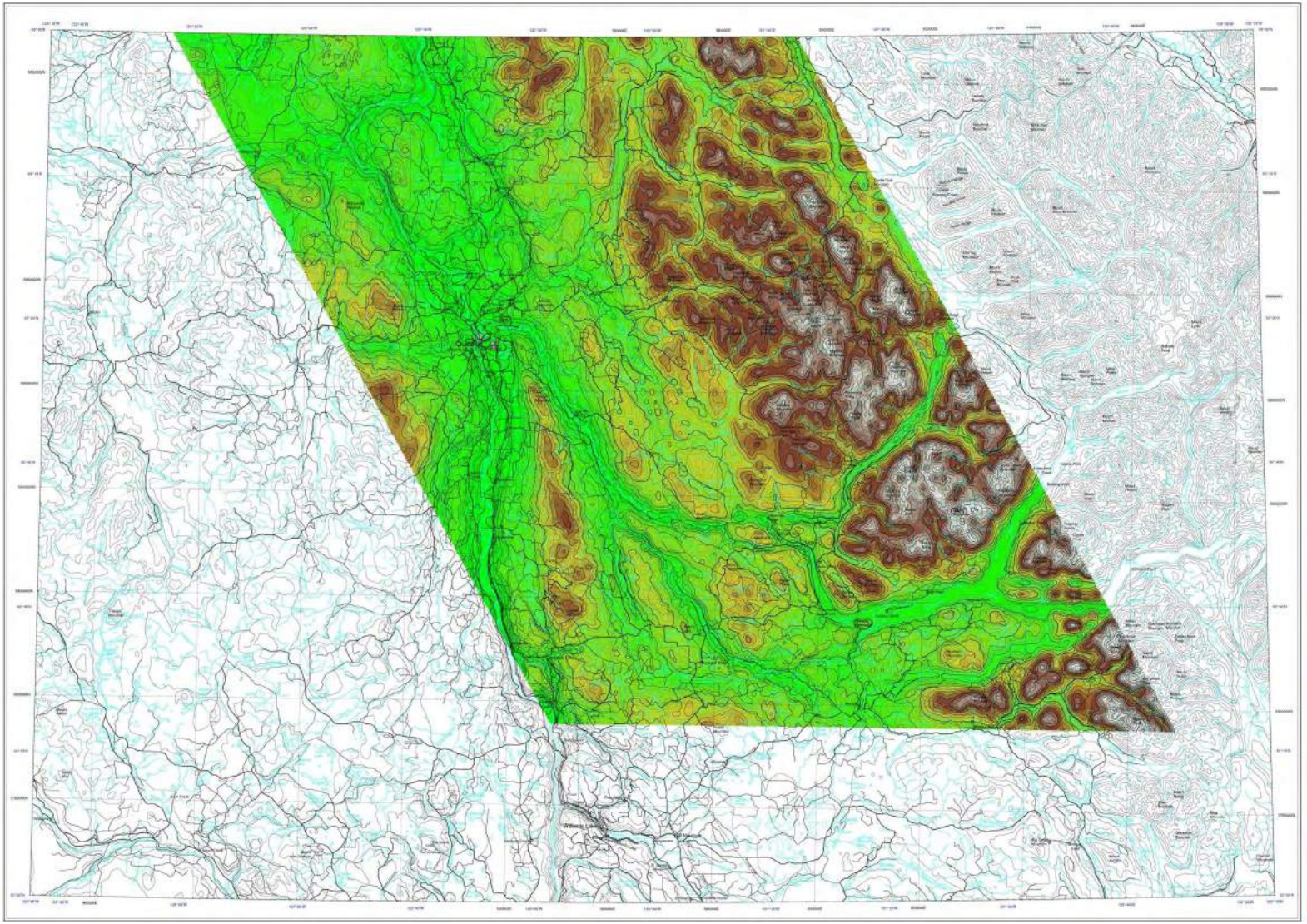
Map Index

Survey and Processing Specifications

MAP 2

AIRGrav

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 3

Digital Elevation Model (m)
(above mean sea level)

Contour Intervals (m)

Mag noise

Survey and Processing Specifications

Scale 1 : 250 000

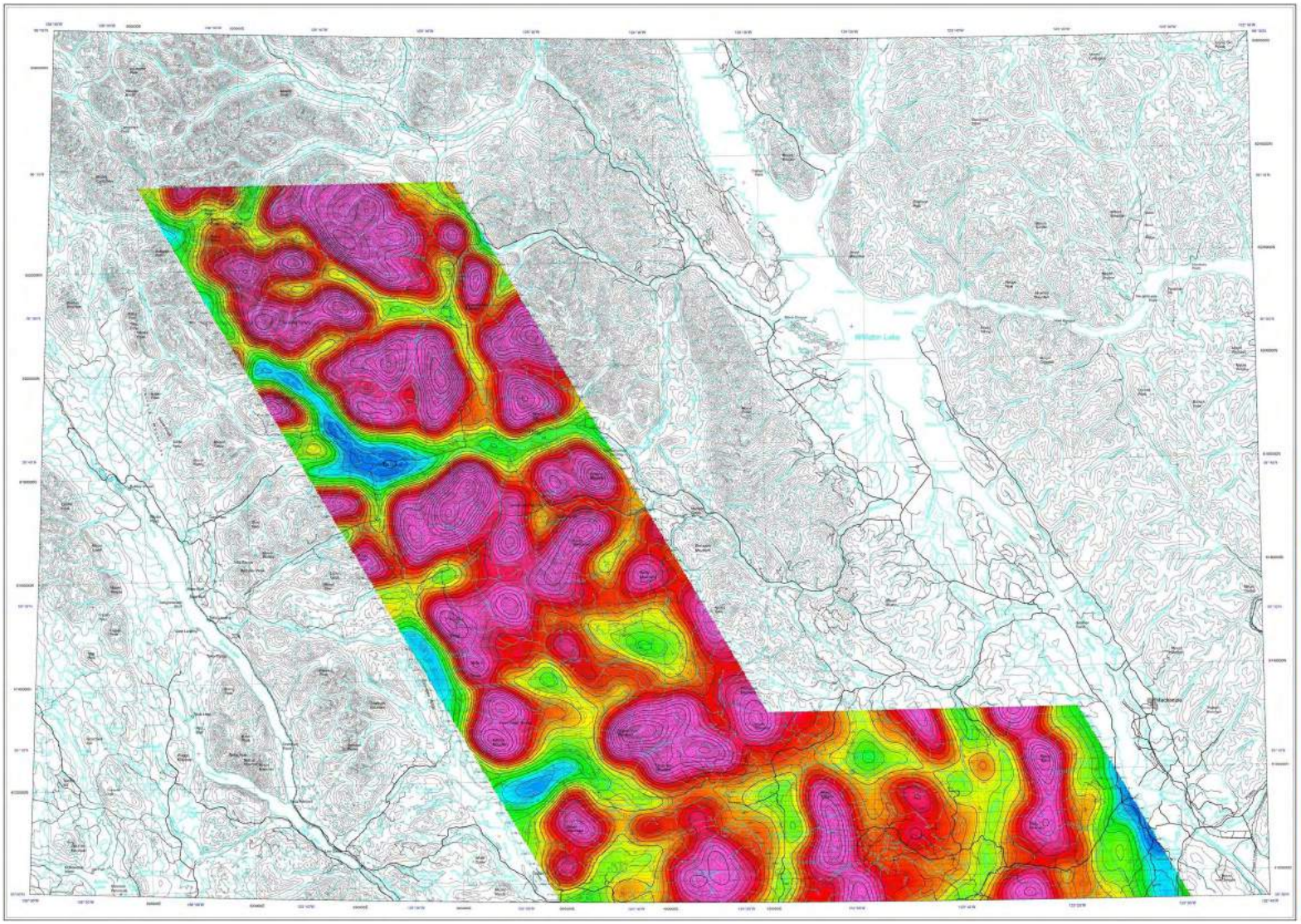
Digital Elevation Model (m)

MAP 3

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav
Airborne Inertially Referenced Gravimeter

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 1

Free Air
Corrected Gravity (mGal)

Contour Intervals (mGal)

Flight Lines

Map Index

Survey and Processing Specifications

Scale 1 : 250 000

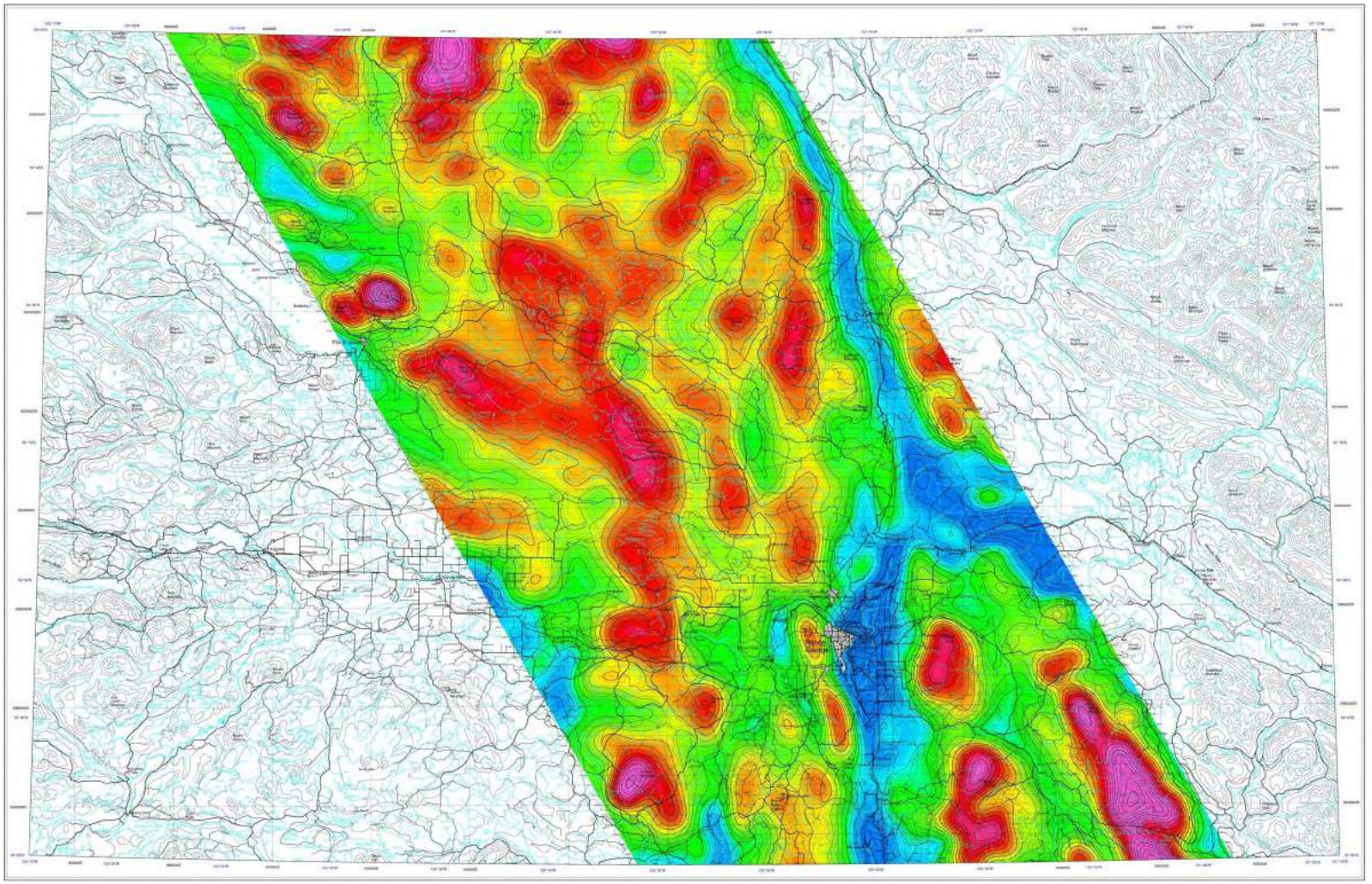
Free Air
Corrected Gravity (mGal)

MAP 1

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav
Airborne Inertially Referenced Gravimeter

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 2

Free Air Corrected Gravity (mGal)

Contour Intervals mGal

Flight Lines

Map Index

Survey and Processing Specifications

Scale 1 : 2 M

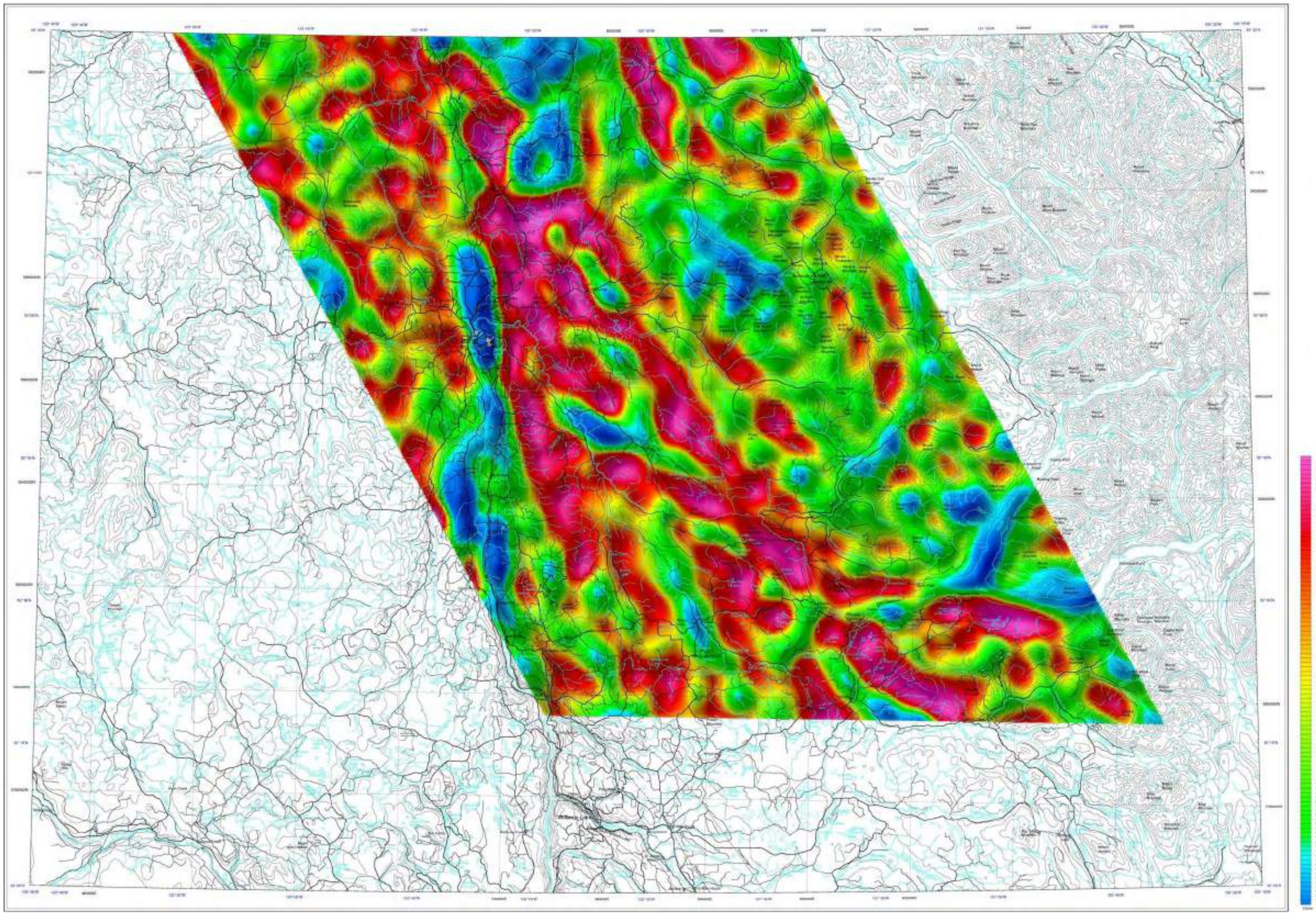
Free Air Corrected Gravity mGal

MAP 2

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav

Sander Geophysics



Geoscience BC

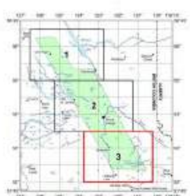
High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 3

First Vertical Derivative of the Terrain Corrected Bouguer Gravity
(Eötvös)

Illumination: Inclination 70°, Declination 135°



Map Index

Survey and Processing Specifications

Scale 1: 250 000

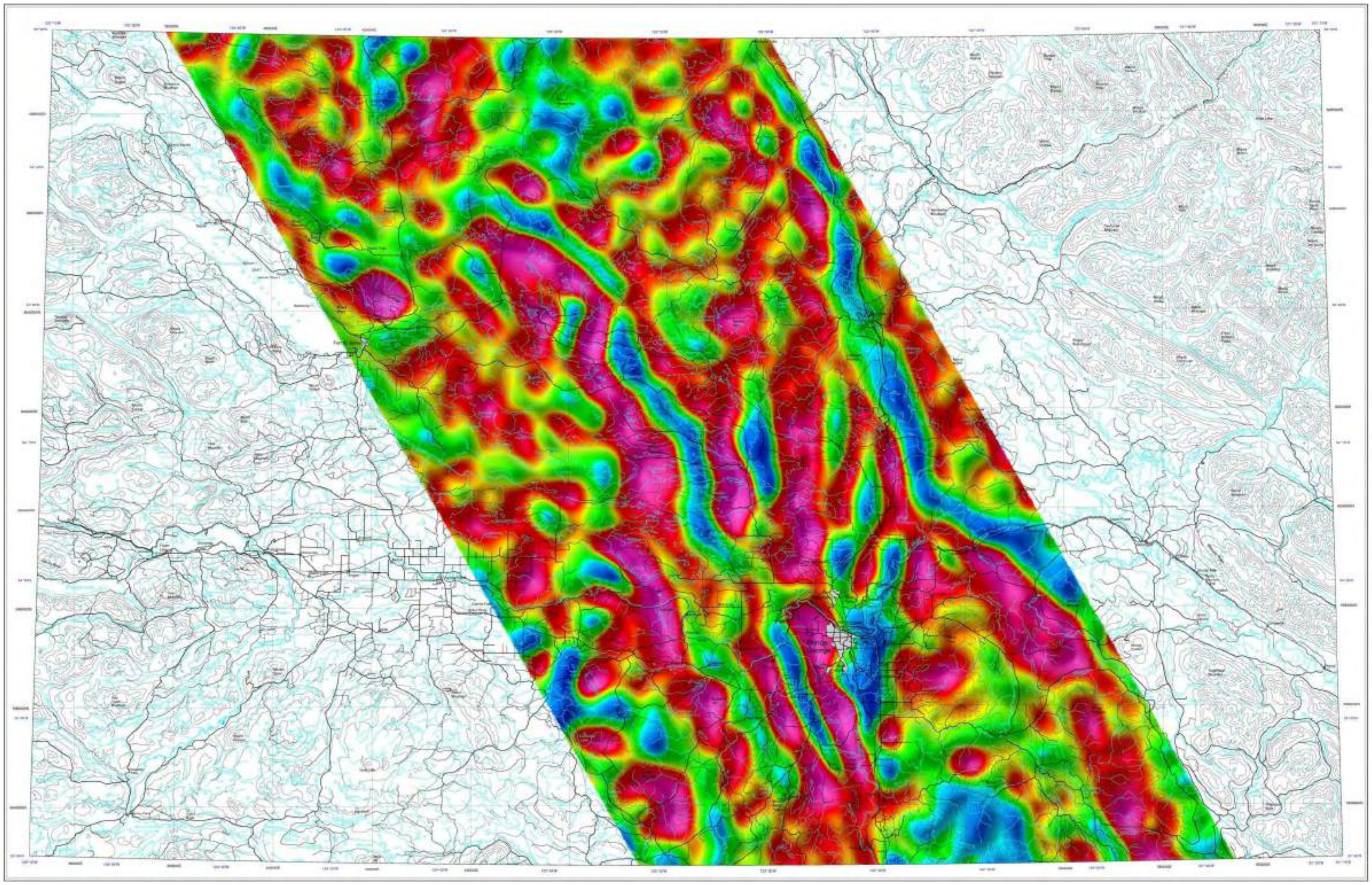
First Vertical Derivative of the Terrain Corrected Bouguer Gravity (Eötvös)

MAP 3

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

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First Vertical Derivative of the Terrain Corrected Bouguer Gravity
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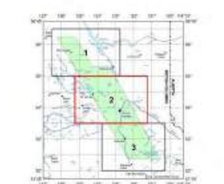


Map Index

Survey and Processing Specifications

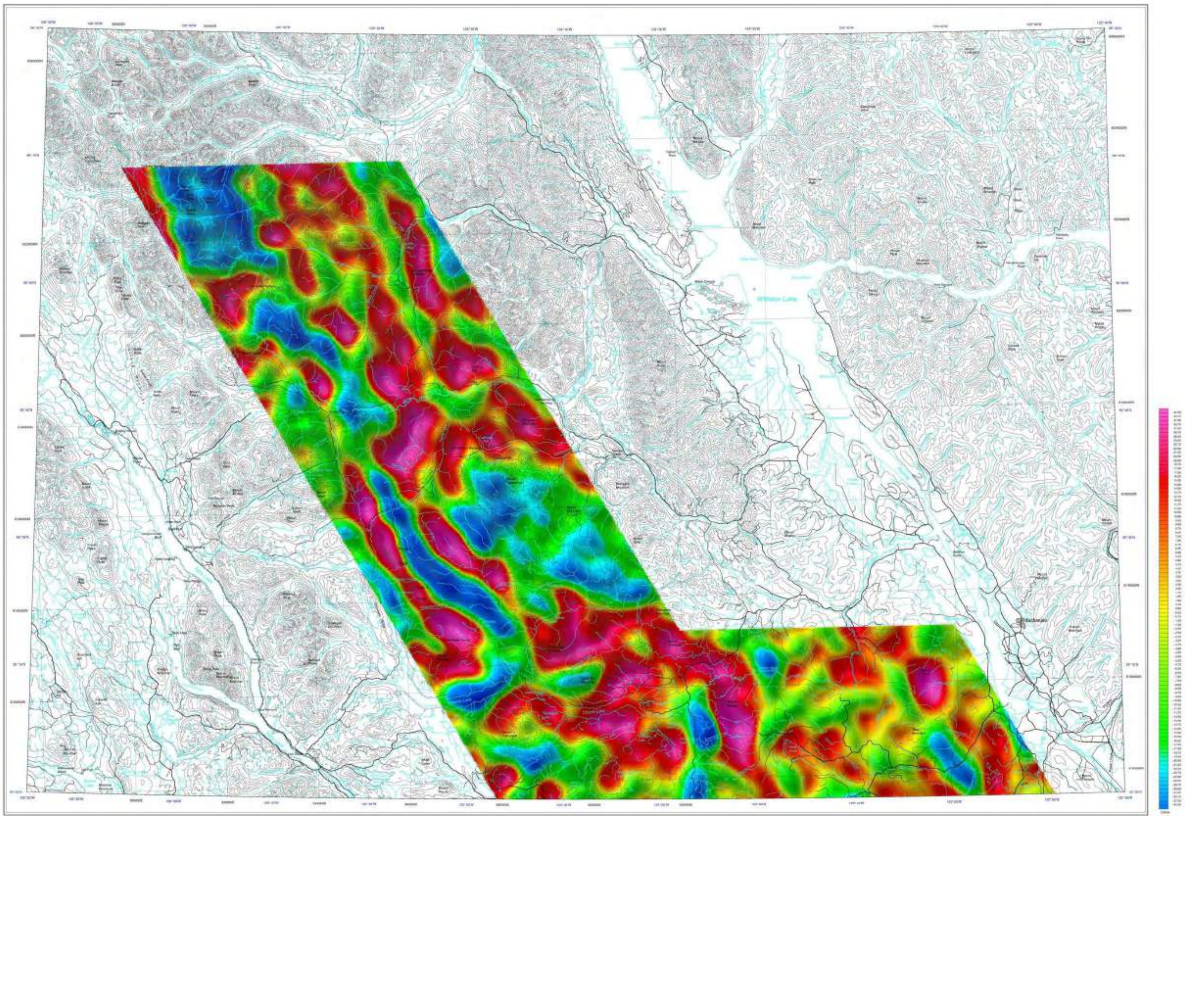
First Vertical Derivative of the Terrain Corrected Bouguer Gravity (Eötvös)

MAP 2

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 1

First Vertical Derivative of the Terrain Corrected Bouguer Gravity
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Survey and Processing Specifications

Scale 1 : 250 000

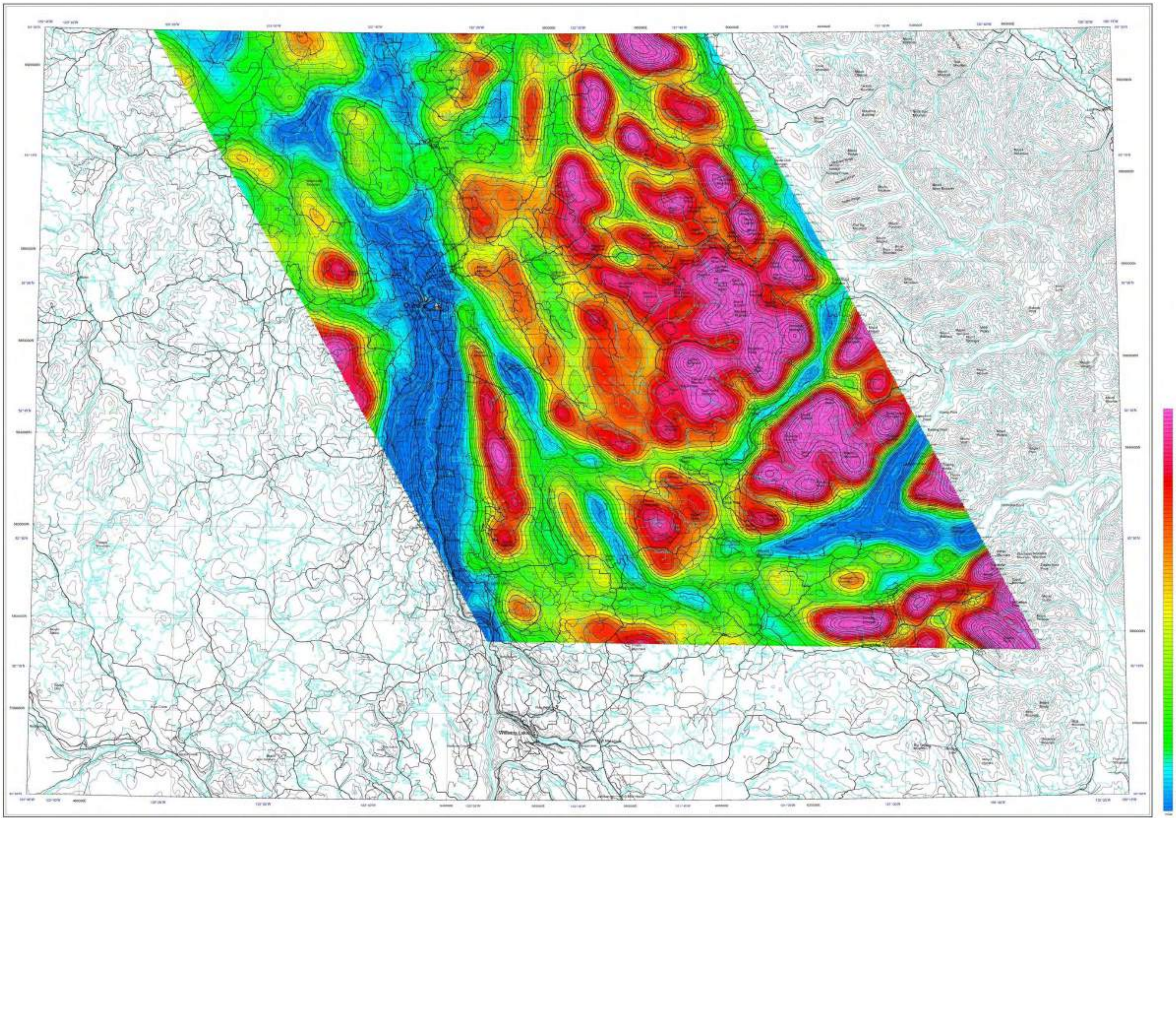
First Vertical Derivative of the Terrain Corrected Bouguer Gravity (Eötvös)

MAP 1

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav

Sander Geophysics



Geoscience BC

High Resolution Airborne Gravity Survey

Quest Project Area, British Columbia - 2007

MAP 3

Free Air Corrected Gravity (mGal)

Contour Intervals

Flight Lines

Map Index

Survey and Processing Specifications

Scale 1 : 250 000

Free Air Corrected Gravity (mGal)

MAP 3

High Resolution Airborne Gravity Survey
Quest Project Area, British Columbia - 2007

AIRGrav

Sander Geophysics