BRITISH COLUMBIA

**Ministry of Energy & Mines**
Energy & Minerals Division
Geological Survey Branch

**ASSESSMENT REPORT**
**TITLE PAGE AND SUMMARY**

TITLE OF REPORT [type of survey(s)]: AEROTEM II EM AND MAG SURVEY; BIG NIC PROPERTY
TOTAL COST: $83,221.28

AUTHOR(S): M. McCLAREN
SIGNATURE(S): M McClaren

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A
YEAR OF WORK: 2005

STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S): EVENT # 4049815
SEPT. 27, 2005

PROPERTY NAME: BIG NIC

CLAIM NAME(S) (on which work was done): BIG NIC 2, 5, 7, 9-22; MASS 12-15;
512546; 512555; 512556

COMMODITIES SOUGHT: NICKEL; COPPER; COBALT

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: NONE

MINING DIVISION: NEW WESTMINSTER
NTS: 92H/05/06

LATITUDE 49 ° 25 ' 37 " LONGITUDE 121 ° 34 ' 21 " (at centre of work)

OWNER(S)
1) PACIFIC NICKEL SYNDICATE
2)

MAILING ADDRESS
2990 ST. KILDA AVE.,
N. VAN., B.C. V7N 2A7

OPERATOR(S) [who paid for the work]
1) PACIFIC COAST NICKEL CORP.
2)

MAILING ADDRESS
#430-580 HORNBY ST.,
VAN. BC. V6C 3B6

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
MAFIC-ULTRAMAFIC; CRETACEOUS, NORTHWESTERLY FAULTS;
NORTH-NORTHEAST AND NORTH-NORTHWEST STRUCTURES;
NICKEL; COPPER; COBALT

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: A.R. 27,368
A.R. 3355

(OVER)

| TYPE OF WORK IN THIS REPORT | EXTENT OF WORK (IN METRIC UNITS) | ON WHICH CLAIMS | PROJECT COSTS APPORTIONED (incl. support) |
|---|---|---|---|
| GEOLOGICAL (scale, area) | | | |
| Ground, mapping | | | |
| Photo interpretation | | | |
| GEOPHYSICAL (line-kilometres) | | | |
| Ground | | | |
| Magnetic | | | |
| Electromagnetic | | | |
| Induced Polarization | | | |
| Radiometric | | | |
| Seismic | | | |
| Other | | | |
| Airborne | 541.4 LINE KM. | BIG NIC 2, 5, 7, 9-22 MASS 12-15; 512546, 512555 512556 | $ 83,221.28 |
| GEOCHEMICAL (number of samples analysed for ...) | | | |
| Soil | | | |
| Silt | | | |
| Rock | | | |
| Other | | | |
| DRILLING (total metres; number of holes, size) | | | |
| Core | | | |
| Non-core | | | |
| RELATED TECHNICAL | | | |
| Sampling/assaying | | | |
| Petrographic | | | |
| Mineralographic | | | |
| Metallurgic | | | |
| PROSPECTING (scale, area) | | | |
| PREPARATORY/PHYSICAL | | | |
| Line/grid (kilometres) | | | |
| Topographic/Photogrammetric (scale, area) | | | |
| Legal surveys (scale, area) | | | |
| Road, local access (kilometres)/trail | | | |
| Trench (metres) | | | |
| Underground dev. (metres) | | | |
| Other | | | |
| | | TOTAL COST | $83,221.28 |

# Report on a Helicopter-Borne AeroTEM© II Electromagnetic and Magnetic Survey On the Big Nic Property

**Big Nic 2,5,6,7,9,10,11,12,13,14,15,16,17,18,19,20,21,22;**
**Mass 12,13,14,15; 512546, 512555,512556,505167 Mineral Claims**

## NEW WESTMINSTER MINING DISTRICT
## BRITISH COLUMBIA
### NTS 92H/05/06

**Latitude: 49 ° 25’ 37” N**
**Longitude: 121 ° 34’ 21” W**

**Prepared for:**
**PACIFIC COAST NICKEL CORP.**
**OPERATOR**

**And**

**PACIFIC NICKEL SYNDICATE**
**OWNER**

**Prepared by:**
**Murray McClaren, P.Geo.**

**CROCKITE RESOURCES LTD.**
**283 Woodale Road,**
**North Vancouver, British Columbia,**
**V7N 1S6**

**DECEMBER 17TH, 2005**

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**AEROQUEST LIMITED: Report on a Helicopter-Borne
AeroTEM© II Electromagnetic & Magnetometer Survey**

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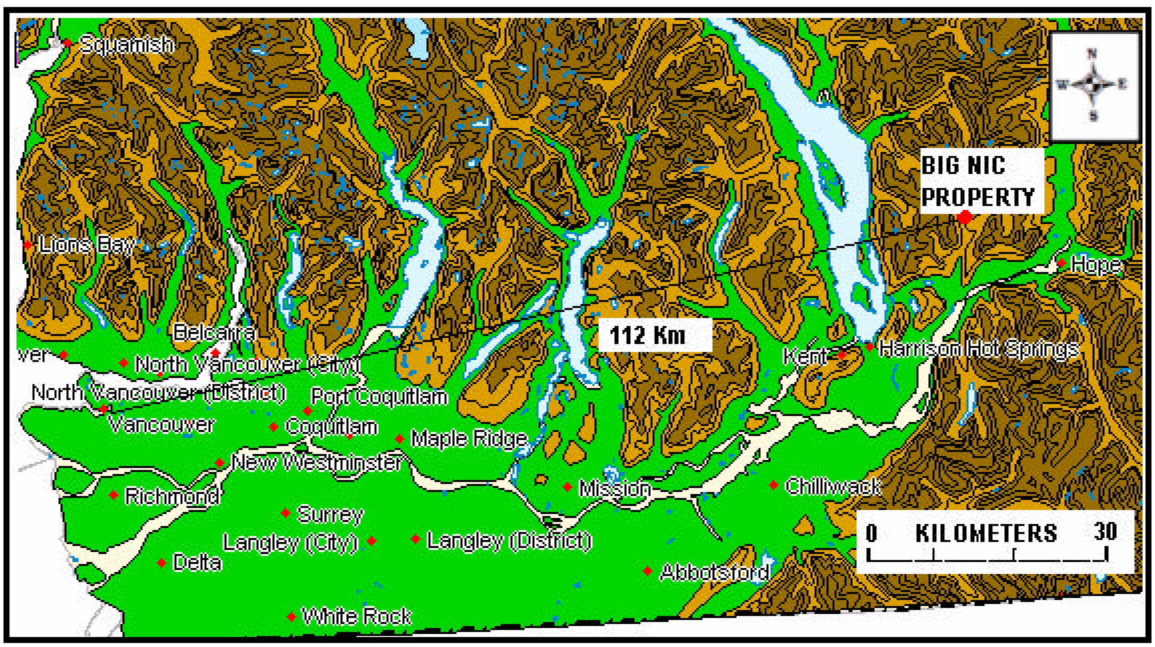
**STATEMENT OF QUALIFICATIONS: MURRAY McCLAREN**

## INTRODUTION

An airborne TEM II electromagnetic and magnetic survey was completed by Aeroquest Limited of Milton, Ontario, between March 30th, 2005 and April 4th and April 6th, 2005. A total of 541.4 line kilometers were flown during this survey. The purpose of this survey was to aid in mapping the local geology and interpretate structural features as well as locate zones of conductive mineralization. The combination magnetic and electromagnetic surveys has proven to be an excellent geological mapping tool, often capable of identifying lithological units and regional structures (contacts, faults, etc.). The magnetic survey was undertaken as it is a suitable technique for mapping the outlines of intrusions in the area. The EM survey was undertaken with the purpose that it might detect localized conductivity variations that may be related to near surface, massive sulphide mineralization. Based on the previous exploration in the Harrison Lake area, these EM responses are expected to be low amplitude, subtle features and
the primary geophysical targets are weak, EM conductivity responses located along the edge of magnetic highs, interpreted to represent intrusive bodies.

## LOCATION

The Big Nic Property is located approximately 112 kilometers east-northeast of Vancouver, British Columbia. The property is located in the area of Garnet Creek and its tributaries, Ruby and American Creeks in the northern Cascade Range of British Columbia.




**LOCATION MAP** | **BIG NIC PROPERTY**
M.McCLAREN, P.Geo. | NEW WESTMINSTER MINING DIVISION
December 2005

## CLAIMS

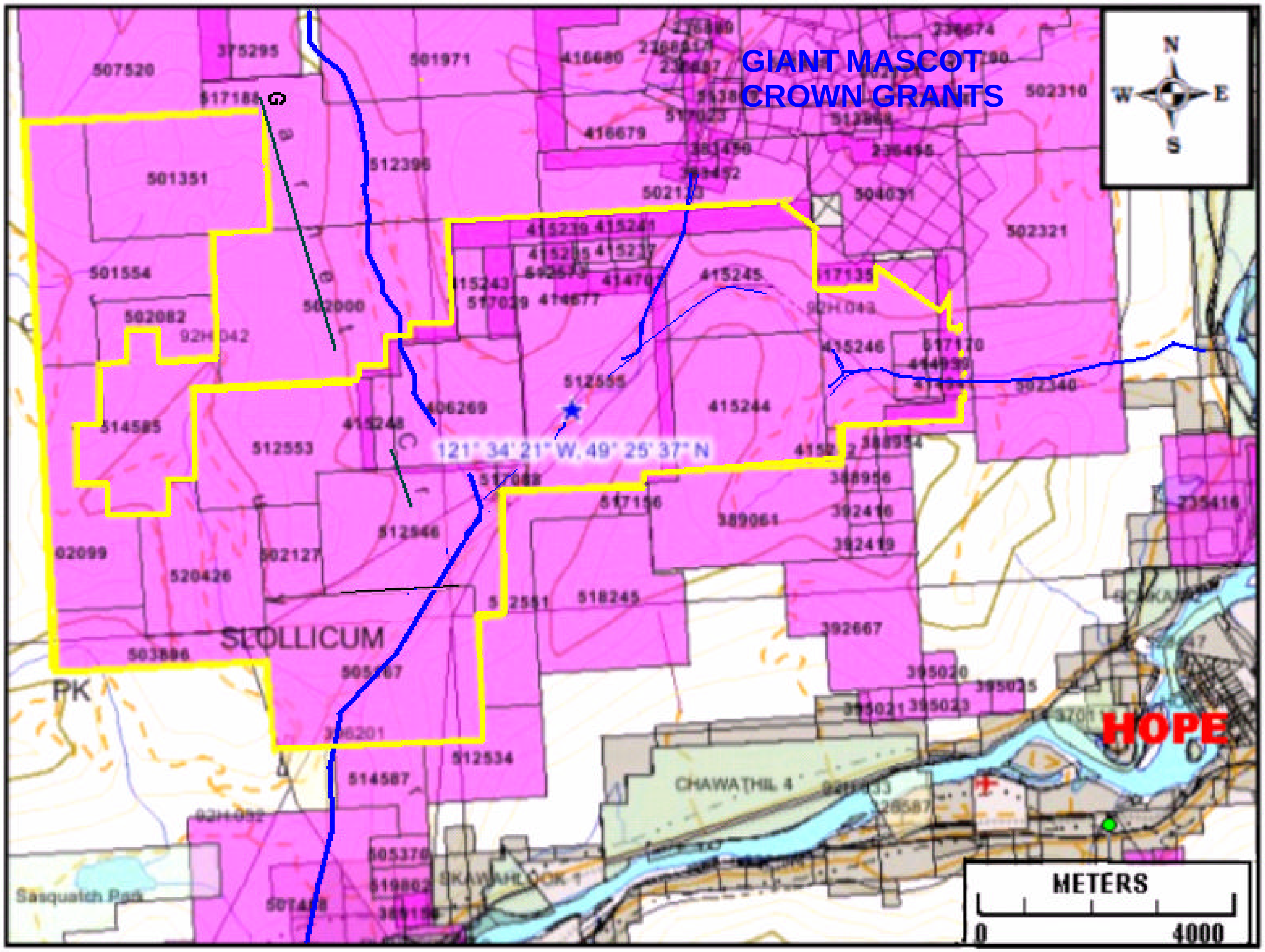
The Big Nic Property (as listed below) is under option from the Pacific Nickel Syndicate (Mr. E. Dodson, Manager) by Pacific Coast Nickel Corp. (operator) and consist of the following contiguous claims to which work has been applied:

| Tenure Number | Claim Name | Owner | Map Number | Good To Date | Status | Mining Division | Area (ha) |
|---|---|---|---|---|---|---|---|
| 512555 | | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 735.342 |
| 406269 | BIG NIC 2 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 400.000 |
| 512546 | | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 525.458 |
| 512556 | | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 21.003 |
| 414677 | BIG NIC 5 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 414700 | BIG NIC 6 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 414701 | BIG NIC 7 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 512573 | | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 21.003 |
| 415235 | BIG NIC 9 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415236 | BIG NIC 10 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415237 | BIG NIC 11 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415238 | BIG NIC 12 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415239 | BIG NIC 13 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415240 | BIG NIC 14 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415241 | BIG NIC 15 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 415243 | BIG NIC 16 | 106890 (100%) | 092H042 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 300.000 |
| 415244 | BIG NIC 17 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 500.000 |
| 415245 | BIG NIC 18 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 500.000 |
| 415246 | BIG NIC 19 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 500.000 |
| 415242 | BIG NIC 20 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 415247 | BIG NIC 21 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 75.000 |
| 415248 | BIG NIC 22 | 106890 (100%) | 092H042 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 75.000 |
| 512553 | | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 462.268 |
| 505167 | | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 735.919 |
| 414938 | MAS 12 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 414939 | MAS 13 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 414940 | MAS 14 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 414941 | MAS 15 | 106890 (100%) | 092H043 | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 25.000 |
| 501351 | Ruby | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 503.913 |
| 501554 | Ruby 2 | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 503.997 |
| 502082 | Steve | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 147.035 |
| 502099 | Steve 4 | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 357.253 |
| 502127 | Steve 6 | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 126.115 |
| 503896 | Wood | 106890 (100%) | 092H | 2008/JUN/30 | GOOD | NEW WESTMINSTER | 210.237 |
| | **CONTIGUOUS** | | | | | | |

**TOTAL**
**67213.96 Ha**

M.McClaren, P.Geo. Crockite Resources Ltd. (604) 986-5873
e-mail: murraychipper@aol.com



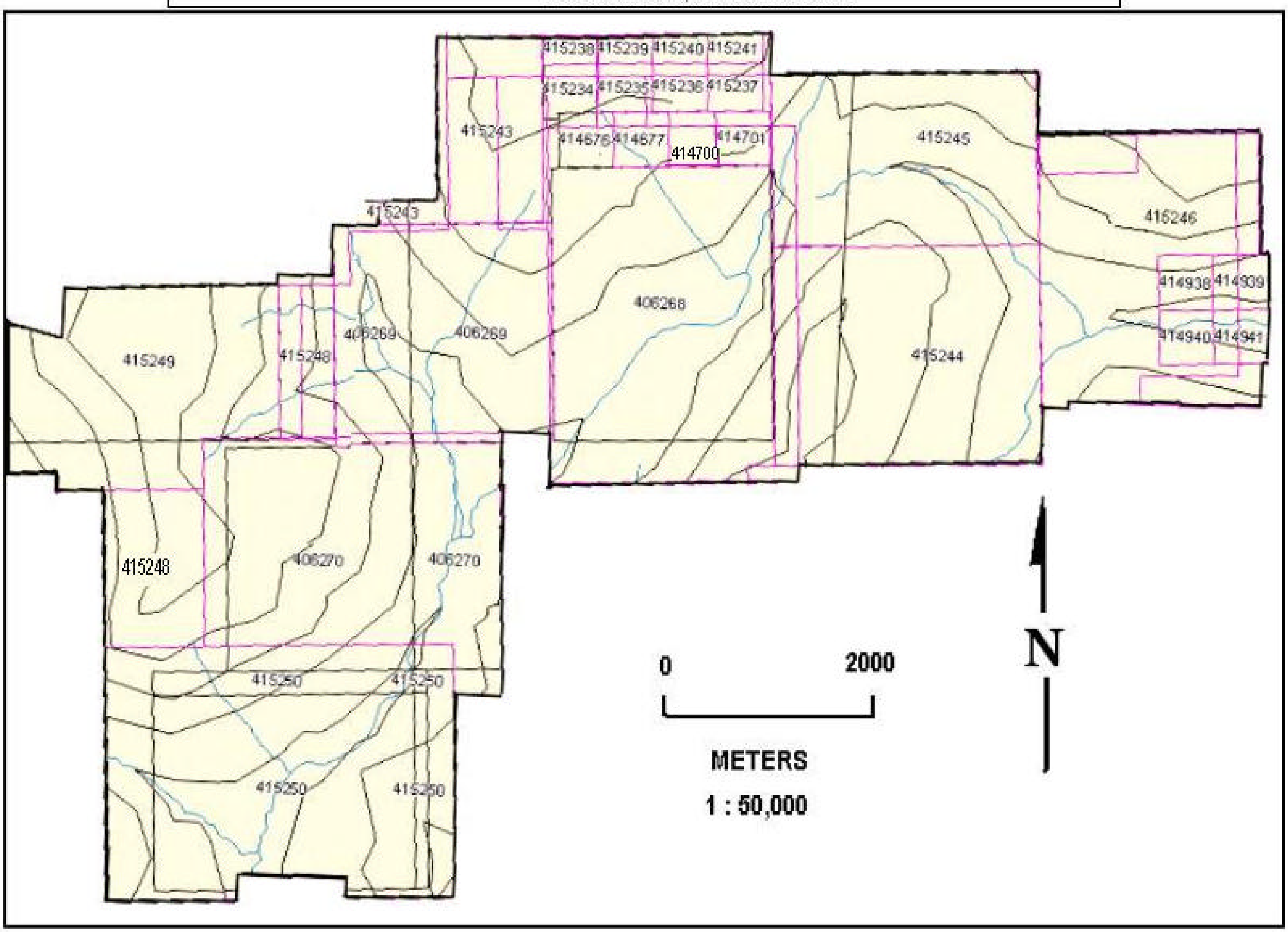

BIG NIC PROPERTY
PACIFIC COAST NICKEL CORP.
M.McCLAREN, December 2005

## CLAIMS ON WHICH AIRBORNE SURVEY CONDUCTED

CLAIMS ON WHICH AIRBORNE SURVEY CONDUCTED BIG NIC PROPERTY

| | TENURE NO. | | TENURE NO. . | |
|---|---|---|---|---|
| Big Nic 2 | 406269 | Big Nic 17 | 415244 | |
| Big Nic 5 | 414677 | Big Nic 18 | 415245 | |
| Big Nic 6 | 414700 | Big Nic 19 | 415246 | |
| Big Nic 7 | 414701 | Big Nic 20 | 413242 | |
| Big Nic 9 | 415235 | Big Nic 21 | 415247 | |
| Big Nic 10 | 415236 | Big Nic 22 | 415248 | |
| Big Nic 11 | 415237 | 512546 | 406270 | converted |
| Big Nic 12 | 415238 | 512555 | 406268 | converted |
| Big Nic 13 | 415239 | 512556 | 415234 | converted |
| Big Nic 14 | 415240 | 505167 | 415250 | converted |
| Big Nic 15 | 415241 | Mass 12 | 414938 | |
| Big Nic 18 | 415245 | Mass 13 | 414939 | |
| Big Nic 16 | 415243 | Mass 14 | 414940 | |
| | | Mass 15 | 414941 | |

**MINERAL CLAIMS ON WHICH WORK CONDUCTED**
**M. McCLAREN, DECEMBER 2005**



## HISTORY

The initial Big Nic Property mineral claims (Big Nic 1, 2 and 3) were staked in October 2003. During followup reconnaissance prospecting, copper-nickel-cobalt mineralization was discovered at various locations. Additional claims were added to the original claims between late September, 2004 and the end of January, 2005**.** The mineralization located on the property consists of both massive and disseminated sulphides with values in nickel, copper and cobalt. The geological style of this mineralization is believed to be orogenic-magmatic and is similar in style as that mined at the former Giant Mascot Mine, Hope, British Columbia. The orebodies mined at the former Giant Mascot Mine were “pipe” like in form and constitute difficult geological and geophysical targets to identify.

Previous exploration in the area consisted of geological and geophysical surveys on the Swede mineral occurrence (Minfile No. 092HSW082) from which drill results (1971) ranged from between 0.09 per cent nickel and 0.02 per cent copper over 1.2 metres to 0.01 per cent nickel and 0.01 per cent copper over 9 metres (Assessment Report 3355).

In 2003, Stellar Pacific Ventures Inc. undertook an airborne magnetic and electromagnetic survey (A.R.27,368) on a large block of mineral claims that lie adjacent and to the west and north of the Big Nic Property. A number of geophysical targets were identified, however, to the author’s knowledge, there is no published information in regards to the results of any followup the work carried out by Stellar Pacific.

## DISCUSSION

The magnetic survey delineated areas of mafic lithologies that were hitherto unknown. In particular, a strong, northwesterly trending magnetic high located along Garnet Creek and that terminates at American Creek is interpretated as reflecting mafic intrusive lithologies. In addition, discrete magnetic highs located near the northern boundary of the Big Nic Property, also are interpretated as being associated with mafic intrusive bodies. In both areas, subtle to moderate electromagnetic conductors were located adjacent to these magnetic features. Other isolated magnetic and electromagnetic reponses were obtained from the southern and eastern portions of the airborne survey area. These areas require investigation in the field to determine their significance.

The Tilt derivative of the TMI map enhances the visualization of higher frequency information within the magnetic data and aids in the delineation of subtle magnetic trends which have added to the structural understanding of the area. A northwest trending fault mapped by Vining (1977) is a prominent feature on the tilt derivative map. In addition, northwesterly, northeasterly and easterly structures are discernable on the tilt derivative map. Subtle north-northeast and north-northwest structures, which appear to have a relationship to localization of nickel-copper mineralization (Clarke, W.E., 1969 and Christopher, P.,1974) can be found in areas on the Big Nic property that are considered to be prospective for nickel-copper mineralization of the style found in the Pacific Coast Nickel Complex (Metcalfe, P., McClaren, M. et al; 2002).

# Report on a Helicopter-Borne AeroTEM© II Electromagnetic & Magnetometer Survey

**Aeroquest Job # 05008**

**Big Nic Project**

Hope Area, British Columbia
092H/05,06

for

**Pacific Coast Nickel Corp.**

283 Woodale Road,
North Vancouver, BC
V7N 1S6

by

**AEROQUEST LIMITED**

4-845 Main Street East
Milton, Ontario, L9T 3Z3
Tel: (905) 693-9129 Fax: (905) 693-9128
www.aeroquestsurveys.com

April, 2005

# Report on a Helicopter-Borne AeroTEM© II Electromagnetic and Magnetic Survey

**Aeroquest Job # 05008**

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092H/05,06

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June, 2005

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### 1.2. Appendices

Appendix 1: Survey Block Co-ordinates
Appendix 2: Description of Database Fields
Appendix 3: Technical Paper: "Mineral Exploration with the AeroTEM System"
Appendix 4: Instrumentation Specification Sheet
Appendix 5: Statement of Qualifications

### 1.3. List of Maps (1:20,000)

Map 1: Total Magnetic Intensity contour grid with line contours and EM anomalies
Map 2: Tilt Derivative of Total Magnetic Field shaded grid with EM anomalies
Map 3: Z01, Z02, Z03 Off-Time EM offset profiles and EM anomalies

## 2. INTRODUCTION

This report describes a helicopter-borne geophysical survey carried out on behalf of Pacific Coast Nickel Corp. on the Big Nic Project, in the Hope area, British Columbia.

The principal geophysical sensor is Aeroquest's exclusive AeroTEM© II time domain helicopter electromagnetic system which is employed in conjunction with a high-sensitivity cesium vapour magnetometer. Ancillary equipment includes a real-time differential GPS navigation system, radar altimeter, video recorder, and a base station magnetometer. Full-waveform streaming EM data is recorded at 37,800 samples per second. The streaming data comprise the transmitted waveform, and the X component and Z component of the resultant field at the receivers. A secondary acquisition system (RMS) records the ancillary data.

The total line kilometres flown totaled 541.4 km. The survey flying described in this report took place between March 30 and April 4$^{th}$ and on April 6th, 2005.

Bedrock EM anomalies were auto-picked from the Z-component off-time data and graded according to the ‘off-time’ conductance. This report describes the survey logistics, the data processing, presentation, and provides a brief interpretation of the results.

## 3. SURVEY AREA

The Big Nic Property comprises an area totaling 32.29 km² or 3229 hectares. It is located approximately 12km NW of Hope, BC and 15km east of Harrison Lake (Figure 1). The property is accessed via a series of trails and logging roads off the Hope section of the transCanada highway which skirts around the south and west of the project area. (Figure 1). The field crew were based the Quality Inn Hotel, Hope. The helicopter was provided by HiWood helicopters, Calgary, Alberta and it was stationed at Valley Helicopters Heli-pad in Hope for the duration of the survey.

The Pacific Coast Nickel Corp. Mineral Dispositions for the area (Figure 2) may be located on NTS 1:50,000 map sheets 092H/05 & 06 (see Appendix 2 for mineral disposition details).

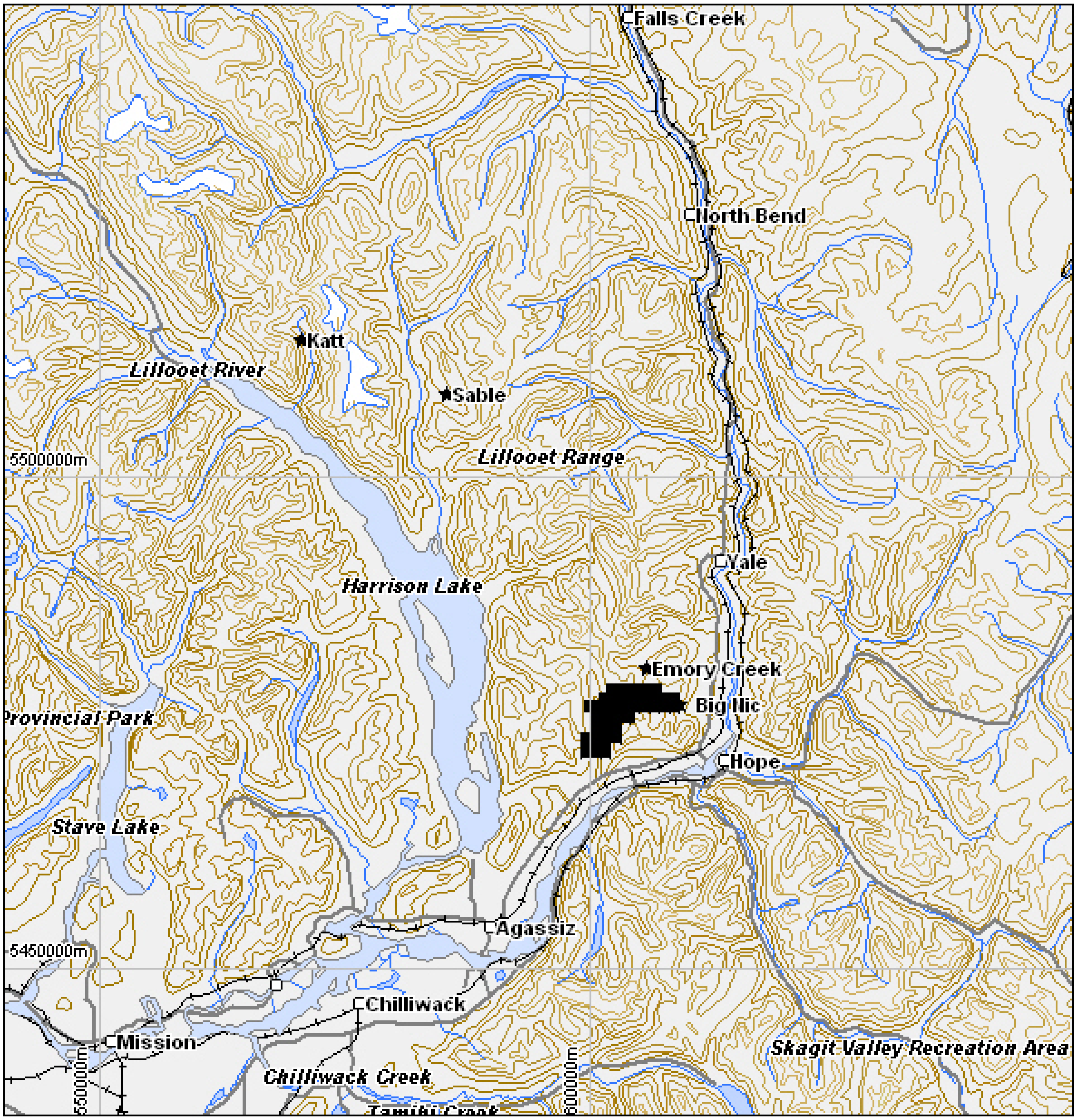


**Figure 1. Regional location map of the project area.**

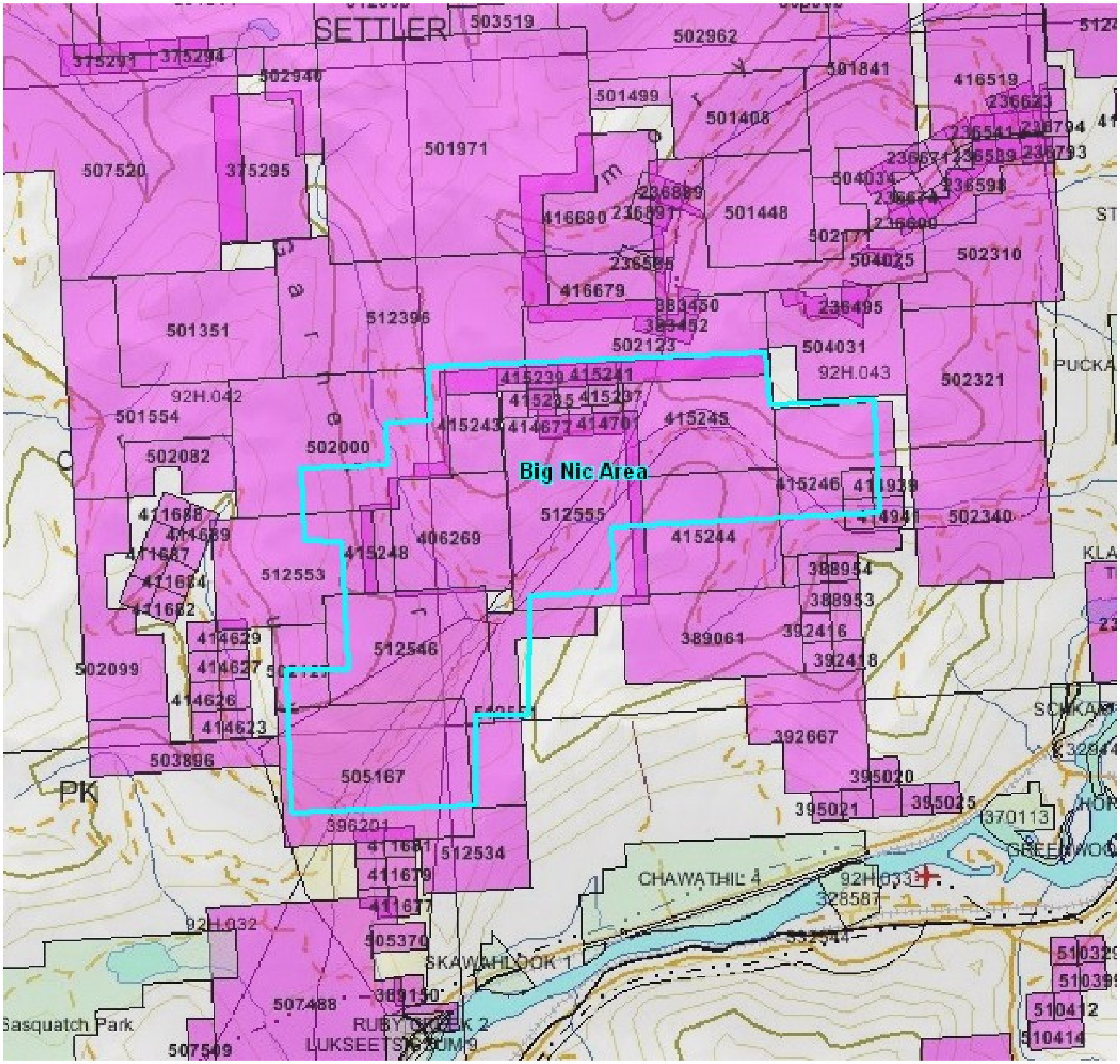


**Figure 2. Pacific Coast Nickel Corp. Mineral Dispositions** **(from BC Mineral Titles Online)**

## 4. REGIONAL GEOLOGY

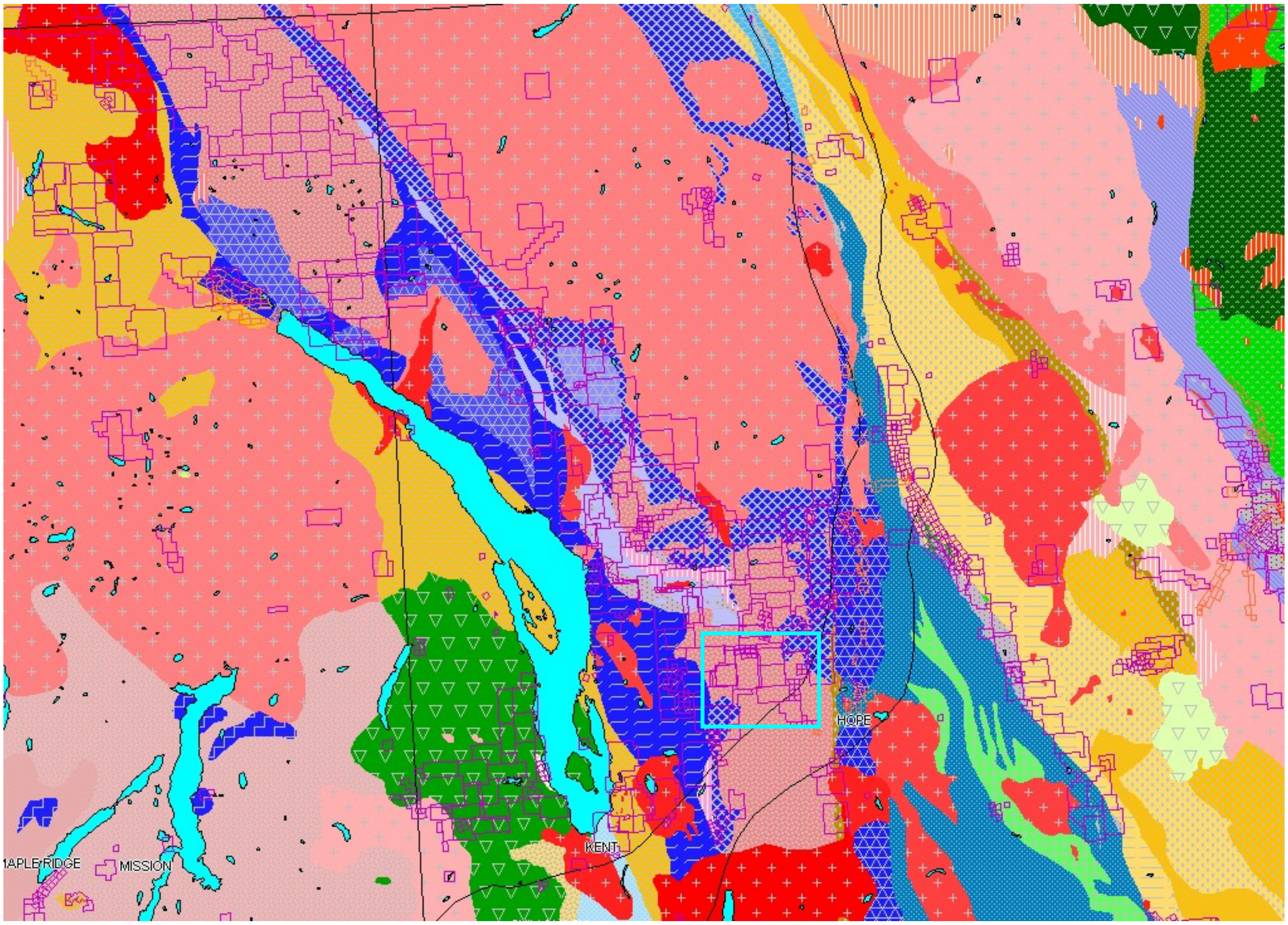

**Figure 3. Regional bedrock geology** **(taken from BC Government 'Mapplace' map server)**

The pink to red areas represent various Cretaceous dioritic and granodioritic intrusives. The blue areas represent Cretaceous to Tertiary metamorphic rocks. The areas in yellow comprise various sedimentary rocks of Jurassic and Cretaceous age and the green area represents the Lower Jurassic Harrison Lake Formation andesitic volcanics.

The Big Nic survey area falls mostly in an area of mid Cretaceous quartz dioritic intrusive rocks (pink) with an area of Cretaceous to Tertiary amphibolite/andalusite grade metamorphics (dark blue).

# 5. SURVEY SPECIFICATIONS AND PROCEDURES

The survey specifications are summarised in the following table:

| Project Name | Line Spacing (m) | Tie-Line Spacing (m) | Line Direction | Tie-Line Direction | Survey Coverage (line-km) | Dates Flown |
|---|---|---|---|---|---|---|
| Big Nic | 100 | 1000 and 100 | E-W (90$^o$) | N-S (0$^o$) | 541.4 | March 30$^{th}$ to April 4$^{th}$ and April 6th, 2005. |

The survey coverage was calculated by adding up the along-line distance of the survey lines and control (tie) lines in the final Geosoft database. The database was windowed to the survey block outline prior to this calculation. The survey was flown with a spacing of 100 m. The control (tie) lines were flown perpendicular to the survey lines with a spacing of 1000 m. A portion of the North half of the survey block was flown with a tie-line spacing of 100 m as requested. The final flight path is superimposed on the map products included with this report.

The nominal EM bird terrain clearance is 30m (98 ft). The magnetometer sensor is mounted in a smaller bird connected to the tow rope 21 metres above the EM bird and 17 metres below the helicopter (Figure 4). Nominal survey speed is 75 km/hr. Scan rates for ancillary data acquisition is 0.1 second for the magnetometer and altimeter, and 0.2 second for the GPS determined position. The EM data is acquired as a data stream at a sampling rate of 38,400 samples per second and is processed to generate final data at 10 samples per second. The 10 samples per second translates to a geophysical reading about every 2-3 metres along the flight path.

Navigation is carried out using a GPS receiver, an AGNAV2 system for navigation control, and an RMS data acquisition system which records the GPS coordinates. The x-y-z position of the aircraft, as reported by the GPS, is recorded at 0.2 second intervals.

Unlike frequency domain electromagnetic systems, the AeroTEM© II system has negligible drift due to thermal expansion. The system static offset is removed by high altitude zero calibration lines and employing local leveling corrections where necessary.

The operator is responsible for ensuring the instrument is properly warmed up prior to departure and that the instruments are operated properly throughout the flight. He also maintains a detailed flight log during the survey noting the times of the flight and any unusual geophysical or topographic features.

On return of the pilot and operator to the base usually after each flight, the ProtoDAS streaming EM data and the RMS data are carried on removable hard drives and FlashCards, respectively and transferred to the data processing work station. At the end of each day, the base station magnetometer data on FlashCard is retrieved from the base station unit.

Data verification and quality control includes a comparison of the acquired GPS data with the flight plan; verification and conversion of the RMS data to an ASCII format XYZ data file; verification of the base station magnetometer data and conversion to ASCII format XYZ data; and loading, processing and conversion of the steaming EM data from the removable hard drive. All data is then merged to an ASCII XYZ format file which is then imported to an Oasis database for further QA/QC and for the production of preliminary EM, magnetic contour, and flight path maps.

Survey lines which show excessive deviation from the intended flight path are re-flown. Any line or portion of a line on which the data quality did not meet the contract specification was noted and reflown.

# 6. AIRCRAFT AND EQUIPMENT

## 6.1. Aircraft

A Eurocopter (Aerospatiale) AS350B2 "A-Star" helicopter - registration C-GPTG used as survey platform. The helicopter was owned and operated by HiWood Helicopters, Calgary, Alberta. Installation of the geophysical and ancillary equipment was carried out by AeroQuest Corp at Valley Helicopters in Hope, BC and the helicopter was based here for the duration of the survey. The survey aircraft was flown at a nominal terrain clearance of 220 ft (70 m).

**Figure 4. Survey helicopter C-GPTG**


**Figure 4. The magnetometer bird (A) and AeroTEM II EM bird (B)**

### 6.2. Magnetometer

The AeroQuest airborne survey system employs the Geometrics G-823A cesium vapour magnetometer sensor installed in a two metre towed bird airfoil attached to the main tow line, 17 metres below the helicopter. The sensitivity of the magnetometer is 0.001 nanoTesla at a 0.1 second sampling rate. The nominal ground clearance of the magnetometer bird is 51 metres (170 ft.). The magnetic data is recorded at 10Hz by the RMS DGR-33.

### 6.3. Electromagnetic System

The electromagnetic system is an AeroQuest AeroTEM© II time domain towed-bird system. The current AeroTEM© transmitter dipole moment is 38.8 kNIA. The AeroTEM© bird is towed 38 m (125 ft) below the helicopter. More technical details of the system may be found in Appendix 4.

The wave-form is triangular with a symmetric transmitter on-time pulse of 1.150 ms and a base frequency of 150 Hz. The current alternates polarity every on-time pulse. During every Tx on-off cycle (300 per second), 126 contiguous channels of raw x and z component (and a transmitter current monitor, itx) of the received waveform are measured. Each channel width is 26.455 microseconds starting at the beginning of the transmitter pulse. This 126 channel data is referred to as the raw streaming data. The AeroTEM© system has two separate EM data recording streams, the conventional RMS DGR-33 and the PROTODAS system which records the full waveform.


**Figure 5. AeroTEM II Instrument Rack**

### 6.4. PROTODAS Acquisition System

The 126 channels of raw streaming data are recorded by the PROTODAS acquisition system onto a removable hard drive. The streaming data are processed post-survey to yield 33 stacked and binned on-time and off-time channels at a 10 Hz sample rate. The timing of the final processed EM channels is described in the following table:

| Channel | Width | Gate | Start (μs) | Stop (μs) | Mid (μs) | Width (μs) |
|---|---|---|---|---|---|---|
| 1 ON | 1 | 26 | 687.8 | 714.3 | 701.1 | 26.46 |
| 2 ON | 1 | 27 | 714.3 | 740.7 | 727.5 | 26.46 |
| 3 ON | 1 | 28 | 740.7 | 767.2 | 754.0 | 26.46 |
| 4 ON | 1 | 29 | 767.2 | 793.7 | 780.4 | 26.46 |
| 5 ON | 1 | 30 | 793.7 | 820.1 | 806.9 | 26.46 |
| 6 ON | 1 | 31 | 820.1 | 846.6 | 833.3 | 26.46 |
| 7 ON | 1 | 32 | 846.6 | 873.0 | 859.8 | 26.46 |
| 8 ON | 1 | 33 | 873.0 | 899.5 | 886.2 | 26.46 |
| 9 ON | 1 | 34 | 899.5 | 925.9 | 912.7 | 26.46 |
| 10 ON | 1 | 35 | 925.9 | 952.4 | 939.2 | 26.46 |
| 11 ON | 1 | 36 | 952.4 | 978.8 | 965.6 | 26.46 |
| 12 ON | 1 | 37 | 978.8 | 1005.3 | 992.1 | 26.46 |
| 13 ON | 1 | 38 | 1005.3 | 1031.7 | 1018.5 | 26.46 |
| 14 ON | 1 | 39 | 1031.7 | 1058.2 | 1045.0 | 26.46 |
| 15 ON | 1 | 40 | 1058.2 | 1084.7 | 1071.4 | 26.46 |
| 16 ON | 1 | 41 | 1084.7 | 1111.1 | 1097.9 | 26.46 |
| 0 OFF | 1 | 44 | 1164.0 | 1190.5 | 1177.2 | 26.46 |
| 1 OFF | 1 | 45 | 1190.5 | 1216.9 | 1203.7 | 26.46 |
| 2 OFF | 1 | 46 | 1216.9 | 1243.4 | 1230.2 | 26.46 |
| 3 OFF | 1 | 47 | 1243.4 | 1269.8 | 1256.6 | 26.46 |
| 4 OFF | 1 | 48 | 1269.8 | 1296.3 | 1283.1 | 26.46 |
| 5 OFF | 1 | 49 | 1296.3 | 1322.8 | 1309.5 | 26.46 |
| 6 OFF | 1 | 50 | 1322.8 | 1349.2 | 1336.0 | 26.46 |
| 7 OFF | 1 | 51 | 1349.2 | 1375.7 | 1362.4 | 26.46 |
| 8 OFF | 1 | 52 | 1375.7 | 1402.1 | 1388.9 | 26.46 |
| 9 OFF | 1 | 53 | 1402.1 | 1428.6 | 1415.3 | 26.46 |
| 10 OFF | 1 | 54 | 1428.6 | 1455.0 | 1441.8 | 26.46 |
| 11 OFF | 1 | 55 | 1455.0 | 1481.5 | 1468.3 | 26.46 |
| 12 OFF | 1 | 56 | 1481.5 | 1507.9 | 1494.7 | 26.46 |
| 13 OFF | 4 | 57 | 1507.9 | 1613.8 | 1560.8 | 105.82 |
| 14 OFF | 8 | 61 | 1613.8 | 1825.4 | 1719.6 | 211.64 |
| 15 OFF | 16 | 69 | 1825.4 | 2248.7 | 2037.0 | 423.28 |
| 16 OFF | 32 | 85 | 2248.7 | 3095.2 | 2672.0 | 846.56 |

### 6.5. RMS DGR-33 Acquisition System

In addition to the magnetics, altimeter and position data, six channels of real time processed off-time EM decay in the Z direction and one in the X direction are recorded by the RMS DGR-33 acquisition system at 10 samples per second and plotted real-time on the analogue chart recorder. These channels are derived by a binning, stacking and filtering procedure on the raw streaming data. The primary use of the RMS EM data (Z1 to Z6, X1) is to provide for real-time QA/QC on board the aircraft.

The channel window timing of the RMS DGR-33 6 channel system is described in the table below.

| RMS Channel | Start time (microsec) | End time (microsec) | Width (microsec) | Streaming Channels | Noise tolerance |
|---|---|---|---|---|---|
| Z1, X1 | 1269.8 | 1322.8 | 52.9 | 48-50 | 20 ppb |
| Z2 | 1322.8 | 1455.0 | 132.2 | 50-54 | 20 ppb |
| Z3 | 1428.6 | 1587.3 | 158.7 | 54-59 | 15 ppb |
| Z4 | 1587.3 | 1746.0 | 158.7 | 60-65 | 15 ppb |
| Z5 | 1746.0 | 2063.5 | 317.5 | 66-77 | 10 ppb |
| Z6 | 2063.5 | 2698.4 | 634.9 | 78-101 | 10 ppb |

## 6.6. Magnetometer Base Station

The base magnetometer was a GEM Systems GSM-19 overhauser magnetometer with a built in GPS receiver and external GPS antenna. Data logging and UTC time synchronisation was carried out within the magnetometer, with the GPS providing the timing signal. That data logging was configured to measure at 1.0 second intervals. Digital recording resolution was 0.001 nT. The sensor was placed on a tripod in an area free of cultural noise sources. A continuously updated display of the base station values was available for viewing and regularly monitored to ensure acceptable data quality and diurnal levels.

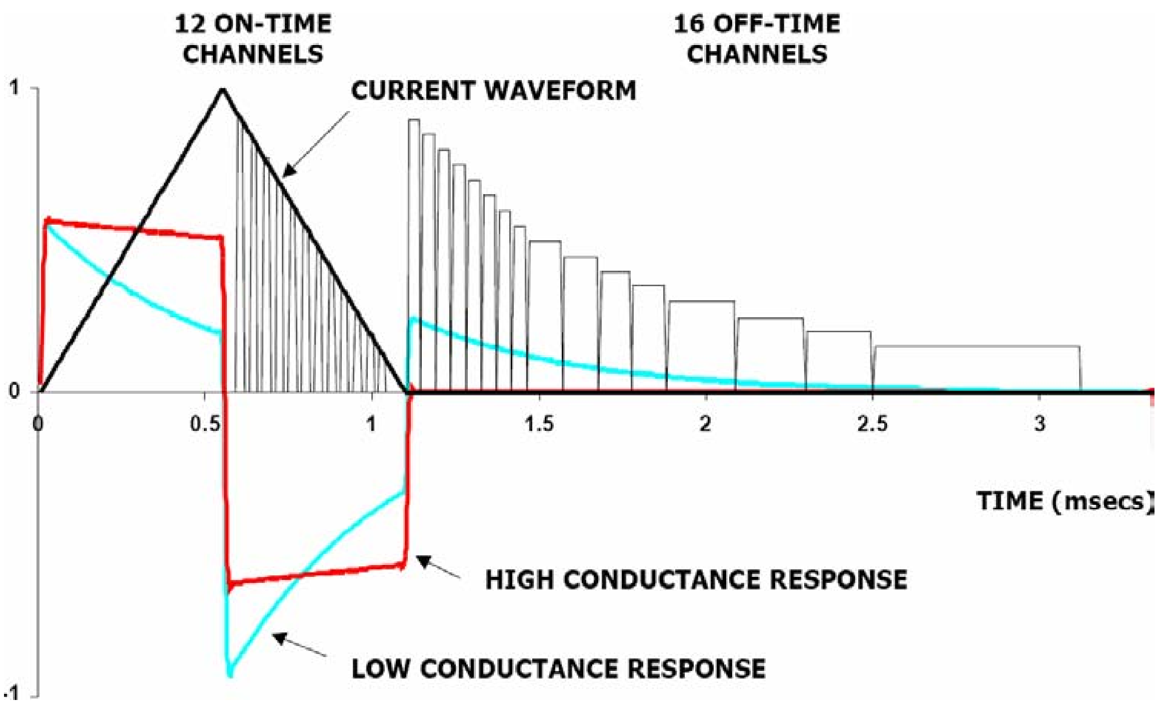


**Figure 6. Schematic of Transmitter and Receiver waveforms**

### 6.7. Radar Altimeter

A Terra TRA 3500/TRI-30 radar altimeter is used to record terrain clearance. The antenna was mounted on the outside of the helicopter beneath the cockpit. The recorded data represents the height of the antenna, i.e. helicopter, above the ground. The Terra altimeter has an altitude accuracy of +/- 1.5 metres.

### 6.8. Video Tracking and Recording System

A high resolution colour digital video camera is used to record the helicopter ground flight path along the survey lines. The video is digitally annotated with GPS position, time and fiducial number, which can be used to verify ground positioning information and cultural causes of anomalous geophysical responses. The data is achieved digitally at the Aeroquest head office.

### 6.9. GPS Navigation System

The navigation system consists of an Ag-Nav Incorporated AG-NAV2 GPS navigation system comprising a PC-based acquisition system, navigation software, a deviation indicator in front of the aircraft pilot to direct the flight, a full screen display with controls in front of the operator, a Mid-Tech RX400p WAAS-enabled GPS receiver mounted on the instrument rack and an antenna mounted on the magnetometer bird. WAAS (Wide Area Augmentation System) consists of approximately 25 ground reference stations positioned across the United States that monitor GPS satellite data. Two master stations, located on the east and west coasts, collect data from the reference stations and create a GPS correction message. This correction accounts for GPS satellite orbit and clock drift plus signal delays caused by the atmosphere and ionosphere. The corrected differential message is then broadcast through one of two geostationary satellites, or satellites with a fixed position over the equator. The corrected position has a published accuracy of under 3 metres. A recent static ground test of the Mid-Tech WAAS GPS yielded a standard deviation in x and y of under 0.6 metres and for z under 1.5 metres over a two-hour period.

Survey co-ordinates are set up prior to the survey and the information is fed into the airborne navigation system. The co-ordinate system employed in the survey design was WGS84 [World] using the UTM zone 18N projection. The real-time differentially corrected GPS positional data was recorded by the RMS DGR-33 in geodetic coordinates (latitude and longitude using WGS84) at 0.2 second intervals.

### 6.10. Digital Acquisition System

The AeroTEM© received waveform sampled during on and off-time at 126 channels per decay, 300 times per second, was logged by the proprietary PROTODAS data acquisition system. The channel sampling commences at the start of the Tx cycle and the width of each channel is 26.445 microseconds. The streaming data was recorded on a removable hard-drive and was later backed-up onto DVD-ROM from the field-processing computer.

The RMS Instruments DGR33A data acquisition system was used to collect and record the analogue data stream, i.e. the positional and secondary geophysical data, including processed 6 channel EM, magnetics, radar altimeter, GPS position, and time. The data was recorded on 128Mb capacity FlashCard. The RMS output was also directed to a thermal chart recorder.

## 7. PERSONNEL

The following AeroQuest personnel were involved in the project:

- Manager of Operations: Bert Simon
- Field Data Processors: Nick Venter
- Field Operators: Chris Kozak, Mark Fortier
- Data Interpretation and Reporting: Jonathan Rudd, Matthew Pozza, Marion Bishop

The survey pilot Abe Nedurf was employed directly by the helicopter operator – HiWood Helicopters Ltd.

## 8. DELIVERABLES

The report includes a set of three geophysical maps plotted at a scale of 1:20,000.

- Map 1: Total Magnetic Intensity contour grid with line contours and EM anomalies
- Map 2: Tilt Derivative of Total Magnetic Field shaded grid with EM anomalies
- Map 3: Z01, Z02, Z03 Off-Time EM offset profiles and EM anomalies

The coordinate/projection system for the maps is NAD83 Universal Transverse Mercator Zone 10 (for Canada; Central America; Mexico; USA (ex Hawaii Aleutian Islands)). For reference, the latitude and longitude in NAD83 are also noted on the maps. All the maps show flight path trace, skeletal topography, and conductor picks represented by an anomaly symbol classified according to calculated on-time conductance. The anomaly symbol is accompanied by postings denoting the calculated on-time conductance, a thick or thin classification and an anomaly identifier label. The anomaly symbol legend is given in the margin of the maps. The magnetic field data is presented as superimposed line contours with a minimum contour interval of 10 nT. Bold contour lines are separated by 100 nT.

The geophysical profile data is archived digitally in a Geosoft GDB binary format database. The database contains the processed streaming data, the RMS data, the base station data, and all processed channels. A description of the contents of the individual channels in the database can be found in Appendix 3. This digital data is archived at the Aeroquest head office in Milton.

# 9. DATA PROCESSING AND PRESENTATION

All in-field and post-field data processing was carried out using Aeroquest proprietary data processing software, and Geosoft Oasis montaj software. Maps were generated using 36-inch wide Hewlett Packard ink-jet plotters.

## 9.1. Base Map

The geophysical maps accompanying this report are based on positioning in the datum of NAD83. The survey geodetic GPS positions have been projected using the Universal Transverse Mercator projection in Zone 10. A summary of the map datum and projection specifications are as follows:

- Ellipse: GRS 1980
- Ellipse major axis: 6378137m eccentricity: 0.081819191
- Datum: North American 1983 - Canada Mean
- Datum Shifts (x,y,z) : 0, 0, 0 metres
- Map Projection: Universal Transverse Mercator Zone 10 (Central Meridian 105ºW)
- Central Scale Factor: 0.9996
- False Easting, Northing: 500,000m, 0m

The skeletal topography was derived from the Federal Government's 1: 50,000 NTS map series.

## 9.2. Flight Path & Terrain Clearance

The position of the survey helicopter was directed by use of the Global Positioning System (GPS). Positions were updated five times per second (5Hz) and expressed as WGS84 latitude and longitude calculated from the raw pseudo range derived from the C/A code signal. The instantaneous GPS flight path, after conversion to UTM co-ordinates, is drawn using linear interpolation between the x/y positions. The terrain clearance was maintained with reference to the radar altimeter. The raw Digital Terrain Model (DTM) was derived by taking the GPS survey elevation and subtracting the radar altimeter terrain clearance values. The calculated topography elevation values are relative and are not tied in to surveyed geodetic heights.

Each flight included at least two high elevation 'background' checks. During the high elevation checks, an internal 5 second wide calibration pulse in all EM channels was generated in order to ensure that the gain of the system remained constant and within specifications.

## 9.3. Electromagnetic Data

The raw streaming data, sampled at a rate of 38,400 Hz (126 channels, 300 times per second) was reprocessed using a proprietary software algorithm developed and owned by Aeroquest Corp. Processing involves the compensation of the X and Z component data for the primary field waveform. Coefficients for this compensation for the system transient are determined and applied to the stream data. The stream data are then pre-filtered, stacked, binned to the 33 on and off-time channels and checked for the effectiveness of the compensation and stacking processes. The stacked data is then filtered, leveled and split up into the individual line segments. Further base level adjustments may be carried out at this stage.

The filtering of the stacked data is designed to remove or minimize high frequency noise that can not be sourced from the geology. An overburden stripped response was generated by subtracting the off-time response from the on-time response for the X1 to X16 and Z1 to Z16 channels. New RMS emulation channel windows, Z1New to Z6New and X1New, were calculated based on the original 6 z-component and 1 x-component channels that the AeroTEM I system recorded in order to provide for compatibility and comparisons with earlier AeroTEM surveys.

The final field processing step was to merge the processed EM data with the other data sets into a Geosoft GDB file. The EM fiducial is used to synchronize the two datasets. The processed channels are imported into an array format and are labeled in the database as ‘Zon’ (Z on-time channels 1-16), ‘Zoff’ (Z off-time channels 0-16), ‘Xon’(X on-time channels 1-16), and ‘Xoff’(X off-time channels 0-16).

Apparent bedrock EM anomalies were interpreted with the aid of an auto-pick from positive peak excursions in the on-time Z channel responses. The auto-pick algorithm was based on two criteria, 1) a minimum threshold of 30 nT/s in the $4^{th}$ Zon channel (Zon4) and 2) a peak in Zon4 channel as defined by two leading values that are increasing, and two trailing values that are decreasing with a minimum amplitude of 8 nT/s. The auto-picked anomalies were reviewed and edited by a geophysicist on a line by line basis to discriminate between thin and thick conductor types, and to identify cultural EM anomalies. Anomaly picks locations were migrated and removed as required. This process ensures the optimal representation of the conductor centres on the maps.

At each conductor pick, estimates of the on-time and off-time conductance have been generated based on a horizontal plate source model for those data points along the line where the response amplitude is sufficient to yield an acceptable estimate. Each conductor pick was then classified according to a set of seven ranges of calculated on-time conductance values, since the on-time data provide a more accurate measure of the conductance of high-conductance sources. Each symbol is also given an identification letter label, unique to each flight line. Conductor picks that did not yield an acceptable estimate of on-time conductance were classified as a low conductance source. EM response interpreted as originating from power lines or other cultural sources are identified on the maps as unique symbols.

### 9.4. Magnetic Data

Prior to any leveling the magnetic data was subjected to a lag correction of -0.1 seconds and a spike removal filter. The filtered aeromagnetic data were then corrected for diurnal variations using the magnetic base station and the intersections of the tie lines. No corrections for the regional reference field (IGRF) were applied. The corrected profile data were interpolated on to a grid using a random grid technique with a grid cell size of 20 metres. The final leveled total magnetic intensity (TMI) grid provided the basis for threading the presented contours which have a minimum contour interval of 10 nT.

In order to map shallow basement response a ‘tilt’ derivative product was calculated from the TMI grid. The Tilt Derivative (TDR) of the TMI tends to enhance smaller wavelength magnetic features which define shallow basement structures as well as potential mineral exploration targets.

The TDR is defined as:

TDR = arctan (VDR/THDR)

where VDR and THDR are first vertical and total horizontal derivatives, respectively, of the total magnetic intensity T.

VDR = dT/dz
THDR = sqrt ( $(dT/dx)^2 + (dT/dy)^2$ )

# 10. RESULTS AND INTERPRETATION

## 10.1. Magnetic Response – General Comments

The survey was successful in mapping the magnetic and conductive properties of the geology throughout the survey area. The magnetic data provide a high resolution map of the distribution of the magnetic mineral content of the survey area. This data can be used to interpret the location of geological contacts and other structural features such as faults and zones of magnetic alteration. The sources for anomalous magnetic responses are generally thought to be predominantly magnetite because of the relative abundance and strength of response (high magnetic susceptibility) of magnetite over other magnetic minerals such as pyrrhotite.

The magnetic data (Figure 7, Map1) ranges from lows of approximately 54,900 nT to highs of up to 56,650nT with an average background of 55,500nT. Most of the broad magnetic highs define ultramafic intrusions. The Tilt derivative of the TMI map ( Figure 8, Map2) enhances the visualization of higher frequency information within the magnetic data and aid in the delineation of subtle magnetic trends The prominent orientations of magnetic trends are north 40 degrees west to north 50 degrees west. However expressions of subtle magnetic lows which trend north 30 degrees west to north 30 degrees east likely resolve the most recent faulting orientation of the area. These features are not considered to be particularly significant for Ni-Cu-PGE exploration, but nevertheless may add to the structural understanding of the area.

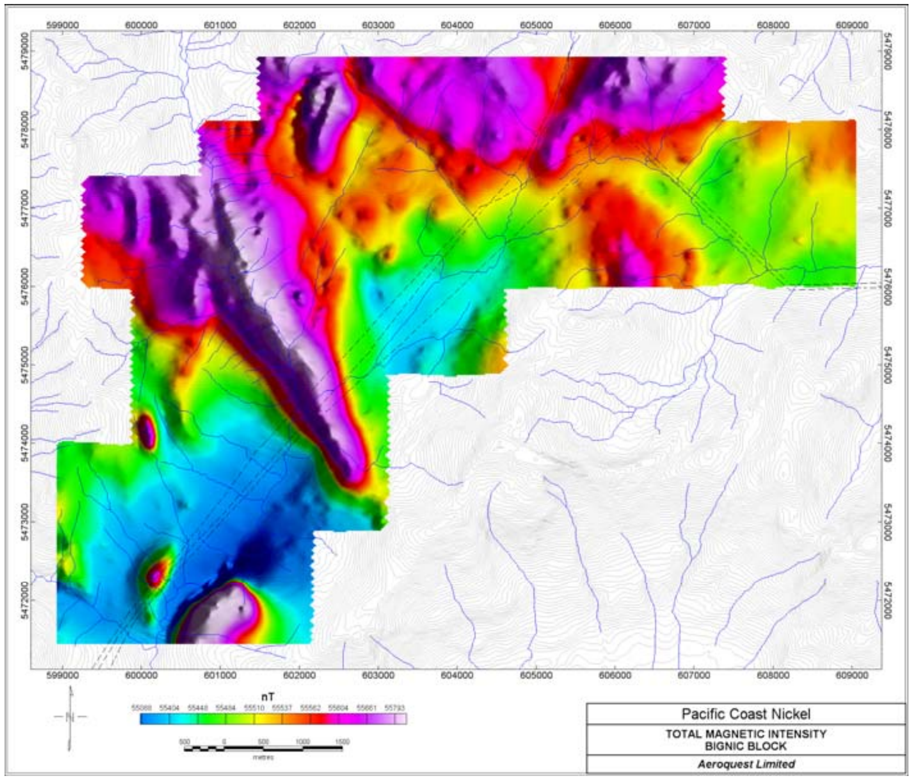


**Figure 7. Total magnetic intensity (TMI) map.**

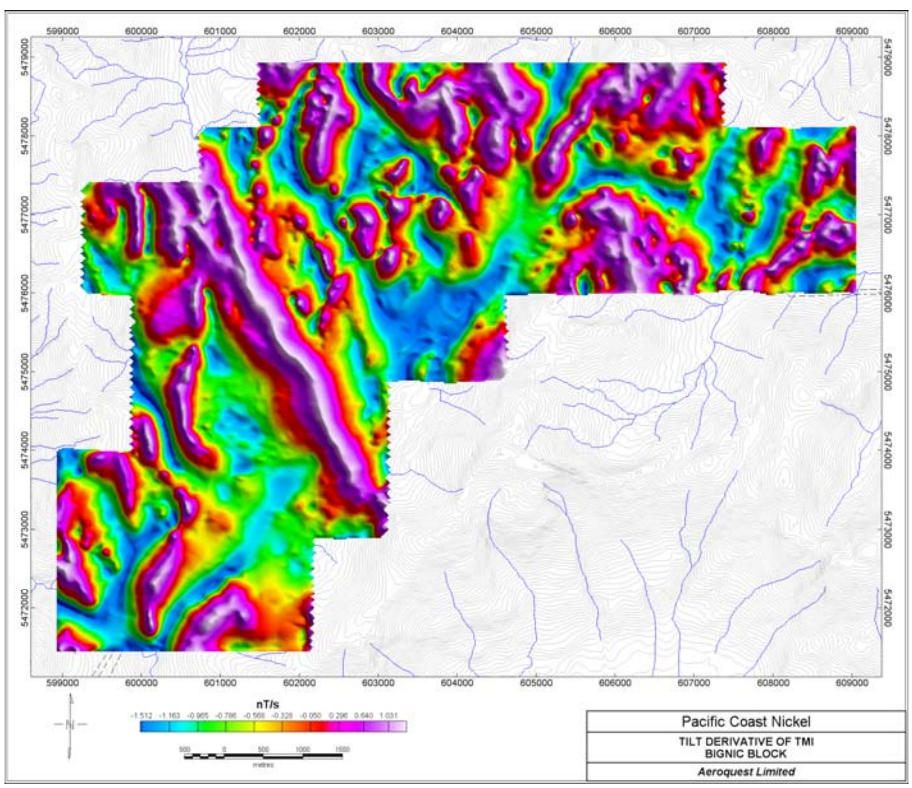


**Figure 8. Tilt Derivative of the TMI map, showing enhancement of shallow basement features.**

### 10.2. EM Anomalies – General comments

The EM data shows that the majority bedrock and overburden of the area is highly resistive. This response is seen as very low amplitude response in the early on- and off-time Z component responses. Only areas that have a z-component response that persists to the later channels are interpreted to reflect anomalous bedrock conductance. Cases in which there is a z-component response, but no accompanying x-component response likely indicate that the anomaly is related to spatial variation of overburden thickness. The x-component data is useful for the detection of lateral inhomogeneity in the conductivity structure of the geology.

Numerous high voltage electrical transmission lines run across the survey area that complicate the interpretation of the EM data. 'Power line' response is seen as high amplitude and erratic response in the z- and x- component data which shows almost no, or very erratic decay. The power line monitor data channel (i.e. Figure 9 bottom panel), clearly identifies both the centre of the cultural response (positive peaks), as well as the area of influence along the survey line (large negative deviations). In many cases the power lines in this survey area have a surrounding EM influence for several kilometers. However, the small footprint of the AeroTEM system allowed bedrock conductors to be identifiable within relatively close proximity to the transmission line corridors (Figure 9).

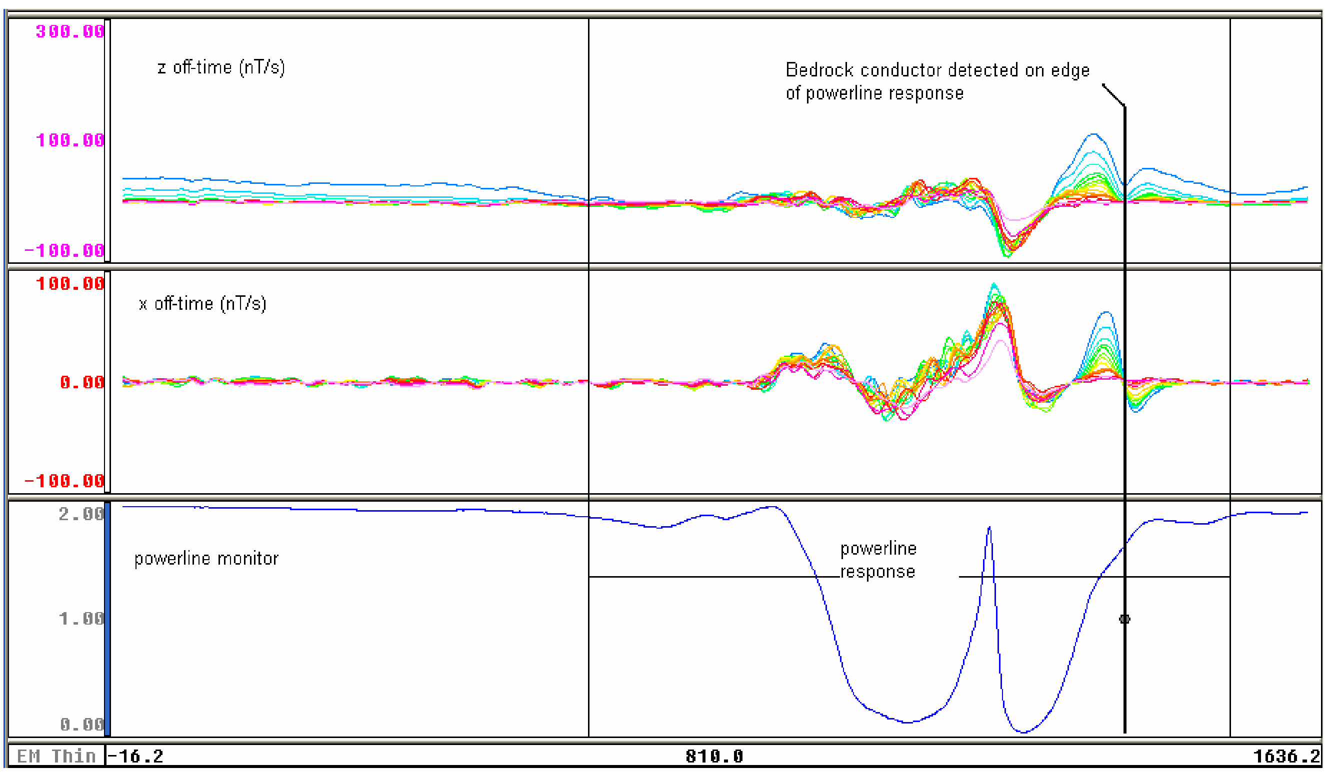


**Figure 9. Survey Line L20750 from the Big Nic Project showing powerline response and a "thin" 5.3 S conductor within the influence of the powerline.**

The AeroTEM II system penetrates to depths of up to 250m for large conductive bedrock sources. The EM responses interpreted as originating from bedrock sources have been identified and plotted on the maps. Only a few good conductors have been identified, concentrated in the southwestern portion of the survey block. The strongest EM response occurred on lines L20750, L200740, L20700, and

L20660 (Refer to the maps included with this report). The source of the anomalies is of relatively low conductance (1-5S) as indicated by both the on- and off-time data. The EM anomaly picks in this area trend north-northwest and occur on a subtle curvilinear magnetic lobes visible in the shaded TDR map. Other interesting features include a northwest trend of very weak EM responses in the northern part of the survey area (L20010 to L20070). The trend parallels a prominent magnetic and topographic feature. However, these features are too low in conductance to reflect prospective Ni-Cu targets and may even be reflecting an increase in overburden thickness with the valley. Nevertheless, given the general prospectivity of the area, the conductivity may be reflecting mineralization in a favourable geologic environment and as such may be worthy of follow-up.

Respectfully submitted,

Matt Pozza, M.Sc.
Aeroquest Corp.
June, 2005

# APPENDIX 1 – PROJECT CORNER COORDINATES

The Big Nic Project has a boundary which is defined in the following table. All geophysical data presented in this report have been windowed to this outline. Positions are in UTM Zone 10 – NAD83.

| Corner | Easting (m) | Northing (m) |
|---|---|---|
| 1 | 601621.4 | 5478909.3 |
| 2 | 607259.1 | 5478909.3 |
| 3 | 607259.1 | 5477999.1 |
| 4 | 608996.5 | 5477999.1 |
| 5 | 608996.5 | 5476105.0 |
| 6 | 604501.6 | 5476105.1 |
| 7 | 604501.6 | 5475005.1 |
| 8 | 602998.0 | 5475008.0 |
| 9 | 603000.4 | 5473005.1 |
| 10 | 601587.5 | 5473001.3 |
| 11 | 601587.5 | 5471503.3 |
| 12 | 598996.6 | 5471505.1 |
| 13 | 598996.6 | 5473905.1 |
| 14 | 600000.0 | 5473905.1 |
| 15 | 600000.0 | 5476105.1 |
| 16 | 599368.2 | 5476105.1 |
| 17 | 599368.2 | 5477296.4 |
| 18 | 600854.5 | 5477296.4 |
| 19 | 600854.5 | 5477991.5 |
| 20 | 601621.4 | 5477991.5 |

# APPENDIX 2 - Description of Database Fields

The GDB file is a Geosoft binary database. In the database, the Survey lines and Tie Lines are prefixed with an "L" for "Line" and "T" for "Tie".

Database (05008_Big_Nic_final.gdb):

| Column | Units | Description |
|---|---|---|
| emfid | | PROTODAS Fiducial |
| utctime | hh:mm:ss.ss | UTC time |
| x | m | UTM Easting (NAD83, Zone 10N) |
| y | m | UTM Northing (NAD83, Zone 10N) |
| bheight | m | Terrain clearance of EM bird |
| dtm | m | Digital Terrain Model |
| magf | nT | Final leveled total magnetic intensity |
| basemagf | nT | Base station total magnetic intensity |
| ZOn1-ZOn16 | nT/s | Processed Streaming On-Time Z component Channels 1-16 |
| ZOff0-ZOff16 | nT/s | Processed Streaming Off-Time Z component Channels 0-16 |
| XOn1-XOn16 | nT/s | Processed Streaming On-Time X component Channels 1-16 |
| XOff0-XOff16 | nT/s | Processed Streaming Off-Time X component Channels 0-16 |
| Anom_labels | | Letter label of conductor pick |
| on_con | S | On-time conductance |
| off_con | S | Off-time conductance |
| grade | | Classification from 1-7 based on conductance of conductor pick |

# APPENDIX 3: AeroTEM Design Considerations

## APPENDIX 4: AeroTEM Instrumentation Specification Sheet

# AEROQUEST LIMITED

**Tel: +1 905 878-5616. Fax: +1 905 876-0193. Email: sales@aeroquestsurveys.com**

# AEROTEM Helicopter Electromagnetic System

### System Characteristics

- Transmitter: Triangular Pulse Shape Base Frequency 30 or 150 Hz
- Tx On Time - 5,750 (30Hz) or 1,150 (150Hz) µs
- Tx Off Time - 10,915 (30Hz) or 2,183 (150Hz) µs
- Loop Diameter - 5 m
- Peak Current - 250 A
- Peak Moment - 38,800 NIA
- Typical Z Axis Noise at Survey Speed = 8 ppb peak
- Sling Weight: 270 Kg
- Length of Tow Cable: 40 m
- Bird Survey Height: 30 m or less nominal

### Receiver

- Three Axis Receiver Coils (x, y, z) positioned at centre of transmitter loop
- Selectable Time Delay to start of first channel 21.3 , 42.7, or 64.0 ms

### Display & Acquisition

- PROTODAS Digital recording at 126 samples per decay curve at a maximum of 300 curves per second (26.455 µs channel width)
- RMS Channel Widths: 52.9,132.3, 158.7, 158.7, 317.5, 634.9 µs
- Recording & Display Rate = 10 readings per second.
- On-board display - six channels Z-component and 1 X-component

### System Considerations

Comparing a fixed-wing time domain transmitter with a typical moment of 500,000 NIA flying at an altitude of 120 m with a Helicopter TDEM at 30 m, notwithstanding the substantial moment loss in the airframe of the fixed wing, the same penetration by the lower flying helicopter system would only require a sixty-fourth of the moment. Clearly the AeroTEM system with nearly 40,000 NIA has more than sufficient moment. The airframe of the fixed wing presents a response to the towed bird, which requires dynamic compensation. This problem is non-existent for AeroTEM since transmitter and receiver positions are fixed. The AeroTEM system is completely portable, and can be assembled at the survey site within half a day.

**APPENDIX 5: Statement of Qualifications**

Jonathan Rudd, P.Eng.

1. I am a full-time employee of Aeroquest Corp., based in Milton, Ontario, Canada.
2. My residence is at 54 Alona Avenue, Cambridge, Ontario, N3C 3Y4.
3. I graduated with an honours B.Sc.E. in Geological Engineering in Geophysics, 1988, from Queen's University, Kingston, ON.
4. I have been practicing continuously as an exploration geophysicist for 16 years.
5. I am a registered as a Professional Engineer and am entitled to engage in the practice of professional engineering in the province of Ontario under the terms of the Professional Engineers Act, Revised Statutes of Ontario, 1990, Chapter p 28 .
6. Non-professional affiliations : Society of Exploration Geophysicists, Prospectors and Developers Association of Canada, Sudbury Prospectors and Developers Association, Sudbury Geological Discussion Group, Ontario Prospectors Association
7. I directly supervised the airborne geophysical work as described in this report.

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8534G Harrison Lake; 8538G -Hope; 8539G Mount Urquahart; 8540G Scuzzy Mountain; 8535G Spuzzum,

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Minefile Capsule Geology and Bibliography; 092HSW082;092HNW041; 092HNW 040;092HNW 045; 092HNW058; 092HNW 070; 092 HNW073; 092HNW076; 092HSW004.

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# APPENDIX 1

## STATEMENT OF COSTS

### FIELD COSTS

| Survey | Cost | Mobilization | Total |
|---|---|---|---|
| 541.2 km | 67,650.00 | 2,976.61 | 70,626.61 |
| GST @ 7% | | | 4,943.86 |
| Supervision | | | |
| M.McClaren P.Geo. | | 963.00 | |
| M.Elson, B.Sc. | | 1,207.34 | |
| D. Cardinal, P.Geo. | | 1,291.65 | 3,461.99 |
| Expenses | | | |
| M.Elson | | 1,432.64 | 1,432.64 |
| FIELD COSTS TOTAL | | | 80,465.10 |

### OFFICE COSTS

| | |
|---|---|
| Line plotting; Drafting; Communications | 1,256.18 |
| Report Preparaton | 1,500.00 |
| OFFICE COSTS TOTAL | 2,756.18 |
| TOTAL COSTS | $83,221.28 |

# APPENDIX 2

## STATEMENT OF QUALIFICATIONS OF MURRAY McCLAREN

**Murray McClaren (PGeo)**
Crockite Resources Ltd.
283 Woodale Road
North Vancouver, British Columbia, Canada V7N1S6
604-986-5873 (ph/fax); murraychipper@aol.com

1. I, Murray McClaren, P.Geo, am a Professional Geoscientist employed by Crockite Resources Ltd., with offices at 283 Woodale Road, North Vancouver,B.C., Canada, V7N1S6.

2. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia, registration #24048.

3. I am a graduate of University of British Columbia (1973 B.Sc in geology)

4. I have been engaged in mineral exploration and development continuously since graduation in 1973, and have been involved in mineral exploration in Canada, the United States, Mexico, and Portugal.

5. I am president of Crockite Resources Ltd., a geological consulting firm incorporated in the Province of British Columbia

6. As a result of my professional registration, education and experience, I am a qualified person as defined in N.I. 43-101.

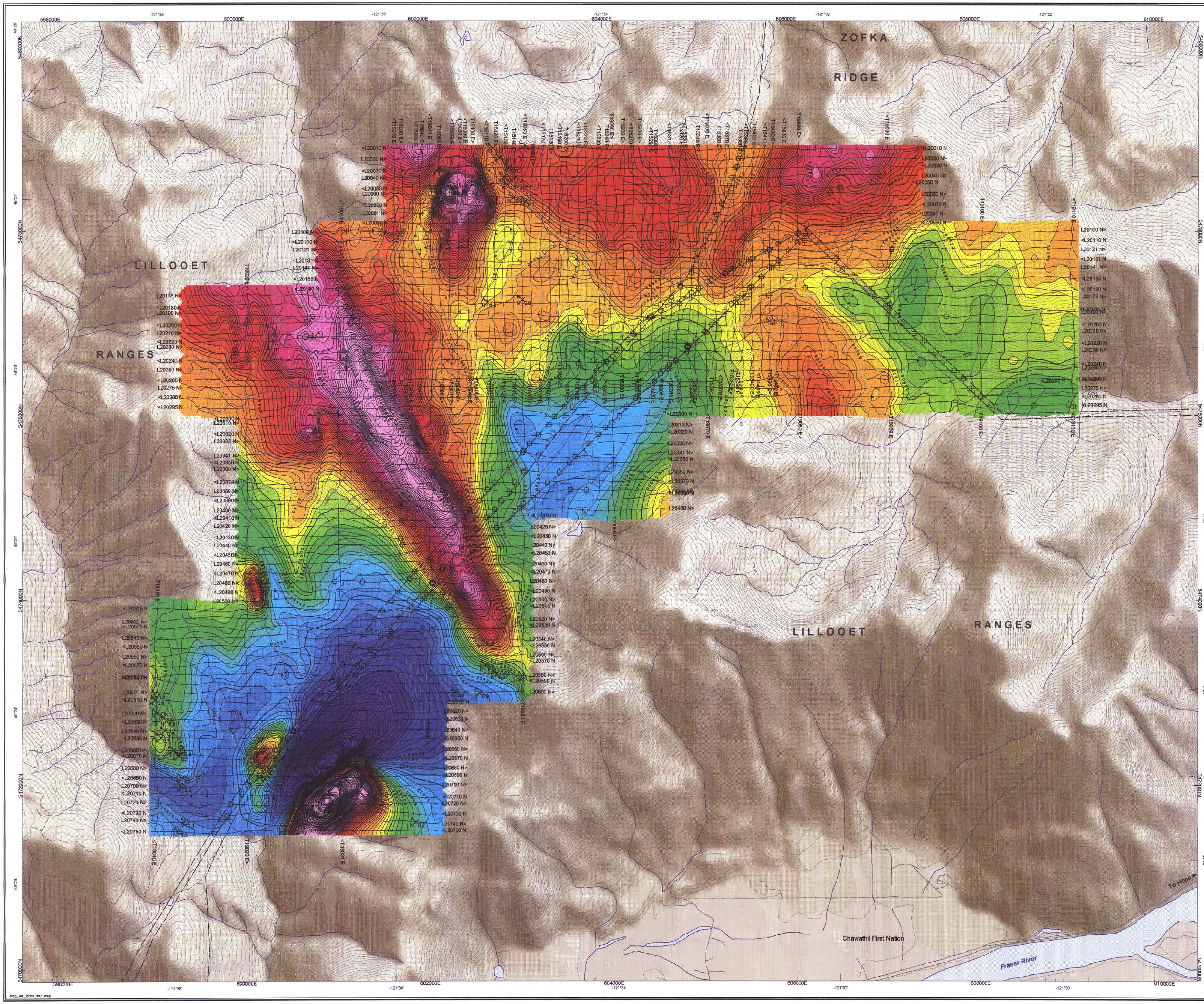
7. I am not an independent qualified person as defined by N.I. 43-101, as I sit on the Board of Directors of Pacific Coast Nickel Corp. hold stock in the company and I am a member of the Pacific Nickel Syndicate, owner of the Big Nic Property.

8. The foregoing report on the Big Nic property is based on a study of available data and my personal knowledge of the geology of the property gained during field work between in the area since September 2004.

Dated at Vancouver, British Columbia, this 14th of December, 2005.

Murray McClaren, P.Geo.

PROFESSIONAL
PROVINCE OF
M. McCLAREN
# 28048
BRITISH COLUMBIA
GEOSCIENTIST

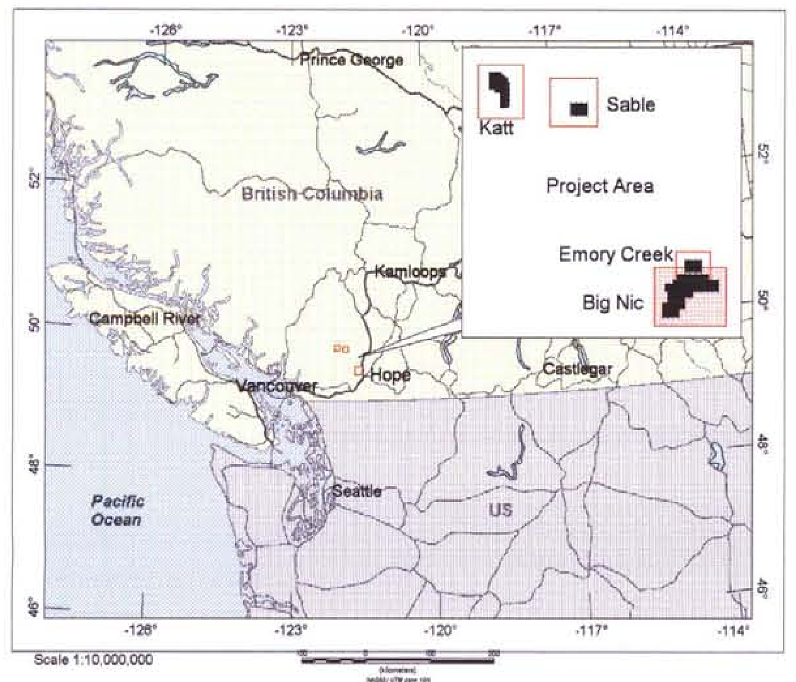



Grid North
NAD83-Zone10

The topographic data base was derived from 1:50000 data supplied by the client

Inset data derived from the 'National Atlas VMAP0 Data for Canada'.

This map accompanies the technical report entitled 'Report on a Helicopter-Borne Magnetic and Electromagnetic Survey, Hope Area', by Aeroquest Limited, May 2005

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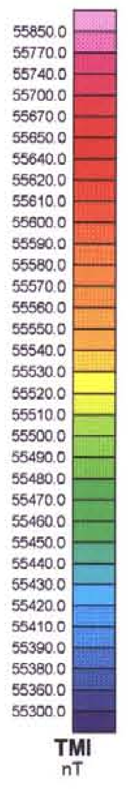



TMI Contour Interval

Minimum 10nT

100 & 500nT

1000nT

Off-Time Anomaly Symbols

>50S

35-50S

20-35S

10-20S

5-10S

1-5S

<1S

Cultural Sources.....

anomaly label A

thicK/thiN source K 36 off-time conductance (S)

SURVEY SPECIFICATIONS:
- Survey flown: March 30,31, April 2-4,6-8,10, 2005
- Traverse line spacing: 100 metres
- Traverse line direction: E-W (90°)
- Nominal EM bird height: 30 metres
- Aircraft: Aerospatiale A-Star 350BA (C-GPTG)

INSTRUMENTATION:
- Data acquisition: ADAS & RMS DGR-33
- Magnetometer: Geometrics G-823A cesium vapour
  - Installation: Towed bird 21 m above EM bird
  - Sensitivity: .001 nanoTesla
- Electromagnetics: AeroTEM Mk-II System (ECHO)
  - Configuration: Towed bird

NAVIGATION:
- Navigation: Differential Global Positioning System (DGPS)
- Navigation equipment: AGNAV with MID-TECH RX400p receiver
- Radar Altimeter: Terra TRA3000/TRI-30

DATA PROCESSING
- Magnetics: diurnal, tieline and micro-leveling corrections

POSITIONING
- Datum: NAD83
  - Major Axis: 6378137.000
  - Eccentricity: 0.081819191

MAP PROJECTION
- Projection: Universal Transverse Mercator
- Central Meridian: 123°W (Zone 10)
- Central Scale Factor: 0.9996
- False Easting/Northing: 500,000m/0m

scale 1:20,000

250 0 250 500 750 1000 1250 1500 metres

NAD83 / UTM zone 10N

Pacific Coast Nickel Corporation
Hope Area, British Columbia

# TOTAL MAGNETIC INTENSITY
# Big Nic Block

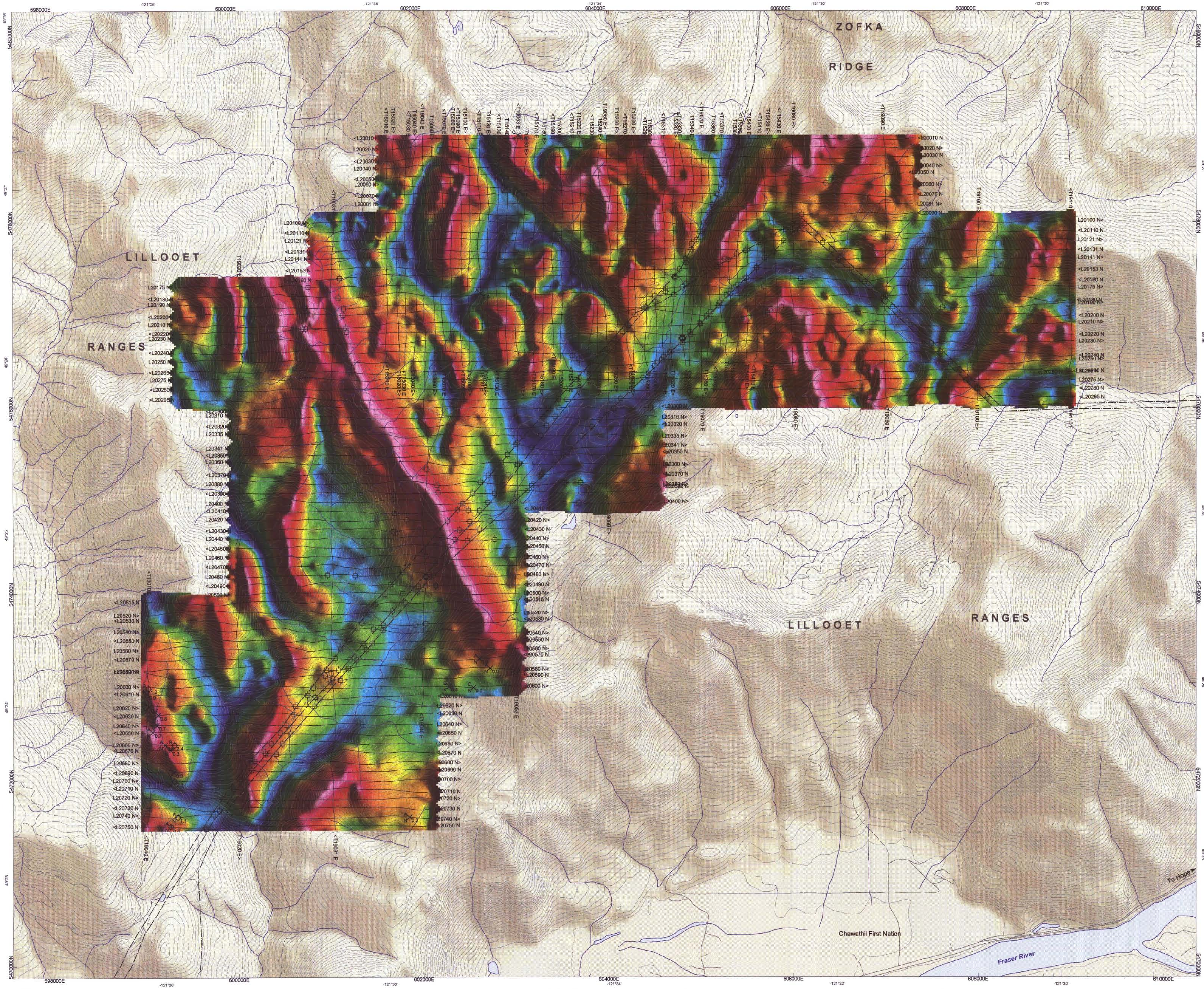
NTS 92H/05,06

Survey flown by:

AEROQUEST LIMITED
4-845 Main St. East
Milton, Ont., CANADA L9T 3Z3
Tel: (905) 693-9129 Fax: (905) 693-9128
www.aeroquestsurveys.com

May 2005

Big Nic 1

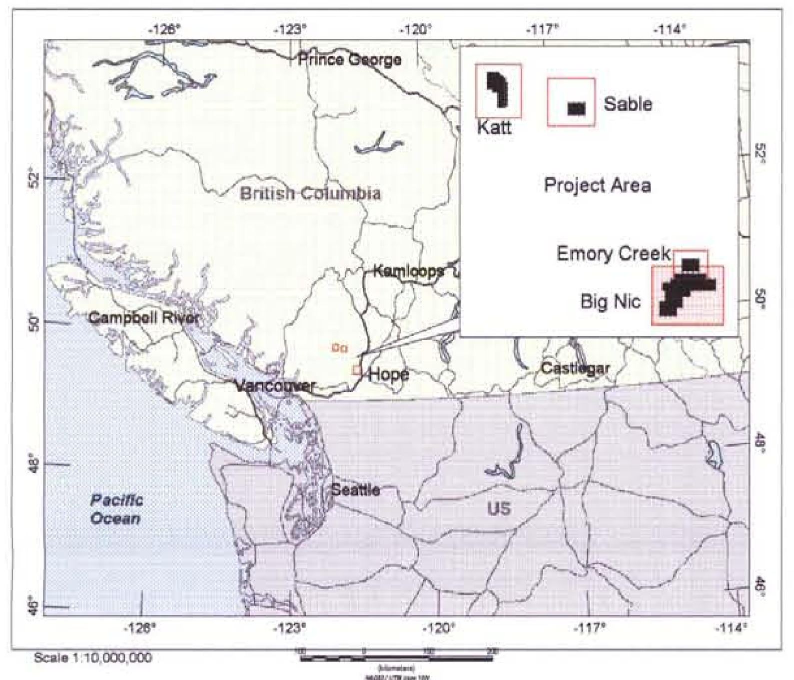



Grid North
NAD83-Zone10

The topographic data base was derived from 1:50000 data supplied by the client

Inset data derived from the 'National Atlas VMAP0 Data for Canada'.

This map accompanies the technical report entitled 'Report on a Helicopter-Borne Magnetic and Electromagnetic Survey, Hope Area', by Aeroquest Limited, June 2005




Scale 1:10,000,000

**Tilt Derivative of TMI**
nT/s

1.268, 1.110, 0.982, 0.869, 0.763, 0.666, 0.572, 0.479, 0.384, 0.291, 0.201, 0.115, 0.032, -0.045, -0.118, -0.187, -0.253, -0.316, -0.377, -0.436, -0.493, -0.549, -0.604, -0.658, -0.712, -0.763, -0.812, -0.857, -0.900, -0.941, -0.982, -1.027, -1.073, -1.124, -1.180, -1.247, -1.322, -1.403

Off-Time Anomaly Symbols

- >50S
- 35-50S
- 20-35S
- 10-20S
- 5-10S
- 1-5S
- <1S
- Cultural Sources

anomaly label A
thicK/thiN source K
36 off-time conductance (S)

SURVEY SPECIFICATIONS:
- Survey flown: March 30,31, April 2-4,6-8,10, 2005
- Traverse line spacing: 100 metres
- Traverse line direction: E-W (90°)
- Nominal EM bird height: 30 metres
- Aircraft: Aerospatiale A-Star 350BA (C-GPTG)

INSTRUMENTATION:
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- Magnetometer: Geometrics G-823A cesium vapour
  - Installation: Towed bird 21 m above EM bird
  - Sensitivity: .001 nanoTesla
- Electromagnetics: AeroTEM Mk-II System (ECHO)
  - Configuration: Towed bird

NAVIGATION:
- Navigation: Differential Global Positioning System (DGPS)
- Navigation equipment: AGNAV with MID-TECH RX400p receiver
- Radar Altimeter: Terra TRA3000/TRI-30

DATA PROCESSING
- Magnetics: diurnal, tieline and micro-leveling corrections

POSITIONING
- Datum: NAD83
  - Major Axis: 6378137.000
  - Eccentricity: 0.081819191

MAP PROJECTION
- Projection: Universal Transverse Mercator
- Central Meridian: 123°W (Zone 10)
- Central Scale Factor: 0.9996
- False Easting/Northing: 500,000m/0m

scale 1:20,000

250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 10N

Pacific Coast Nickel Corporation
Hope Area, British Columbia

# TILT DERIVATIVE OF TMI
# Big Nic Block

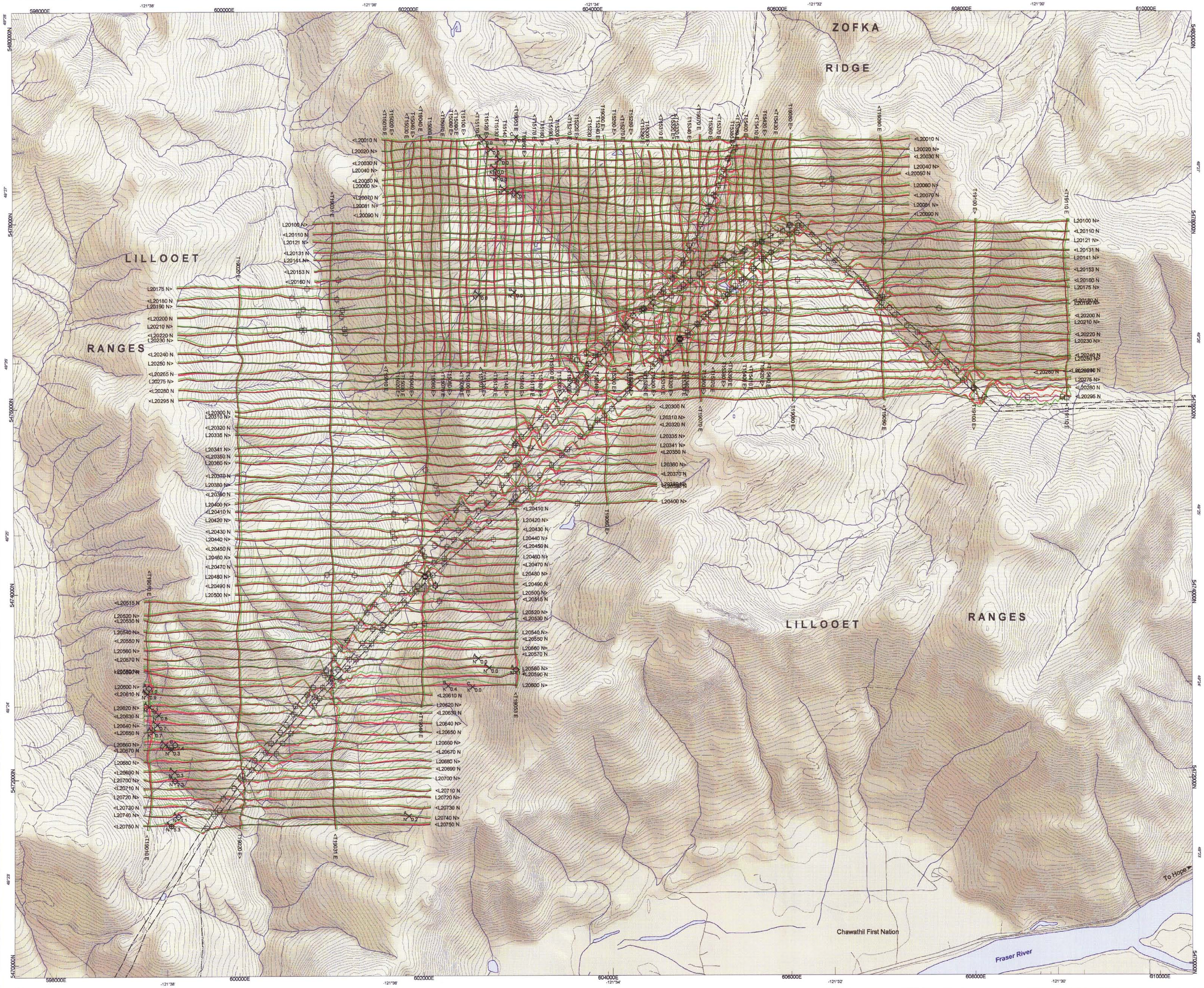
NTS 92H/05,06

Survey flown by:

AEROQUEST LIMITED
4-845 Main St. East
Milton, Ont., CANADA L9T 3Z3
Tel: (905) 693-9129 Fax: (905) 693-9128
www.aeroquestsurveys.com

June 2005

Big Nic 2




Grid North
NAD83-Zone10

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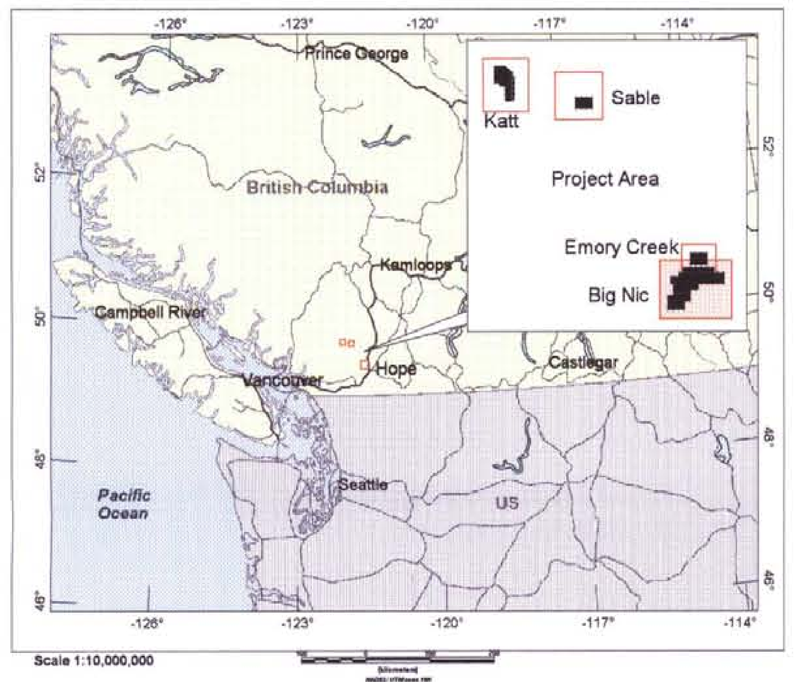


Scale 1:10,000,000

AeroTEM Profiles

positive excursion to top and right, 1mm=30nT/s

Z1 Off-Time Channel

Z2 Off-Time Channel

Z3 Off-Time Channel

Off-Time Anomaly Symbols

>50S ..........................

35-50S ........................

20-35S ........................

10-20S ........................

5-10S ..........................

1-5S ..........................

<1S ..........................

Cultural Sources.....

anomaly label A

thicK/thiN source K

36 off-time conductance (S)

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POSITIONING
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  - Major Axis: 6378137.000
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- Central Scale Factor: 0.9996
- False Easting/Northing: 500,000m/0m

scale 1:20,000

250 0 250 500 750 1000 1250 1500

metres

NAD83 / UTM zone 10N

Pacific Coast Nickel Corporation

Hope Area, British Columbia

# AEROTEM OFF-TIME PROFILES

## Big NicBlock

NTS 92H/05,06

Survey flown by:

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June 2005

Big Nic 3