NATURAL RESOURCES CANADA

Aeromagnetic Survey – Little Nahanni, Yukon

Solicitation No.: 35-MGM013092W

FINAL SURVEY REPORT

Produced by:

EON GEOSCIENCES INC.

Montreal, Quebec

October 15th, 2010

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1. Introduction

This report describes an aeromagnetic survey conducted by EON Geosciences Inc. (**EON**) on behalf Natural Resources Canada (**NRCan**) in the Little Nahanni area, Yukon. **EON** was mandated to conduct a digitally-recorded high sensitivity aeromagnetic survey of a portion of the Little Nahanni area and to compile the acquired data in accordance with the **NRCan** technical specifications.

The Little Nahanni aeromagnetic survey was flown from Watson Lake, as a base of operations, from April 12th to June 2nd, 2010. A total of 9,863 line-kilometres were flown to cover the area. This report describes field operations and final processing performed for the survey.

2. Flying Specifications

2.1. Survey Area

The Little Nahanni survey area is located in south-eastern Yukon, as shown on Figure 1.

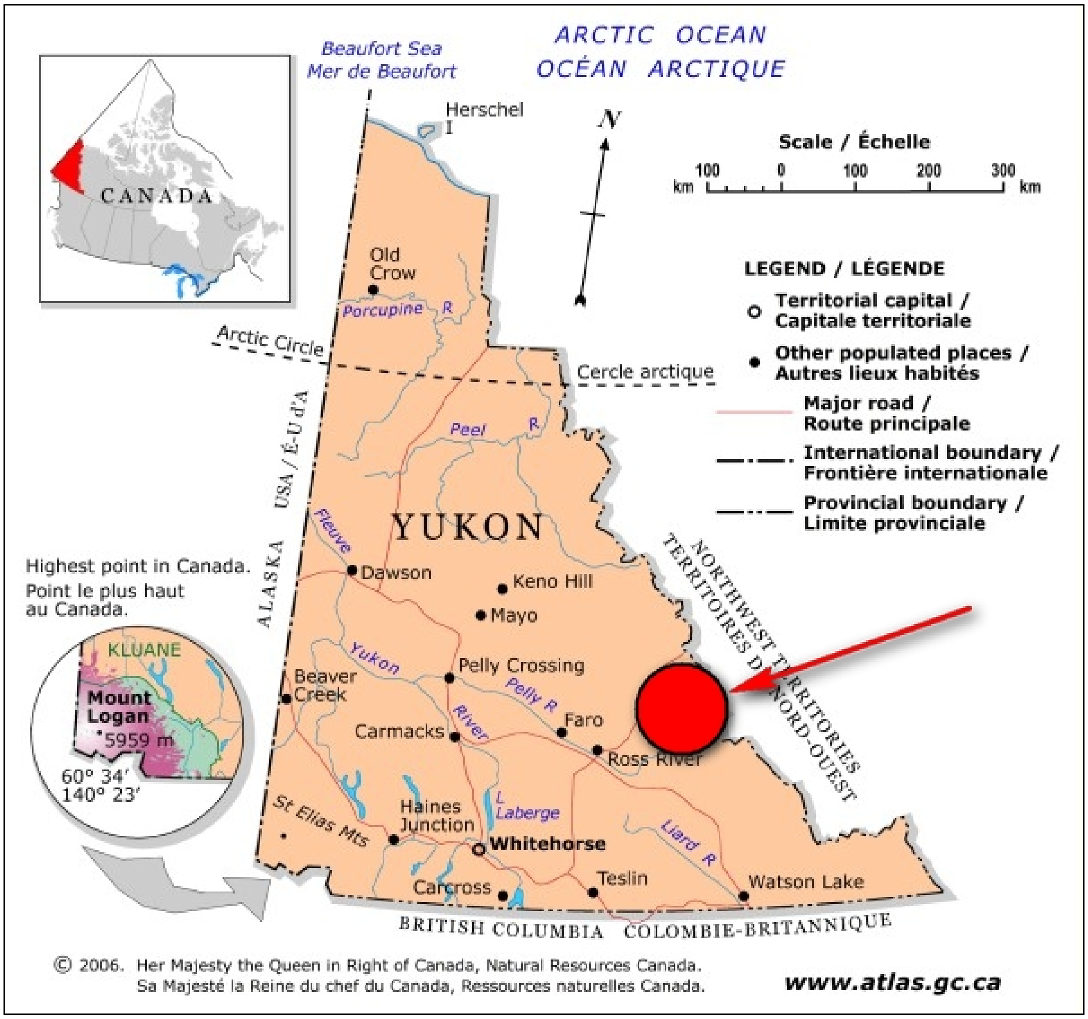


Figure 1: Location of the Little Nahanni Aeromagnetic Survey

The area is defined by the following coordinates:

Corner	Latitude	Longitude	Corner	Latitude	Longitude
1	62.00.00	-130.00.00	29	62.32.17	-129.21.02
2	63.37.08	-130.00.00	30	62.32.02	-129.18.58
3	63.36.23	-129.56.46	31	62.30.39	-129.13.45
4	63.34.49	-129.54.56	32	62.29.21	-129.10.38
5	63.31.22	-129.53.40	33	62.28.00	-129.10.32
6	63.27.34	-129.48.38	34	62.24.41	-129.17.54
7	63.24.17	-129.55.23	35	62.22.13	-129.12.49
8	63.22.30	-129.53.32	36	62.20.10	-129.16.48
9	63.19.38	-129.58.09	37	62.16.15	-129.18.02
10	63.19.38	-129.58.09	38	62.12.43	-129.11.56
11	63.12.47	-129.58.03	39	62.11.06	-129.12.55
12	63.11.01	-129.53.56	40	62.09.48	-129.15.48
13	63.09.43	-129.54.38	41	62.06.29	-129.08.41
14	63.07.36	-129.49.18	42	62.07.35	-129.04.49
15	63.06.24	-129.50.28	43	62.07.49	-128.59.56
16	63.04.49	-129.46.56	44	62.07.23	-128.53.37
17	63.04.57	-129.37.45	45	62.05.47	-128.50.23
18	63.02.30	-129.36.12	46	62.06.02	-128.45.44
19	62.59.20	-129.40.44	47	62.07.56	-128.41.52
20	62.58.22	-129.39.42	48	62.08.39	-128.36.13
21	62.54.59	-129.44.10	49	62.06.14	-128.31.09
22	62.53.32	-129.42.55	50	62.01.23	-128.22.22
23	62.49.46	-129.41.57	51	62.00.01	-128.22.21
24	62.45.52	-129.38.02	52	62.00.01	-128.40.36
25	62.43.08	-129.37.23	53	62.00.01	-128.57.09
26	62.40.17	-129.30.58	54	61.59.59	-129.13.15
27	62.37.59	-129.29.03	55	62.00.01	-129.36.03
28	62.35.01	-129.25.31	56	62.00.00	-130.00.00

Table 1: Boundaries – Aeromagnetic Survey, Little Nahanni, Yukon

2.2. Topography

As shown on Figure 2, in terms of altitude, terrain of the survey area may be classified as rugged. Specifically, the topography ranges approximately from 778 m to 2,383 m.

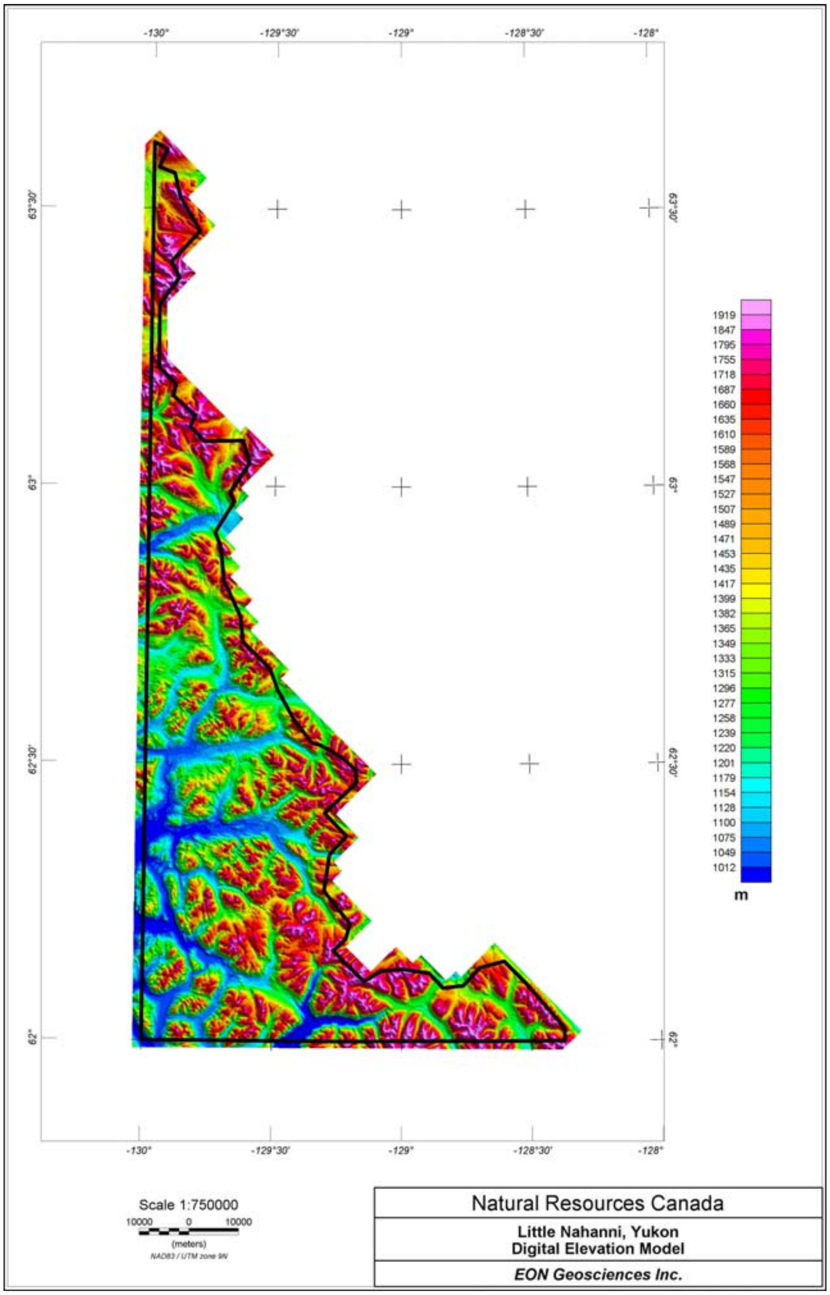


Figure 2: Topography - Aeromagnetic Survey, Little Nahanni, Yukon

2.3. Flying Specifications

2.3.1. Flight Plan

For this survey, flight lines were flown using the following traverse and tie line bearing and spacing specifications, for a total of 9,863 line-kilometres.

	Traverse Lines	Tie Lines
Spacing	800 m	2,400 m
Bearing	N 45º E	N 315º W
Line-kilometres	7,360	2,503

Table 2: Flight Plan Specifications

Deviations between the flight path flown by **EON** and the theoretical flight plan (input file used for navigation) were analyzed during the field quality control (QC) in order to identify and remove all lines or parts of lines for which the deviations were exceeding the allowed maximum and minimum line separations of 825 m and 775 m, respectively. Lines or portions of lines requiring re-flight due to excessive lateral deviations were re-flown following the overlapping and flying specifications described in the statement of work.

2.3.2. Flight Altitude

The aeromagnetic survey was flown with a nominal terrain clearance of 250 m. For a higher quality data levelling, a drape surface was used in order to provide a consistent and safe flight elevation, as well as to insure that traverse lines and tie lines were flown at the same altitude at the intersection. A drape surface was computed for the survey area using the digital elevation model provided by NRCan and using a slope of 5.0%.

The altitude tolerances were limited to no more than 30 m of difference at the intersection of traverses and tie lines. This limit was also used during the field QC in order to evaluate the areas were the vertical deviation between GPS elevation and the calculated drape surface exceeded the contract specifications and seemed to affect the gridded data.

2.4. Technical Specifications

During the acquisition, data quality control was done in the field on a daily basis. The following technical specifications as well as the flying specifications above were observed throughout the survey to select lines or portions of lines requiring re-flight or for final data acceptance.

2.4.1. Magnetic Diurnal

A maximum tolerance of 3.0 nT (peak-to-peak) deviation from a long chord equivalent to a period of one minute and, in order to limit ULF waves (micro-pulsations), an additional maximum tolerance of 0.5 nT (peak-to-peak) deviation from a long chord equivalent to a period of 15 seconds for the magnetic base station were considered.

2.4.2. Airborne Magnetometer Noise

The fourth difference was used to evaluate the noise level on the magnetic data. The error envelope due to turbulence and the internal magnetometer noise had to stay within ± 0.1 nT for final data acceptance.

3. Survey Equipment

3.1. Aircraft

EON provided a Piper Navajo (registration C-FEON) for this project (see Figure 3 below). The Navajo aircraft, with the technical specifications below, is equipped with a tail stinger suitable for one magnetometer.

Type:	Piper Navajo
Registration:	C-FEON
Range (km):	2,000
Survey speed (km/hr):	250
Survey speed (m/s):	80
Rate of climb:	10%
Aviation Fuel:	Avgas
Fuel consumption (L/hr):	130
FOM value (nT):	1.006

Figure 3: Piper Navajo – C-FEON – Survey Aircraft

3.2. Airborne Systems

EON used the latest state-of-the-art technology instruments as described in the following sections.

3.2.1. Magnetometer

A Geometrics G822A cesium-vapour split-beam sensor, in combination with a high-resolution counter, was used. The specifications are as follows:

Manufacturer:	Geometrics
Type and Model:	Cesium G822A
Ambient Range (nT):	20,000 – 100,000
Sensitivity (nT):	± 0.0005
Absolute Accuracy (nT):	± 3
Noise envelope (nT):	< 0.01
Sampling Interval (sec):	0.1
Heading Error (nT):	< 0.15

3.2.2. Data Acquisition System and Compensator

EON used RMS Instruments' Data Acquisition & Adaptive Aeromagnetic Real-Time Compensation (DAARC500) system. This data acquisition system integrates aeromagnetic real-time compensation with recording from analog and serial data sources. All data acquisition is synchronized in real-time to GPS time via a 1-second pulse. Since the GPS position and UTC time are related to the GPS pulse, a precise correlation is maintained.

DAARC500 compensation uses a three-axis fluxgate magnetometer to monitor the aircraft's position and motion with respect to the ambient magnetic field. Resulting signals are compensated according to a calibration based on a set of standard manoeuvres of rolls, pitches, and yaws made along each survey heading. Aeromagnetic data are sampled at a rate of 10 Hz.

Analog and serial inputs are sampled at the same rate as magnetometer data, or at sub-multiple of it. These data are recorded in the main data file as a sequence of blocks including system and GPS times, as well as PPS-correlation event tags, in order to allow for an easy quality control of synchronization.

This system provides a high-resolution real-time graphical output to a built-in colour display that allows real-time monitoring of data acquisition by the operator.

3.2.3. Navigation

The following table describes the airborne differential GPS system that provided both real-time navigation and flight-path recovery:

GPS Manufacturer:	NovAtel
Model:	ProPak-V3
Differential System:	CDGPS
Frequencies:	2
Accuracy (metre):	± 1
Number of Channels:	72

Navigation System:	Ag-Nav Linav
Pilot Display:	LCD with up/down and left/right indicators
Sampling Interval (sec):	1

The main features of the positioning system are:

1) Real-time graphical and numerical display of flight path with survey-area and grid-line overlay using real-time differentially corrected GPS data
2) Vertical navigation using smooth surface
3) Distance-from-line and distance-to-go indicators
4) Operation in survey-grid or way-point navigation mode
5) Recording of raw range-data for all satellites

3.2.4. Radar Altimeter

The following table describes the radar altimeter that was installed in the aircraft:

Manufacturer:	Honeywell
Model:	HG7710AA01
Range (ft):	0 to 10,000
Accuracy:	± 3 ft (0-100 ft) ± 3% (100-10,000 ft)
Sampling Interval (sec):	0.1

3.2.5. Barometric Altimeter

The following table describes the barometric altimeter that was installed in the aircraft:

Manufacturer:	Honeywell
Model:	PPT
Accuracy:	± 0.05 FS
Sampling Interval (sec):	0.1

3.2.6. Flight Path Camera

A Panasonic HR 1/3 CCD digital video camera recorded in MPEG format the flight-path terrain beneath the aircraft. The camera, with an automatic iris and wide-angle lens, ensured perfect exposure with no operator adjustment. The system recorded both video and data, which was stored alphanumerically in the top portion of each frame. The data include the fiducial, in tenths of a second after midnight UTC, as well as the real-time GPS position data (latitude and longitude).

3.3. Ground Systems

The ground base stations described herein were both installed at **EON**'s base of operations in Watson Lake.

3.3.1. GPS Base Station

The following table describes the GPS base station used to allow post-processing of the raw positioning data recorded in flight:

Manufacturer:	NovAtel
Model:	DL-V3
Accuracy (m):	1
Sampling interval (sec):	1

The GPS base station antenna was located at the Watson Lake Airport at the following coordinates:
60° 06' 52", -128° 49' 35"

3.3.2. Magnetic Base Station

The following table describes the base station magnetometer that was set up in Watson Lake:

Manufacturer:	GEM Systems
Type:	Overhauser
Model:	GSM-19
Dynamic Range (nT):	10,000 – 120,000
Sensitivity (nT):	± 0.015
Absolute Accuracy (nT):	± 0.1
Sampling Interval (sec):	1
Noise level	< 0.1 nT

The magnetometer base station was located at the Watson Lake Airport at the following coordinates:
60° 06' 52", -128° 49' 37"

3.4. Field Data Quality Control System

The following list describes the main components of the in-field data verification system:

Computers:	Pentium PCs
Printer:	HP Photosmart C3180
Software:	Geosoft Oasis montaj
	Waypoint GrafNav/GrafNet
Data transmission:	FTP site

Any calibrations or determinations that were carried out during the field operations were also processed on this system together with the daily quality control tests and checks.

4. Personnel

The following table lists the personnel of **EON** that was involved during this project:

Field Operation	
Project Manager	Khaled Moussaoui Abbas Moussaoui
Field Manager Field Geophysicist Quality Control and Data Processing	Khaled Moussaoui Deru Cao
Co-pilot/Operator	Louis-Olivier La Rochelle
Pilot	Dany Lanthier
Engineer	Dale Martin
Office Processing	
Final Data Processing	John Charlton Khaled Moussaoui
Final Products Final Survey Report	Marc Richard Khaled Moussaoui John Charlton

Table 3: Project Personnel

5. Field Operations

5.1. Base of Operations

As previously mentioned, the survey team was based in Watson Lake, Yukon and the Watson Lake airport was used as base of operations.

5.2. Schedule

The table below displays the schedule of survey activities including tests, calibrations, and mobilization/demobilization. Data acquisition was completed on June 2nd, 2010, for a total production of 9,863 line-km.

Aircraft	Date	Description
Piper Navajo (C-FEON)	April 11 – 12, 2010	Mobilization to Watson Lake
	April 12, 2010	On-site tests and calibrations
	April 16 – June 2, 2010	Production flights
	June 3, 2010	End of survey / Demobilization

Table 4: Schedule – Little Nahanni Aeromagnetic Survey

5.3. Operational Issues

Other than the very unstable weather in or near the survey area, the only operational issues that were encountered during the survey were:

- Several production days were lost due to an aircraft mechanical problem causing the right engine turbo and exhaust to be replaced.
- Flights 35 and 38 were lost due to an issue with the acquired magnetic data. The problem was with the magnetic sensor needing to stay "warm" overnight.

These issues are identified in the daily operational report found in Appendix B.

5.4. Tests and Calibrations

Prior to production flights, the following tests and calibrations were performed by the Piper Navajo in Montreal (Quebec), Bourget (Ontario), and Watson Lake (Yukon):

- Figure of Merit (FOM)
- Altimeter calibration
- Heading (Bourget) test
- Lag test

Detailed results for these tests are presented in Appendix A.

6. Data Processing

The key parameter for this survey was the magnetic data. All of the positioning data post-processing were done using Waypoint GrafNav/GrafNet software and all geophysical data processing was performed using Geosoft Oasis montaj.

6.1. Field Processing and Quality Control

At the end of each flight, recorded data were copied to a backup USB drive and transferred to the geophysicist for quality control (QC) procedures and preliminary data processing, as described in the following section.

Each recorded channel was carefully inspected in profile and/or grid, in order to insure a complete coverage and to detect any hardware problem that may occur during flight. A statistical analysis was also performed to assist with the quality control procedures.

At this stage, lines or segments of line possibly requiring re-flight were identified, and preliminary processing of available data was regularly performed in order to evaluate the impact of these lines on general end product quality. Specifically, coverage, flight path and drape deviations, diurnal activity, and noise level on the magnetic data were verified and then re-flights were identified. Additional re-flights were also determined in collaboration with the Scientific Authority, based on processing results with complete line coverage. Five (5) complete or partial lines were thus rejected and re-flown due to noisier total magnetic field (TMF) in turbulent conditions. A final evaluation was done in collaboration with the Scientific Authority for this project and all final accepted data were within the specifications, as described in Sections 2.3 and 2.4.

6.2. Positioning Data

The NovAtel ProPak-V3 GPS unit transmitted real-time RT-DGPS data to the RMS Instruments DAARC500 acquisition system for data recording and synchronization, as well as to the Ag-Nav Linav navigation system for line and drape navigation. The ProPak-V3 used WAAS broadcast data for differential corrections. Daily quality control of RT-DGPS data was made to verify that precision remained suitable for navigation (< 5 m).

Raw GPS data were used for post-processing, using the GPS base station data and the Waypoint GrafNav/GrafNet software package, in order to obtain final GPS positioning data. Mean sea level elevations are based on the GPS-H (v2) ellipsoidal-orthometric model. Final QC, based on velocity profiles, and on comparison with RT-DGPS and barometric altitudes, ascertained that GPS post-processed data, which remained of high quality and required no corrections for spikes or jumps, improved positioning precision to the order of 1 m.

PP-DGPS final data were used to finalize QC of flight path and drape following during field operations, to complete radar QC and edits through computation of a digital elevation model, and to compute altitude differences at intersections. All these steps allowed for additional GPS QC, provided more reliable edited radar and barometric data, as well as allowed for precise flagging of line segments presenting excessive deviations and requiring re-flight.

Note that GPS positioning data were acquired at a sampling rate of 1Hz. At the GSC's request, these data were interpolated to 10Hz in the final database. The interpolation method was linear for easting and northing coordinates, and Akima for altitude.

The use of a drape surface for vertical navigation allowed for the altitude difference at the intersections between traverses and tie lines to remain within specifications. This is confirmed by the calculation of the altitude difference at the intersections, which shows that only 0.1% of the values (2 out of 3,133) are higher than the 30-meter specification. Figure 4 below shows the statistical analysis of the altitude difference at the intersections.

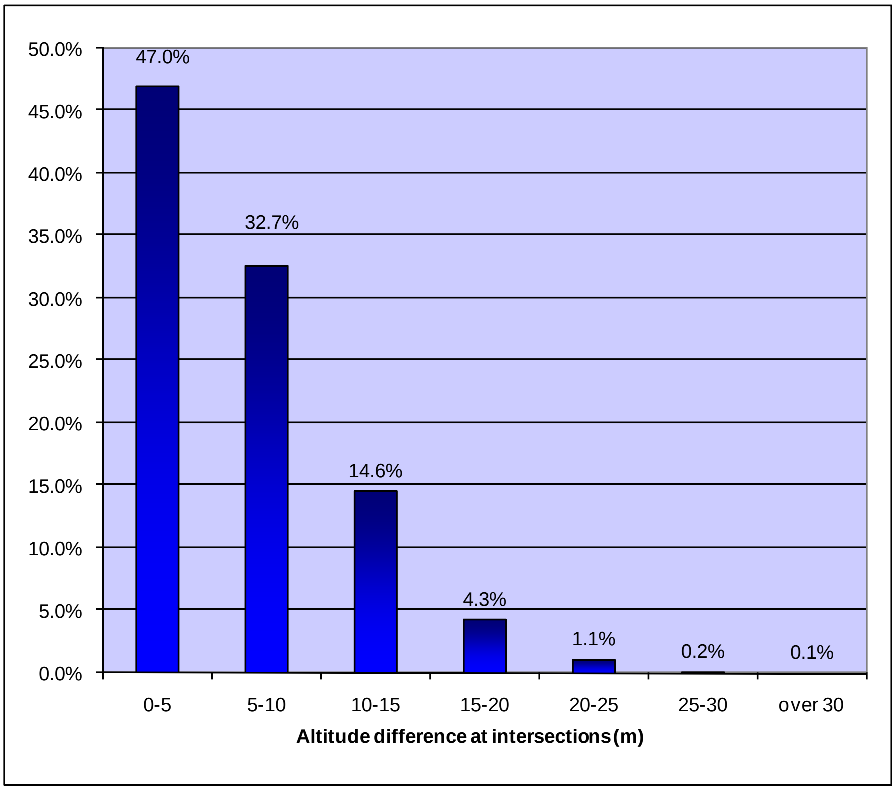
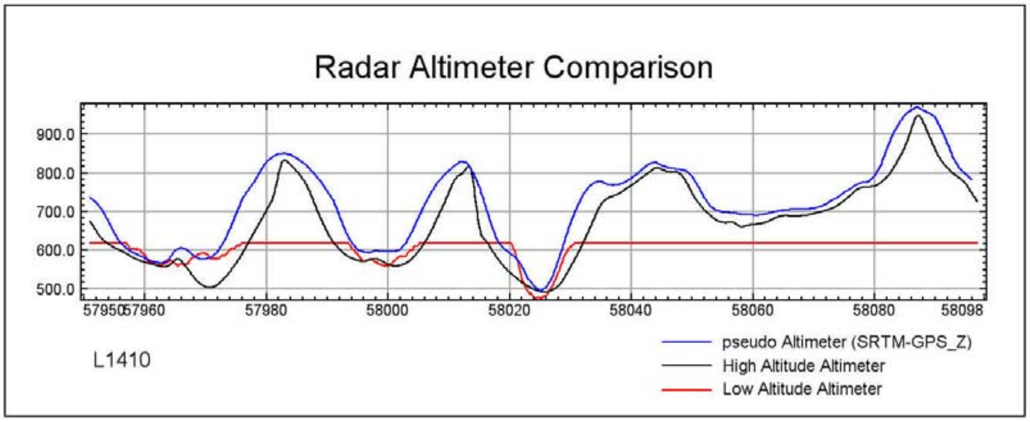


Figure 4: Statistical Analysis of the Altitude Difference at the Intersections

6.3. Altimeter Data and Digital Elevation Model

The high altitude radar was used for the DEM calculation as the low altitude radar is only valid to 600 m and 61% of the survey was above 600 m. The high altitude radar is not a pin point device and averages a considerable ground area depending on the aircraft height. A pseudo radar channel was calculated by subtracting the post processed GPS altitude from the supplied GSC shuttle radar topography (SRTM) for comparing with the high altitude radar to determine areas of jumps and offsets in the data that needed manual adjustments. The following profile illustrates the radar altimeter differences.



The high altitude radar profiles were inspected on a line by line basis with the pseudo radar and obvious steps and offsets were manually adjusted. A nonlinear filter was then applied to remove spikes. This was followed by a 2-second low pass filter. The digital elevation model (DEM) was then calculated by subtracting the filtered radar from the post flight processed GPS altitude. The DEM channel was then levelled using a 5-pass iteration to minimize the differences at the line/tie intersections. No further levelling was attempted due to the spatially inaccurate nature of the high altitude altimeter.

The digital elevation model data were gridded without the tie lines, using Geosoft Oasis montaj's minimum curvature software, using a cell size of 200 meters.

The raw barometric altitude was calculated from the pressure and temperature data recorded in flight. Afterwards, additional corrections were made to remove spikes or jumps, as well as to adjust the mean level, based on a comparison with the GPS altitude.

6.4. Magnetic Data

6.4.1. Diurnal Magnetic Data

A magnetic base unit was installed at the Watson Lake airport.

Magnetic base station profiles were verified daily to insure that no data were collected during periods with diurnal variations above the project specifications. It was also necessary to edit the magnetic base station profiles to remove noise and signal of cultural origin. These cultural corrections were based on the comparison of the profiles from each unit, and resulted in the removal of mostly discrete spikes or level jumps from occasionally passing vehicles. Non-linear and low-pass filters were then applied to remove high frequency noise.

Note that magnetic base data were acquired at a sampling rate of 1Hz. At the GSC's request, these data were interpolated to 10Hz in the final database, using the linear method.

6.4.2. Aeromagnetic Data

Compensation of the single tail sensor raw data against aircraft and directional magnetic signals was applied real-time during acquisition, allowing QC monitoring by the operator, who could determine when the turbulence level became detrimental to data quality and abort flight.

After application of a proper tail sensor lag (C-FEON 0.65sec), uncompensated and compensated total magnetic field (TMF) profiles were monitored on a daily basis to assess compensation effectiveness. Raw TMF (MAGRAW) was the starting point for final processing.

The high frequency noise (less than 2.5 seconds), contained in the MAGRAW channel, was isolated, which is archived in channel MAGHFCOR.

Prior to the Tie-line levelling phase, the Taylor expansion series algorithm was applied to the raw data to minimise low amplitude changes in the magnetic field that were brought about by and attributed directly to deviations of the aircraft from the intended drape height. The difference in altitude between the intended drape flight surface height and the actual flight height profile was used as the continuation distance to apply to all of the magnetic data points. This correction is archived in the ALTCOR channel.

The MAGALTFI channel, (MAGALTFI = MAGRAW - MAGHFCOR - ALTCOR) is therefore the end result of the application of these two corrections upon which the Tie-line levelling is then performed.

The levelled magnetic data channel SRVMGLEV channel (SRVMGLEV = MAGALTFI + MAGTLCOR) contains the tie-levelled data. The IGRF calculated for above MSL height of 2099.23m for date 2010/05/09 (May 09) was removed from SRVMGLEV to produce the residual total magnetic filed archived in channel SRVMGRES.

6.4.3. Final Database

In order to comply with the GSC's sampling and channel names conventions, several modifications were made from **EON**'s work database in order to obtain the final database supplied with this report:

- All channels originally acquired and processed at 1Hz (positioning and barometric altitude) were interpolated to 10Hz, as described above in appropriate sections.
- Channel names and content were modified to the GSC's nomenclature, as specified by the Scientific Authority. **EON**'s original names are supplied in the final channel list (found in Table 5 in Section 7.5).

Also note that the date channel was set to the local date of the start of flight, and that the UTC time was corrected accordingly for the passage of midnight UTC.

6.4.4. Gridded Data

Due to the amount of artefacts generated by the Geosoft minimum curvature algorithm, magnetic data using the SRVMGLEV channel, were gridded by the Scientific Authority, using traverse lines only, using GSC-developed software, using a cell size of 200 meters. Final computation of the first and second vertical derivative grids were also performed by the GSC. The Tie-line data were not used in the gridding.

Maps of the final gridded data, residual magnetic field and first vertical derivative, are presented in Appendix C.

7. Final Deliverables

7.1. Compilation Specifics

- Map Scale: 1:100,000
- Projection: NAD 83, UTM Zone 9N
- Grid size: 200 meters

7.2. Final Maps

The following final maps were produced in both Geosoft .map format and PDF format and were delivered in seven (7) plotted color copies to NRCan:

- Total Magnetic Field (colour and contour interval)
- Magnetic First Vertical Derivative (shaded colour interval)

For the purposes of map scaling and sizing, the survey area was split into three (3) maps as shown on Figure 5 below (including NTS sheets and corresponding GSC and YGS Open File numbers):

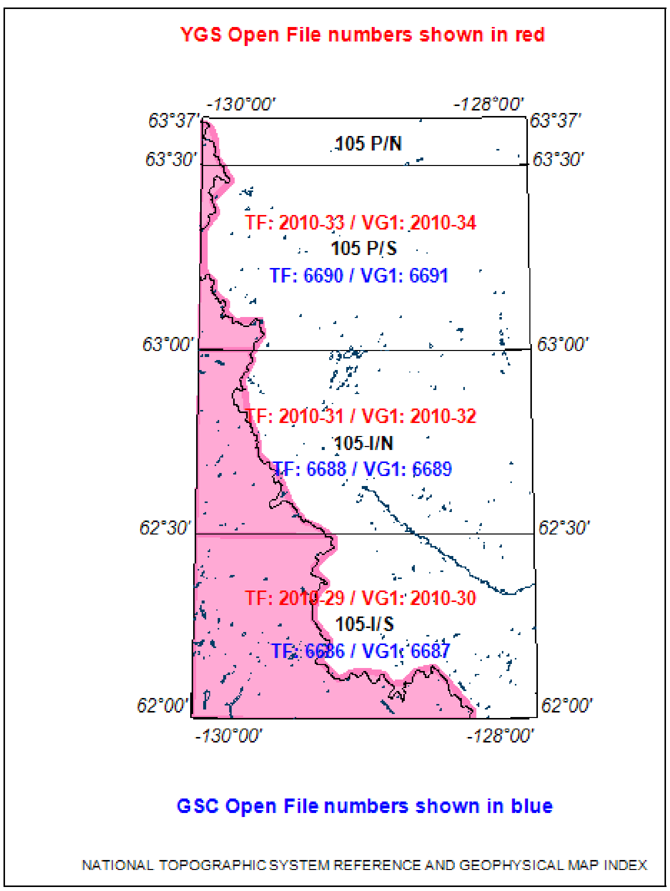


Figure 5: Little Nahanni Final Maps Index

7.3. Digital Archive Data

EON produced one (1) copy of a DVD containing the following digital archive data:

- Geosoft format digital archive of the final line data
  - 09002_BlockA_Final_100920.gdb
  - 09002_BlockA_Final_100920_ReadMe.rtf

- Geosoft format grid file for each of the processed parameters
  - SRVMGLEV.grd — Grid of the Total Magnetic Field
  - SRVMGRES.grd — Grid of the Residual Total Magnetic Field
  - SRVMGLEV_g1.grd — Grid of the First Vertical Derivative
  - SRVMGLEV_g2.grd — Grid of the Second Vertical Derivative
  - DEMLEV.grd — Grid of the Digital Elevation Model

- Final produced maps in Geosoft and PDF formats
  - OF6686_105_IS_TF.map
  - OF6686_105_IS_TF.pdf
  - OF6687_105_IS_VDR1.map
  - OF6687_105_IS_VDR1.pdf
  - OF6688_105_IN_TF.map
  - OF6688_105_IN_TF.pdf
  - OF6689_105_IN_VDR1.map
  - OF6689_105_IN_VDR1.pdf
  - OF6690_105_PS_105_PN_TF.map
  - OF6690_105_PS_105_PN_TF.pdf
  - OF6691_105_PS_105_PN_VDR1.map
  - OF6691_105_PS_105_PN_VDR1.pdf

- Final survey report in MS Word and PDF formats
  - 09002_Little_Nahanni_Final_Survey_Report.doc
  - 09002_Little_Nahanni_Final_Survey_Report.pdf

7.4. Other Products

- Printed final survey report in seven (7) copies
- Flight video DVDs (one (1) copy)

7.5. Final Database Channel Description

The following table lists the channels delivered in the final digital archive of the final line data (Geosoft database):

EON Channel Name	GSC Channel Name	Description	Format	Units	Sample Rate
line	LINE	Line number	I10	-	0.1
fid10	TIME	GPS Time (seconds of the day, dbl prec.& rounded)	F10.2	sec	0.1
tgps	FIDUCIAL	GPS Time (seconds of the day, dbl prec., original)	F10.2	sec	0.1
lon	LONG	Longitude [NAD83]	F13.6	deg	0.1
lat	LAT	Latitude [NAD83]	F13.6	deg	0.1
x	EASTING	UTM Easting (NAD83, zone 9N)	F10.2	m	0.1
y	NORTHING	UTM Northing (NAD83, zone 9N)	F10.2	m	0.1
raltlc	RALTRAW	Raw Radar Altimeter, lagged, adj. to GPS height	F10.2	m	0.1
raltl_proc	RALT	Edited Radar Altimeter, lagged, corrected, final	F10.2	m	0.1
baltl	BALTRAW	Raw barometric altimeter, lagged	F10.2	m	0.1
baltlc	BALT	Barometric altimeter corrected for drift and lag	F10.2	m	0.1
drape	SURFACE	Ideal Surface altitude (drape)	F10.2	m	0.1
zrt	GPSALTR	Uncorrected GPS Altitude (real-time)	F10.2	m	0.1
z	GPSALT	Differentially Corrected GPS Altitude	F10.2	m	0.1
DEM_lvl	DEMLEV	Levelled digital Topography [GPSALT -2.5m- RALT]	F10.2	m	0.1
um3o	MAGUNCOM	Raw uncompensated, unlagged Mag	F10.2	nT	0.1
m3o	MAGCOM	Raw compensated, unlagged Mag	F10.2	nT	0.1
m3l	MAGRAW	Raw compensated, lagged Mag	F10.2	nT	0.1
-	MAGHFCOR	HF_noise correction	F10.4	nT	0.1
-	ALTCOR	Taylor series correction factor for height variations	F10.4	nT	0.1
-	MAGALTFI	Altitude and noise corrected TF mag	F10.2	nT	0.1
baseAo	DIURNRAW	Raw Basemag1	F10.2	nT	0.1
baseA	DIURNAL	Basemag 1	F10.2	nT	0.1
corlvl	MAGTLCOR	Tie-line levelling corrections to mag	F10.2	nT	0.1
mreslvl	SRVMGLEV	Final tie-line levelled mag	F10.2	nT	0.1
migrfd2	IGRF	IGRF correction; Avg. alt (2099.2 m) , date 2010/05/09	F10.2	nT	0.1
mreslvli	SRVMGRES	Levelled residual magnetic field	F10.2	nT	0.1
mfluxX	FLUXLONG	Longitudinal Vector Mag (fluxgate)	F10.2	nT	0.1
mfluxY	FLUXTRAN	Transverse Vector Mag (fluxgate)	F10.2	nT	0.1
mfluxZ	FLUXVERT	Vertical Vector Mag (fluxgate)	F10.2	nT	0.1
date	DATE	Local date **(YYYYMMDD)**	I10	-	0.1
flt	FLIGHT	Flight number	I10	-	0.1

Table 5: Final Database Channel Description

Note: MAGALTFI = MAGRAW-MAGHFCOR-ALTCOR;
SRVMGLEV = MAGALTFI+MAGTLCOR

8. Conclusion

The data acquisition for the survey area was accomplished with a Piper Navajo aircraft, C-FEON, with a single magnetometer installed in a tail stinger.

Once at the base of operation, about seven (7) weeks, from April 12th to June 2nd, 2010, were necessary to acquire the total of 9,863 line-kilometres of data, including tests and calibrations. Major delays were due to bad weather and aircraft mechanical issues.

Re-flights were mainly selected on the basis of magnetic sensor malfunction and diurnal activity for a few lines. All final accepted data were within noise and diurnal specifications, the data acquired were of high quality, and final products were delivered as required by **NRCan**.

Submitted by: ______________________________

Khaled Moussaoui, B.Eng., MBA
President
EON Geosciences Inc.

Appendix A – Calibration Tests Results

A.1. Figure of Merit (FOM)

EON Geosciences Inc.

FOM Test:	**MAG3: tail stinger**	Date:	12-Apr-10
Slot file		Flight:	001
Project:	09002	Location:	Watson Lake Area
Client:	NRCan	Aircraft:	C-FEON
Pilot:	Dany Lanthier	Sensors:	1 tail stinger
Operator:	L-O LaRochelle	Altitude:	3356m
Processor:	Deru Cao	Comp:	**RMS Comp**

Notes: **10 seconds** high pass filter used to determine amplitudes.

MAG 3 Results	**ucomp**	**comp**	**IR**
Total	**16.486**	**1.006**	**16.388**

NE (N46E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99045	82600	82615	2.366	0.152	15.566
Roll		82617	82633	2.076	0.050	41.520
Yaw		82636	82650	0.709	0.082	8.646
Total				**5.151**	**0.284**	**18.137**

NW (N309E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99315	82697	82713	1.924	0.089	21.618
Roll		82715	82732	1.722	0.065	26.492
Yaw		82734	82748	0.754	0.072	10.472
Total				**4.400**	**0.226**	**19.469**

SW (N227E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99225	82802	82819	0.335	0.071	4.718
Roll		82820	82837	1.865	0.076	24.539
Yaw		82839	82853	0.648	0.140	4.629
Total				**2.848**	**0.287**	**9.923**

NE (N130E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99135	82906	82923	1.042	0.040	26.050
Roll		82925	82943	2.258	0.047	48.043
Yaw		82945	82961	0.787	0.122	6.451
Total				**4.087**	**0.209**	**19.555**

EON Geosciences Inc.

FOM Test:	**MAG3: tail stinger**	Date:	15-Jun-10
Slot file		Flight:	901
Project:	09002	Location:	Sorel
Client:	NRCan	Aircraft:	C-FEON
Pilot:	Dany Lanthier	Sensors:	1 tail stinger
Operator:	L-O LaRochelle	Altitude:	3356m
Processor:	Rebecca Bodger	Comp:	**RMS Comp**

Notes: **10 seconds** high pass filter used to determine amplitudes.

MAG 3 Results	**ucomp**	**comp**	**IR**
Total	**20.394**	**1.490**	**13.687**

E (N90E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99090	69948	69963	1.426	0.119	11.983
Roll		69966	69980	2.734	0.099	27.616
Yaw		69985	69998	1.271	0.137	9.277
Total				**5.431**	**0.355**	**15.299**

S (N180E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99180	69834	69848	0.381	0.119	3.202
Roll		69850	69867	1.993	0.100	19.930
Yaw		69872	69885	0.803	0.156	5.147
Total				**3.177**	**0.375**	**8.472**

W (N270E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99270	69718	69735	2.386	0.088	27.114
Roll		69738	69754	2.109	0.083	25.410
Yaw		69757	69771	1.172	0.214	5.477
Total				**5.667**	**0.385**	**14.719**

N (N360E)	Line	Fid range start	end	ucomp	comp	IR
Pitch	99360	69616	69631	3.140	0.144	21.806
Roll		69634	69651	2.451	0.073	33.575
Yaw		69653	69668	0.528	0.158	3.342
Total				**6.119**	**0.375**	**16.317**

A.2. Altimeter Calibration

ALT TEST (CYMX, Mirabel)

Project: 09001
Location: Eagle Plains
Date: 28-Feb-09

Flight: 910
Aircraft: C-FEON
Configuration: 1 sensor (tail)

Airport alt (m): 72.5

Antena Height (m): 2.5

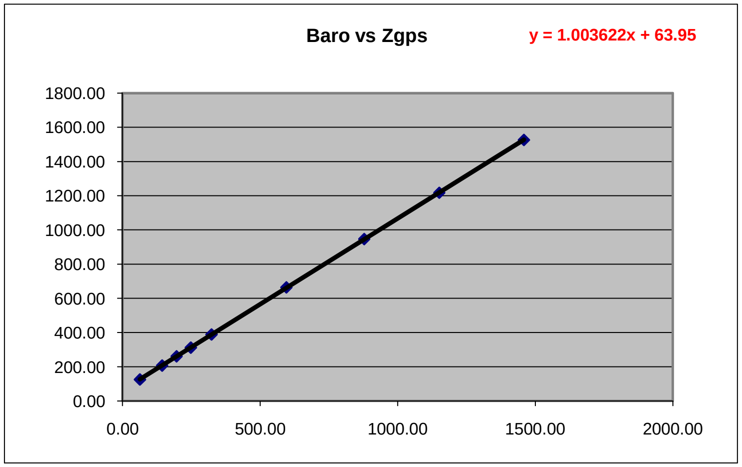
terrain clearance (ft)	zgps (meter)	radar(m)	baro(m)
200	125.80	48.28	62.97
400	206.90	131.25	143.87
600	261.10	186.95	195.94
800	312.40	239.36	248.37
1000	389.20	314.93	323.31
2000	664.20	589.75	595.23
3000	946.80	871.03	877.94
4000	1218.60	1143.91	1151.10
5000	1526.70	1451.25	1459.07

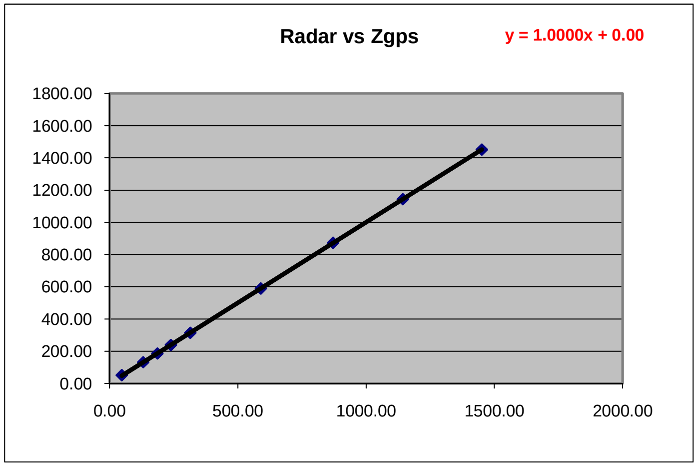
Baro vs Zgps

baro(m)	zgps (m)
62.97	125.80
143.87	206.90
195.94	261.10
248.37	312.40
323.31	389.20
595.23	664.20
877.94	946.80
1151.10	1218.60
1459.07	1526.70

Radar vs Zgps

radar(m)	Z-Airport alt(m)
48.28	50.80
131.25	131.90
186.95	186.10
239.36	237.40
314.93	314.20
589.75	589.20
871.03	871.80
1143.91	1143.60
1451.25	1451.70





C-FEON	**Feb 28th 2009**		**Altimeter calibration (Radar A, Honeywell hi-alt)**							**St-Hubert**	RunwayH	27.4 mMSL	
EON Geosciences Inc			**Aircraft: C-FEON**							**CYHU**	AntH	2.5 m	
		Units	mMSL	uV	m	m	mMSL	mbar	C	mMSL	mMSL	mMSL	m
Line	fid range		z	rrawAo	raltAo	*raltAerr*	DTM	PrawBo	TrawBo	bstpBo	brawBo	baltBo	*baltBerr*
90000	58379.0	58473.0	29.0	1435392	1663.5	*1664.4*	-1637.0	1029.6	-10.0	-137.4	-123.3	22.1	*-6.9*
90200	59089.0	59123.0	86.2	308896	56.7	*0.4*	27.0	1019.6	-10.0	-53.6	-48.1	97.3	*11.1*
90300	59316.0	59347.0	121.3	334447	93.1	*1.7*	25.7	1016.6	-10.0	-28.3	-25.4	120.0	*-1.3*
90400	59563.0	59593.0	157.3	357608	126.2	*-1.2*	28.6	1011.2	-10.1	17.4	15.6	161.0	*3.7*
90500	59822.0	59854.0	226.7	406555	196.0	*-0.8*	28.2	1002.9	-10.6	88.1	78.9	224.3	*-2.4*
90600	60078.0	60109.0	275.6	441152	245.3	*-0.4*	27.8	995.7	-11.4	149.9	133.9	279.3	*3.7*
90700	60332.0	60363.0	294.2	454309	264.1	*-0.2*	27.6	992.4	-12.2	178.4	158.8	304.3	*10.1*
90800	60617.0	60649.0	329.9	479208	299.6	*-0.4*	27.8	988.7	-13.2	210.5	186.6	332.1	*2.2*
90900	60908.0	60941.0	354.1	496009	323.6	*-0.6*	28.0	985.6	-14.4	237.4	209.6	355.0	*0.9*
91000	61158.0	61190.0	388.9	520922	359.1	*0.1*	27.3	981.0	-15.4	277.6	244.0	389.5	*0.6*
91500	61489.0	61519.0	517.0	610843	487.4	*0.3*	27.1	963.4	-16.7	432.9	378.7	524.1	*7.1*
92000	61827.0	61859.0	679.6	725198	650.5	*0.8*	26.6	944.9	-17.9	599.3	521.8	667.2	*-12.4*
93000	62120.0	62154.0	939.0	907100	910.0	*0.9*	26.5	911.4	-18.8	909.0	788.7	934.2	*-4.8*
94000	62492.0	62524.0	1207.2	1094400	1177.1	*-0.2*	27.6	878.2	-19.8	1227.4	1060.8	1206.2	*-1.0*
95000	62955.0	62988.0	1504.2	1302395	1473.8	*-0.5*	27.9	845.5	-20.0	1553.1	1341.1	1486.6	*-17.6*
	Statistics					***0.0***	**27.4**						***0.0***
	Calibrations		**raltAo**	a	b						**baltBo**	a	b
			linest	0.0014263893	-354.01						linest	1.0128565	140.81
			used	**0.0014263893**	**-383.91**						**used**	**1.0000000**	**145.44**

St-Hubert, CYHU, 90', 27.4m
Aircraft C-FEON

Constants and formulaes below are valid under 11000m

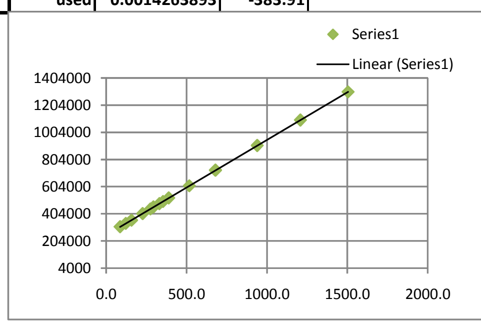
Baro	Constants (sea level)	units
8314.32	**R** - Universal Gas Constant	kmol-1
273.15	**T** - Celsius zero in Kelvin	K
28.96442	**M** - Molecular Weight of Air	kg*kmol-1
9.80665	**g** - acceleration of gravity	m*s-2
0.00	**H** - Datum Height	m
1013.25	**P** - Datum Pressure	mbar
20.00	**st** - Standard Temperature	Celsius

Formula for **MSL** baro altitude from pressure and temperature

brawBo= **H** + (**R***(TrawBo+**T**)/**M*****g**)*ln(**P**/PrawBo)

Formula for **STP** baro altitude from pressure and STP temperature

bstpBo= **H** + (**R***(**st**+**T**)/**M*****g**)*ln(**P**/PrawBo)



A.3. Heading (Bourget) Test

AEROMAGNETIC SENSOR CALIBRATION
BOURGET RANGE, ONTARIO

Project:	09006 (MRNF)	**Calibration for:**	Sensor M3 (tail stinger)
Aircraft:	C-FEON (Navajo)	**Date:**	23/01/2010
Company:	EON Geosciences Inc.	**Nominal Height:**	1000'
Sensor:	Geometrix G-822a	**Sampling Rate:**	10 Hz
Magnetomer:	RMS DAARC500 Compensator	**Compiled by:**	Rebecca Bodger

Flight Heading above crossroad	Line number	Time (UTC) above crossroad	Total Field (nT) recorded above crossroad T1	Total Field (nT) recorded at Observatory T4	Radar AGL (m) recorded above crossroad	TF Obs-Aircraft difference (nT) C	Expected TF (nT) at Radar Alt T5=T4-C	Total Field (nT) Error T6=T1-T5
NORTH (1/2)	99361	16:40:42.11	54509.266	55054.383	313.70	549.650	54504.733	4.533
SOUTH (1/2)	99181	16:46:19.41	54508.125	55054.168	314.20	549.630	54504.538	3.587
EAST (1/2)	99091	16:18:43.02	54507.039	55052.770	311.60	549.732	54503.038	4.001
WEST (1/2)	99271	16:12:25.52	54506.871	55052.891	297.90	550.272	54502.619	4.252
NORTH (1/2)	99362	16:54:42.81	54509.195	55053.695	328.00	549.087	54504.608	4.587
SOUTH (1/2)	99182	17:00:12.21	54507.734	55054.184	307.00	549.913	54504.271	3.463
EAST (1/2)	99092	16:30:46.82	54507.914	55053.762	312.30	549.705	54504.057	3.857
WEST (1/2)	99272	16:24:41.91	54508.797	55054.094	315.80	549.567	54504.527	4.270
Test Point Info	**Datum:** WGS-84 UTM Z18N	**Nominal** X=490084 Y=5032245	**Effective** X=490074.9 Y=5032236	**Notes:** -passes made N-S & E-W using NAV, at nominal 1000' AGL, as per GSC procedure. -using compensation solution acquired at Sorel QC on Jan 22nd, 2010, along 45º headings.				

C is the Total Field difference between the Blackburn Observatory and the radar height above the crossroad

Radar AGL (feet)	Radar AGL (m)	C value (nT)	C factors [C=(a*radar)+b]	
			a	b
500	152.4	556	-0.039370079	562
1000	304.8	550		

Total error (nT): 32.549
Average error (nT): 4.069
Average N-S heading error (nT): 1.034
Average E-W heading error (nT): -0.332

AEROMAGNETIC SENSOR CALIBRATION
BOURGET RANGE, ONTARIO

Project:	09002 (GSC)	**Calibration for:**	Sensor M3 (tail stinger)
Aircraft:	C-FEON (Navajo)	**Date:**	15/06/2010
Company:	EON Geosciences Inc.	**Nominal Height:**	1000'
Sensor:	Geometrix G-822a	**Sampling Rate:**	10 Hz
Magnetomer:	RMS DAARC500 Compensator	**Compiled by:**	Rebecca Bodger

Flight Heading above crossroad	Line number	Time (UTC) above crossroad	Total Field (nT) recorded above crossroad T1	Total Field (nT) recorded at Observatory T4	Radar AGL (m) recorded above crossroad	TF Obs-Aircraft difference (nT) C	Expected TF (nT) at Radar Alt T5=T4-C	Total Field (nT) Error T6=T1-T5
NORTH (1/2)	99361	20:14:11	54490.648	55035.047	326.10	549.161	54485.886	4.762
SOUTH (1/2)	99181	20:17:05	54493.746	55038.941	323.90	549.248	54489.693	4.053
EAST (1/2)	99091	20:28:31	54488.270	55033.074	326.00	549.165	54483.909	4.361
WEST (1/2)	99271	20:25:58	54489.473	55034.125	329.80	549.016	54485.109	4.364
NORTH (1/2)	99362	20:19:59	54493.422	55038.289	321.20	549.354	54488.935	4.487
SOUTH (1/2)	99182	20:22:53	54491.648	55036.613	325.90	549.169	54487.444	4.204
EAST (1/2)	99092	20:34:26	54484.375	55029.863	323.80	549.252	54480.611	3.764
WEST (1/2)	99272	20:31:30	54487.719	55032.602	327.80	549.094	54483.508	4.211
Test Point Info	**Datum:** WGS-84 UTM Z18N	**Nominal** X=490084 Y=5032245	**Effective** X=490073 Y=5032239	**Notes:** -passes made N-S & E-W using NAV, at nominal 1000' AGL, as per GSC procedure. -using compensation solution acquired at Sorel QC on June 15th, 2010.				

C is the Total Field difference between the Blackburn Observatory and the radar height above the crossroad

Radar AGL (feet)	Radar AGL (m)	C value (nT)	C factors [C=(a*radar)+b]	
			a	b
500	152.4	556		
1000	304.8	550	-0.039370079	562

Total error (nT): 34.208
Average error (nT): 4.276
Average N-S heading error (nT): 0.496
Average E-W heading error (nT): -0.225

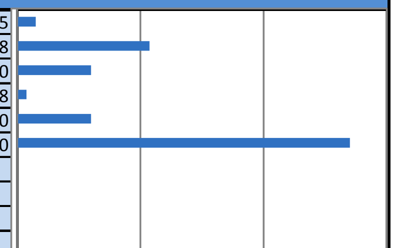
A.4. Lag Test

	MAG 3	C-FEON	MTL area	Feb 28th 2009		Lag Test					**av lag**
	EON Geosciences Inc.										**0.67**
Flag	Line	Fid	UTC	X	Y	Z	m3o	vx	vy		
1	88001	56971.40	15:49:31	619781.7	5056936.0	191.2	55493.227	17.0	64.5		
2	88002	57250.80	15:54:11	619759.4	5056846.5	192.8	55533.363	-22.5	-66.0		
				22.3	89.5			66.7	**v**		
			dist	**92.2**				69.7	**68.2**	**lag**	**0.68**
Flag	Line	Fid	UTC	X	Y	Z	m3o	vx	vy		
3	88003	57438.60	15:57:19	619780.3	5056930.5	212.3	55014.594	9.8	65.3		
4	88004	57717.90	16:01:58	619775.8	5056839.0	211.9	55005.328	-17.4	-69.0		
				4.5	91.5			66.0	**v**		
			dist	**91.6**				71.2	**68.6**	**lag**	**0.67**
Flag	Line	Fid	UTC	X	Y	Z					
1	88001	56970.75	15:49:31	619770.6	5056894.0	191.5	**lag app:**	**0.65**			
2	88002	57250.20	15:54:10	619772.8	5056886.5	191.5					
3	88003	57438.00	15:57:18	619774.4	5056891.0	212.2					
4	88004	57717.25	16:01:57	619787.0	5056884.0	211.8					

Appendix B – Daily Operational Report

EON GEOSCIENCES INC.		EON GEOSCIENCES INC Daily report		6500 Trans-Canada, Suite 120, St-Laurent, QC, Canada H4T 1X4 Tel: +1-514-341-3366, Cell: +1-514-651-6391, Fax: +1-514-341-5366 info@eongeosciences.com
Aircraft		**Projects**	**Area & Client**	**Crew chiefs:** Deru Cao
Code:	C-FEON	09002-A	Little Nahanni, YT - GSC	**Pilots:** Dany Lanthier, Louis-Olivier La Rochelle
Type:	Piper Navajo			**Engineers:** Dale Martin
FBO:	Brucelandair			**Operators:** Dany Lanthier, Louis-Olivier La Rochelle
Inst:	Tail Mag			**Processors:** Khaled Moussaoui, Deru Cao

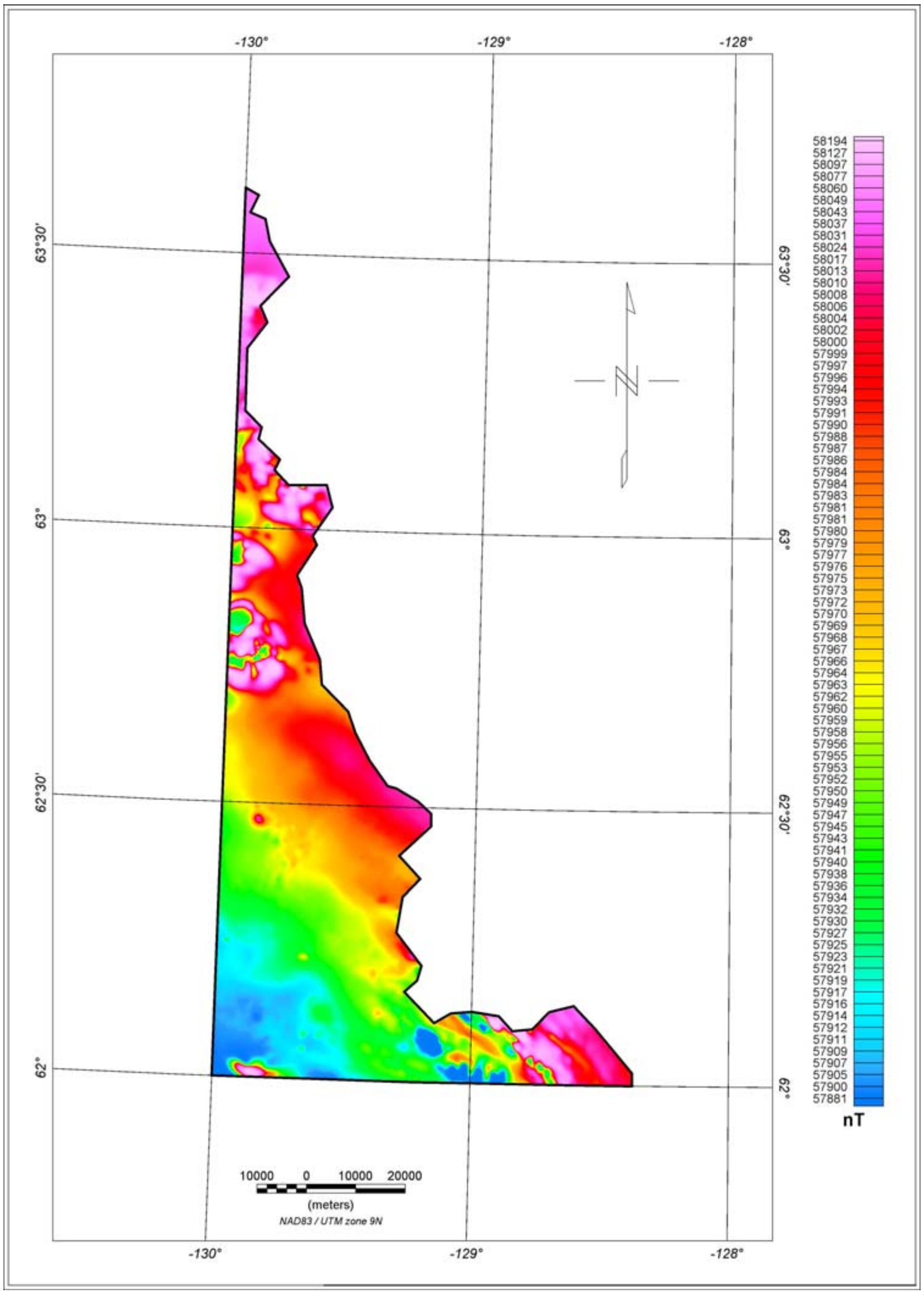
Project Block	09002 A				**Total Project**	**Activity Histogram**	
Planned Kms	9393.32				**9393.32**		
Total flown Kms	10342.91				**10342.91**	Set-up (SE)	1.5
Total accepted Kms	9393.32				**9393.32**	Production (P)	10.8
Total survey hours	52.10				**52.10**	Maintenance (M)	6.0
Total test-training hours	2.30				2.30	Electronics (E)	0.8
Total ferry hours	36.60				36.60	Diurnals (D)	6.0
Total hours	91.00				**91.00**	Weather (W)	27.0
Total days						Training (TR)	
Average kms/day (total)						Safety (SAF)	
Average kms/hour (survey)	180.29				180.29	Crew (CR)	
Project Completion	100.0%				**100.0%**	Other (X)	



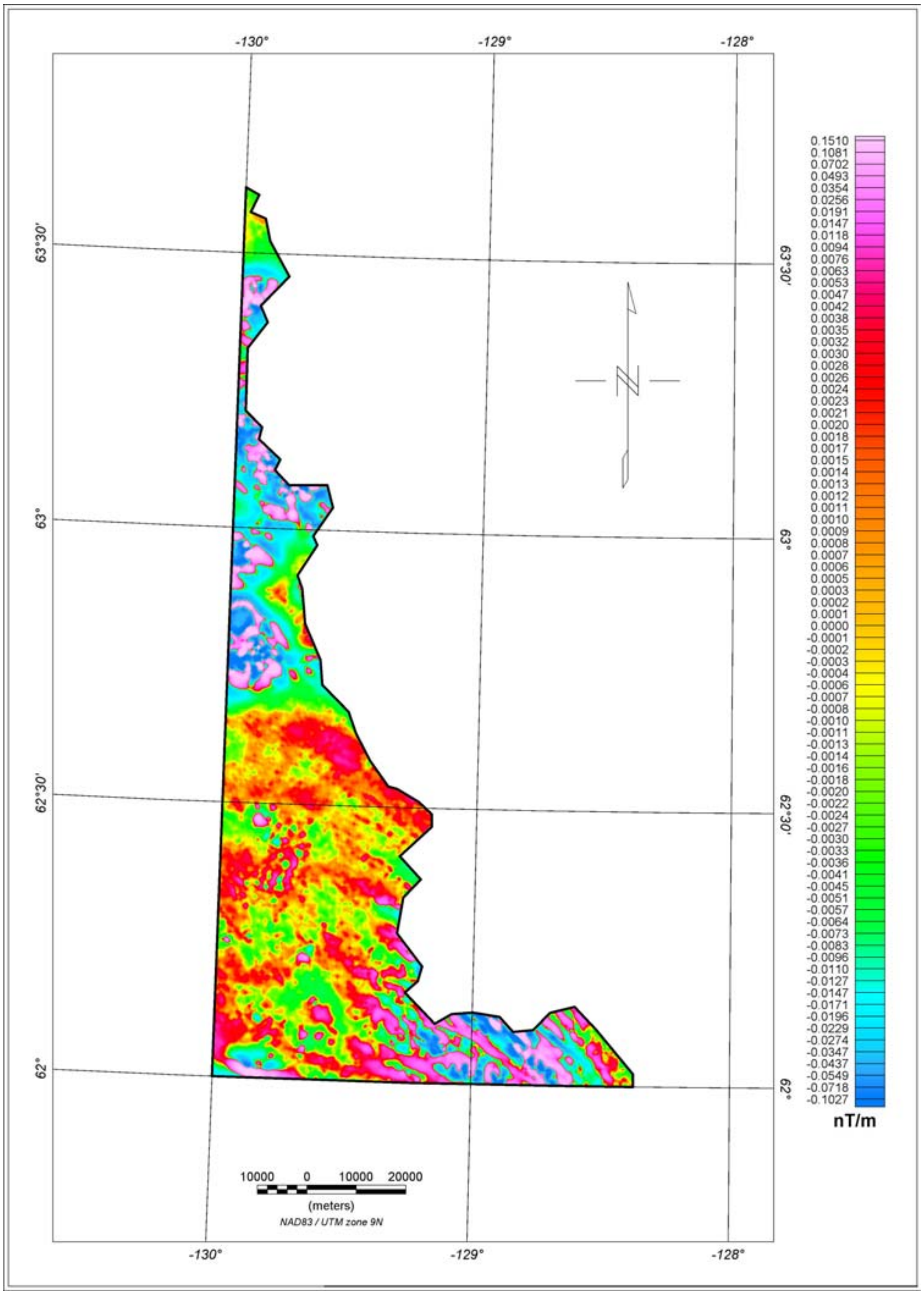
Flight information					**Aircraft hours**				**Kilometreage**		**Daily activity report**				**Comments**
Date	Project no.	Blk	Flt	Crew (initials)	Ferry	Test Train	Sur-vey	Total	Flown	Accepted	Activity Code (per 1/4 days)				
10-Apr-10	09002	A													Aircraft and crew left Rankin Inlet, overnight in Yellowknife.
11-Apr-10	09002	A													Aircraft and crew (pilots Dany Lanthier and Louis-Olivier LaRochelle) arrived in Watson Lake.
12-Apr-10	09002	A	31	dl,ll	0.4	0.7		1.1			SE	SE	SE	SE	FOM test flown, OK. Base stations installed. Khaled Moussaoui arrived in Watson Lake.
13-Apr-10	09002	A									W	W	W	W	Strong turbulence up to 12,000 ft.
14-Apr-10	09002	A									W	W	D	D	Strong turbulence up to 12,000 ft and strong diurnals.
15-Apr-10	09002	A									W	W	W	W	Strong turbulence up to 12,000 ft.
16-Apr-10	09002	A	32	dl,ll	1.4		3.1	4.5	569.20	569.20	W	P	P	P	**AM**: Morning delay due to clouds in the survey area. **PM**: Flt032.
17-Apr-10	09002	A	33	dl,ll	1.5		3.6	5.1	562.02	562.02	P	P	P	W	**AM**: Flt033. **PM**: Clouds in the survey area.
18-Apr-10	09002	A									W	W	W	W	Clouds in the survey area.
19-Apr-10	09002	A	34	dl,ll	1.8		1.4	3.2	268.50	268.50	P	M	M	M	**AM**: Flt034, cut short due to mechanical problem. **PM**: Aircraft problem being investigated.
20-Apr-10	09002	A									M	M	M	M	Parts needed for aicraft repair on order.
21-Apr-10	09002	A									M	M	M	M	Parts needed for aicraft repair on order.
22-Apr-10	09002	A									M	M	M	M	Parts needed for aicraft repair on order.
23-Apr-10	09002	A									M	M	M	M	Parts needed for aircraft repair received.
24-Apr-10	09002	A									M	M	M	M	Repairs made on aircraft.
25-Apr-10	09002	A									M	W	W	W	Aircraft ready. Clouds and low ceilings.
26-Apr-10	09002	A	35	dl,ll	1.5		1.9	3.4	436.84		P	P	W	W	**AM**: Flt035, cut short due to strong turbulence. Issue with mag data, whole flight scrub. **PM**: Strong turbulence in survey area.
27-Apr-10	09002	A	36	dl,ll	0.5	0.7		1.2			E	E	SE	W	**AM**: Mag sensor installation verified, OK. **PM**: FOM test flown, OK. Strong turbulence in survey area.
28-Apr-10	09002	A	37	dl,ll	1.7		3.1	4.8	708.42	708.42	P	P	P	W	**AM**: Flt037. **PM**: Strong turbulence in survey area. Khaled Moussaoui left Watson Lake.
29-Apr-10	09002	A	38	dl,ll	1.7	0.2	0.1	2.0	27.33		P	E	W	W	**AM**: Flt038. Issue with mag data, whole flight scrub. Problem seems to be with mag sensor needing to stay "warm" at night. **PM**: Strong turbulence in survey area.
30-Apr-10	09002	A	39	dl,ll	0.5	0.7		1.2			W	SE	W	W	Test flight done to confirm mag sensor is ok after staying "warm" at night. Clouds in survey area.
1-May-10	09002	A									W	W	W	W	Low ceilings.
2-May-10	09002	A									W	D	W	D	Low ceilings and active diurnals.
3-May-10	09002	A									W	D	W	D	Low ceilings and active diurnals.
4-May-10	09002	A	40	dl,ll	1.0			1.0			D	W	W	W	Morning delay due to active diurnals. Flight attempted but aborted due to low ceilings.

Flight information					Aircraft hours				Kilometreage		Daily activity report				Comments
Date	Project no.	Blk	Flt	Crew (initials)	Ferry	Test Train	Sur-vey	Total	Flown	Accepted	Activity Code (per 1/4 days)				
5-May-10	09002	A	41	dl,ll	1.5		3.8	5.3	795.96	795.96	P	P	P	W	**AM**: Flt041. **PM**: Flt042, cut short due to strong turbulence.
	09002	A	42	dl,ll	1.8		0.4	2.2	120.72	120.72					
6-May-10	09002	A									D	W	W	W	Clouds in the survey area and active diurnals in the morning.
7-May-10	09002	A	43	dl,ll	1.8		1.2	3.0	274.72	202.18	D	P	P	W	**AM**: Morning delay due to active diurnals. Flt043, cut short due to strong turbulence. **PM**: Strong turbulence in survey area. Deru arrived at Watson Lake
8-May-10	09002	A	44	dl,ll	1.6		0.7	2.3	148.50	148.50	D	P	W	W	**AM**: Morning delay due to active diurnals. Flt044 cut short due to weather .(2370-2400,6010).
9-May-10	09002	A									W	W	W	W	no flight due to weather.
10-May-10	09002	A	45	dl,ll	1.6		1.8	3.4	354.30	354.30	P	P	W	W	one production flt. (line 2460-2490,2760-2770,tie 6020-6040).
11-May-10	09002	A	46	dl,ll	1.7		4.0	5.7	816.80	816.80	P	P	P	W	one production flt. (line 2290-2461,tie 6050-6060).
12-May-10	09002	A									W	W	W	W	no flight due to weather.
13-May-10	09002	A	47	dl,ll	1.2			1.2			W	W	W	W	one flt. Is aborted due to weather and no production.
14-May-10	09002	A	48	dl,ll	1.7		2.1	3.8	362.10	313.50	P	P	W	W	one production flt. (line 2250-2280,tie 6070-6090).
15-May-10	09002	A	49/50	dl,ll	3.4		7.3	10.7	1257.10	1257.10	P	P	P	P	two production flt. (line 1010-1390,2150,tie 6100,6310-6560).
16-May-10	09002	A									W	W	W	W	no flight due to weather.
17-May-10	09002	A	51	dl,ll	1.7		3.3	5.0	737.80	737.80	P	P	P	W	one production flt. (line 1980-2130,tie 6140,6230).
18-May-10	09002	A									W	W	W	W	no flight due to weather.
19-May-10	09002	A									W	W	W	W	no flight due to weather. (rain)
20-May-10	09002	A									W	W	W	W	no flight due to weather. (low ceiling)
21-May-10	09002	A									W	W	W	W	no flight due to weather. (cloudy)
22-May-10	09002	A									W	W	W	W	no flight due to weather. (cloudy)
23-May-10	09002	A									W	W	W	W	no flight due to weather. (rain and cloudy)
24-May-10	09002	A									W	W	W	W	no flight due to weather. (cloudy)
25-May-10	09002	A	52	dl,ll	1.7		4.0	5.7	644.60	545.50	W	P	P	W	one production flt. (line 1400-1650,tie 6290-6300,reflown 1251,1281,1311-1321,6271).
26-May-10	09002	A	53	dl,ll	1.7		4.2	5.9	850.40	850.40	P	P	P	W	one production flt. (line 1770-1970,2140,tie 6150,6265).
27-May-10	09002	A	54	dl,ll	1.5		2.7	4.2	660.90	599.30	P	P	W	W	one production flt. (line 1660-1760,tie 6245,6255,6275,6285, reflown 2571).
28-May-10	09002	A									D	D	W	W	no flight due to diurnal and weather.
29-May-10	09002	A									D	D	W	W	no flight due to diurnal and weather.
30-May-10	09002	A									D	D	D	D	no flight due to active durnal.
31-May-10	09002	A									D	D	D	D	no flight due to active durnal.
1-Jun-10	09002	A									D	D	W	W	no flight due to diurnal and weather.
2-Jun-10	09002	A	55	dl,ll	1.7		3.4	5.1	746.70	543.12	P	P	P	W	one production flt. (tie 6160-6220, reflown 2451,2581).

Appendix C – Gridded Data



Little Nahanni Aeromagnetic Survey
Total Magnetic Field



Little Nahanni Aeromagnetic Survey
First Vertical Derivative