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# XPLORER GOLD CORP.

# GROUND TOTAL MAGNETIC FIELD AND VLF-EM SURVEYS AT THE RED CAP PROPERTY, TULSEQUAH AREA, ATLIN MINING DIVISION

M.A. Power
**AMEROK GEOSCIENCES LTD.**

CLAIMS

| | |
|---|---|
| KAP 3 | 328663 |
| KAP 4 | 325568 |
| KAP 5 | 336079 |
| KAP 7 | 345068 |
| CAT 5 | 325560 |

Owner: Xplorer Gold Corp.
Operator: Xplorer Gold Corp.
Location: 58° 45'N, 133° 15'W
NTS: 104 K/11, K/14
Centred at: 601000E 6511500N (NAD 1927)
Mining District: Atlin, B.C.
Date: November 21,1998

## SUMMARY

Total magnetic field and VLF-EM surveys were conducted on the Red Cap property for Xplorer Gold Corp. to locate structures or rock units hosting auriferous sulphide mineralization. A grid consisting of 51.3 line-km was installed by a crew of 5 to 6 line cutters and surveyed by a one-man crew between June 8, 1998 and July 13, 1998. The grid was located east of Red Cap Lake and northwest of Mount Lester Jones near the Red Cap Showing.

The magnetic field survey identified two granodiorite plugs in the southern portion of the grid. The VLF-EM surveys identified 3 conductors. Conductor **A** follows the western margin of one of the granodiorite plugs and the conductors **B** and **C** appear to be caused by mineralized shears within the Stuhini volcanics. All three conductors merit additional investigation.

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## 1.0 INTRODUCTION

Amerok Geosciences Ltd. was retained by Xplorer Gold Corp. to conduct ground total magnetic field and very low frequency electromagnetic (VLF-EM) surveys on the Red Cap Property south of Atlin, BC. A total of 51.3 line-km were surveyed on the Storm Grid, centred at 601000E 6511500N, east of Red Cap Lake. The surveys were conducted by a one-man crew between June 8 and July 13, 1998 to locate steeply dipping auriferous sulphide zones within Stuhini Group volcanics. This survey describes the surveys performed, data, results and an interpretation.

## 2.0 LOCATION AND ACCESS

The Red Cap Property is situated in the Atlin mining district, northwestern British Columbia, and is centered at 58°45'N, 133° 15'W. The property is located approximately 93 km south southeast of Atlin, BC (Figure 1) and is accessible by helicopter from Atlin, B.C or Juneau, Alaska.

## 3.0 PROPERTY

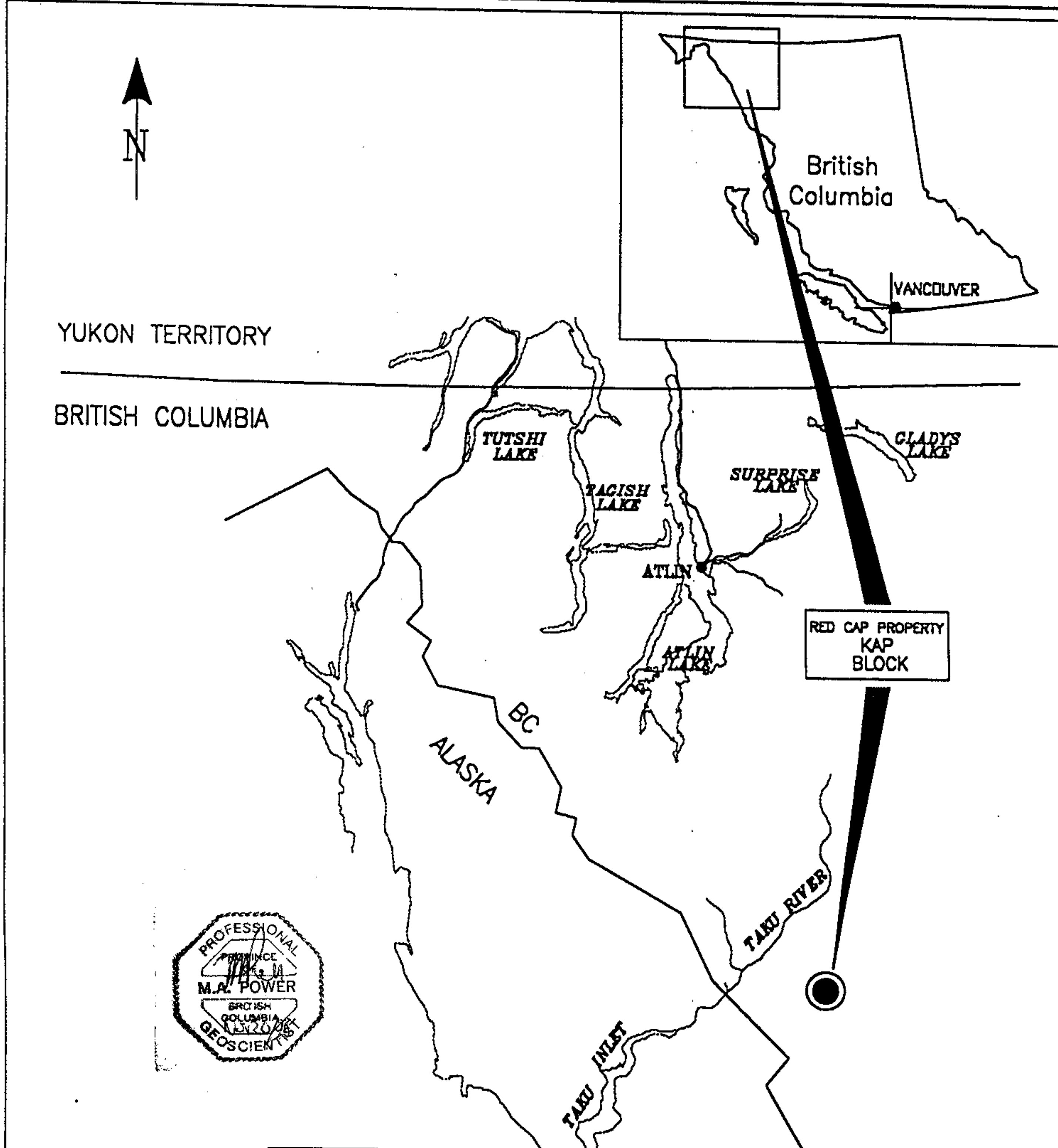
The Red Cap property consists of 21 mineral claims in the Atlin Mining Division. Claim locations as shown on government claim maps and the location of the survey grid are shown in Figure 2. The work described in this report was conducted on the following claims:

| Claim | Tenure No. | Owner | Expiry date | Units |
|---|---|---|---|---|
| KAP 3 | 328663 | Xplorer Gold Corp. (100%) | July 15, 2000 | 8 |
| KAP 4 | 325568 | Xplorer Gold Corp. (100%) | May 15, 2002 | 20 |
| KAP 5 | 336079 | Xplorer Gold Corp. (100%) | May 15, 2001 | 20 |
| KAP 7 | 345068 | Xplorer Gold Corp. (100%) | March 28, 1999 | 16 |
| CAT 5 | 325569 | Xplorer Gold Corp. (100%) | May 15, 1999 | 5 |

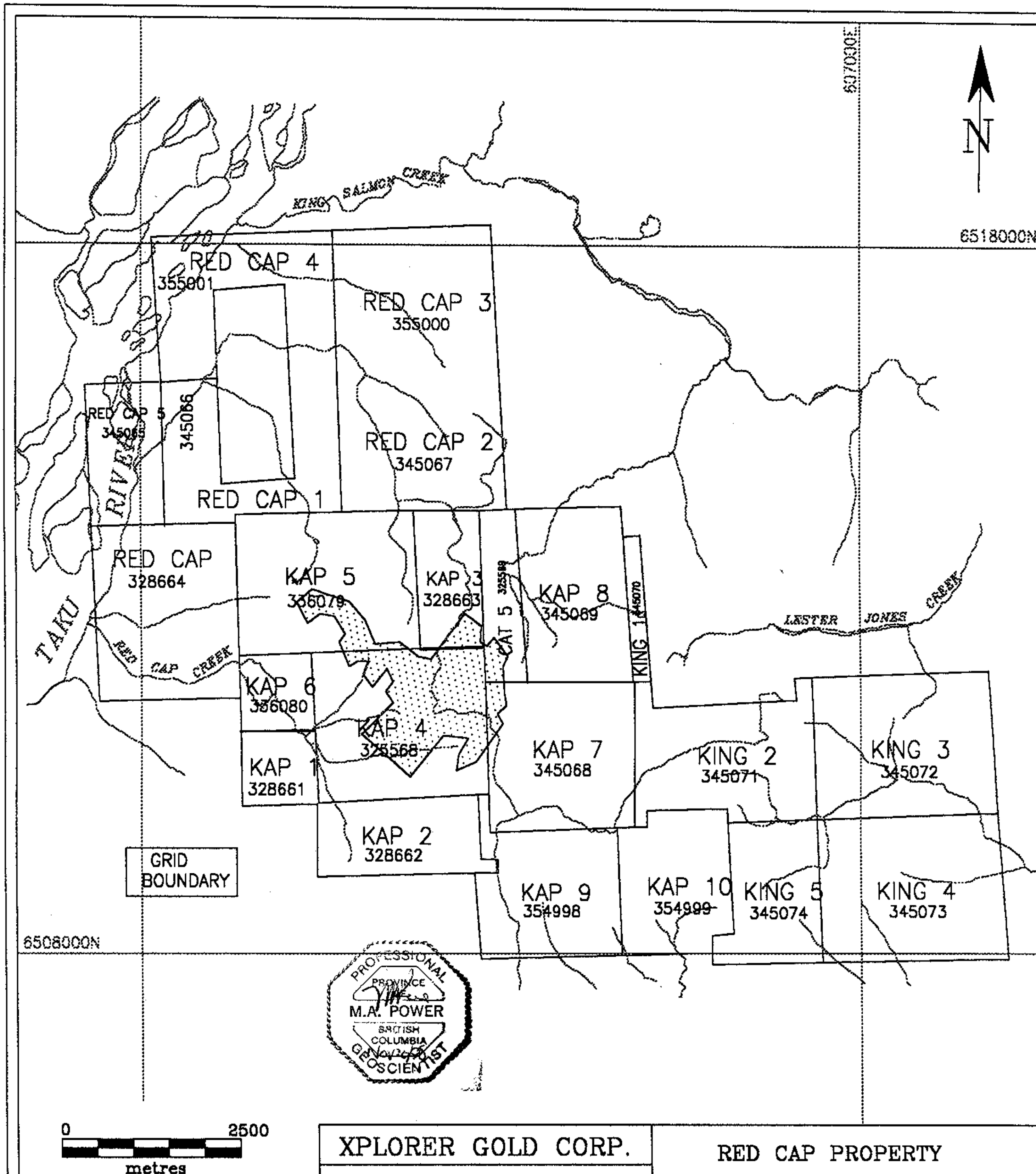
Claim information, current to November 19,1998, was provided by the British Columbia Ministry of Energy and Mines, who assume no responsibility for the accuracy of this information.

## 4.0 PHYSIOLOGY, GEOLOGY AND ECONOMIC MINERALIZATION

The geology and physiology of the area containing the Red Cap Property has been described by Souther (1971). The property is in the Coast Mountain Ranges at




| | |
|---|---|
| XPLORER GOLD CORP. | RED CAP PROPERTY |
| LOCATION AND ACCESS<br>KAP BLOCK | MINING DISTRICT: ATLIN |
| | NTS:104 K/11 — SCALE:1:1,457,700(A) |
| | DRAWN BY: AD |
| AMEROK GEOSCIENCES LTD. | DATE: 16 NOV 98 — FIGURE: 1 |




| | |
|---|---|
| XPLORER GOLD CORP. | RED CAP PROPERTY |
| CLAIM LOCATION MAP<br>KAP BLOCK | MINING DISTRICT: ATLIN |
| | NTS 104 K/11 — SCALE 1: 75 000 |
| | DRAWN BY AD |
| AMEROK GEOSCIENCES LTD. | 16 NOV 98 — FIGURE: 2 |

elevations ranging from 880 to 1860 m. The area of the survey grid is at elevations ranging from 1220 to 1860 m and centred on a ridge top above tree line. The area is subject to coastal climatic conditions with abundant rainfall during the short summer season and heavy snowfall during the winter months. Temperatures range from 20 to 25° C during the summer period of mid-June through mid-August to -40° C during the coldest months of winter. The area is subject to intense storms and the survey crew encountered very high winds during the project.

The Red Cap Property is located in the Alexander Terrane of the northern Cordillera. It is underlain by felsic volcanics and andesite and is intruded by granodiorite and quartz feldspar porphyry dykes. The stratigraphy on the property is summarized in Table I using the nomenclature of Souther (1971). The Storm grid is underlain by flat lying Stuhini Group andesites and lesser rhyolite intruded by granodiorite and quartz feldspar porphyry dykes. The dykes appear to radiate from a source south of the property.

**Table I. Stratigraphy**

| **Rock unit** | **Lithology** |
|---|---|
| Sloko Group<br>(Cretaceous - Tertiary) | Felsite dykes |
| Central Plutonic Complex<br>(Jurassic - Cretaceous) | Hornblende-biotite granodiorite and quartz-monzonite |
| Stuhini Group<br>(Upper Triassic) | Andesites and lesser rhyolites. |

Within the flat-lying to gently-dipping Stuhini volcanics, mineralization occurs along the contact between the volcanics and intruding granodiorite, and in veins within the Stuhini Group. The Red Cap showing, northwest of the Storm Grid, is the most significant occurrence on the property and consists of heavily pyritized, carbonatized and silicified rock extending for nearly 1.0 km along the contact between volcanics and granodiorite (Souther 1971). Auriferous and argentiferous quartz-carbonate-pyrite veins with lesser sphalerite, chalcopyrite, galena and arsenopyrite occur within this zone. Other showings consist of pyrite-copper-molybdenite veins and later stage silver-gold-arsenopyrite veins within shear zones in Stuhini Group rocks. In addition, Triassic volcanic rocks host significant Cu-Zn-Pb massive sulphide deposits north of the property (eg. Windy Craggy) and the stratigraphy is considered favourable for volcanogenic massive sulphide mineralization.

## 5.0 SURVEY GRID

The geophysical surveys were conducted on a picketed grid centred at 601000E 6511500N on a ridge east of Red Cap Lake and northwest of Mount Lester Jones (Figure 3 - back pocket). The grid consists of 51.3 line-km of survey lines turned from a 3.3 km base line oriented at 310°. Lines were slope-corrected and picketed at 25 m intervals. The grid was put in by line cutting contractors and by staff from Xplorer Gold Corp. prior to and during the geophysical survey. The terrain on this grid is extremely rugged and work proceeded quite slowly as a result.

## 6.0 PERSONNEL AND EQUIPMENT

The surveys were conducted by Chris Gooliaff, B.Sc. He was equipped with the following instruments and equipment:

<u>Field unit:</u> Scintrex EDA Omni Plus proton precession magnetometer and VLF-EM receiver.

<u>Base magnetometer:</u> EDA Omni IV proton precession magnetometer.

<u>Data processing:</u> 486 laptop and Fujitsu DL3800 colour printer. Data processing with Geopak software and proprietary data conversion software.

<u>Other equipment:</u> satellite phone, VHF radio

The geophysical crew spent a total of 18 man-days on the property from June 8 to 12, 1998 and from June 26 to July 13, 1998. Line cutters (5 to 6) and a cook spent a total of 90 man-days on the property. The geophysical survey log is attached as Appendix B.

## 7.0 SURVEY SPECIFICATIONS

The magnetometer and VLF-EM surveys were conducted according to the following specifications:

<u>Station spacing:</u> 12.5m

<u>Base station magnetometer:</u> installed on the survey grid and cycled at maximum 15 s throughout the survey.

<u>VLF Survey:</u> Transmitting station NLK (24.8KHz) at Jim Creek, WA was used as the primary (azimuth approximately 160°). Transmitting station NPM (21.4KHz) at Lualualei, Hawaii (azimuth approximately 250°)to be used as an alternate.

## 8.0 VLF-EM AND MAGNETIC FIELD THEORY

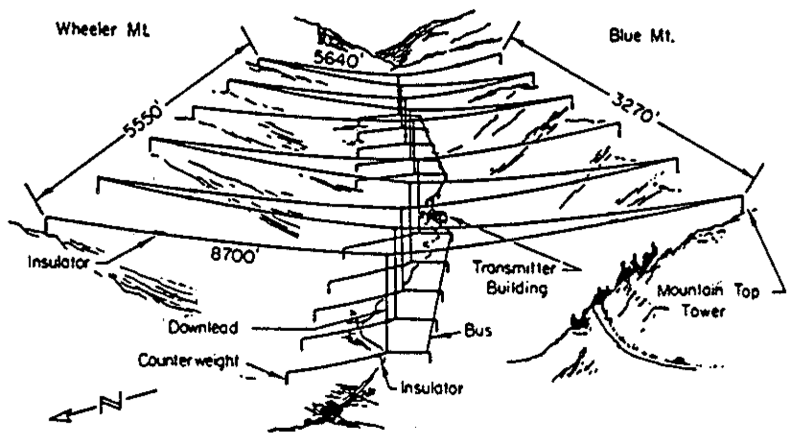
The VLF-EM method is well described in standard texts (eg. Telford *et. al.* 1990) and by McNeill and Labson (1990). Modulated radio waves in the range of 15.0 to 25.0 KHz are used to communicate with submerged submarines and are useful in mineral exploration. The antennas from which the signals are radiated are vertical wires, commonly located in valleys or craters to permit longer wire length (Figure VLF-1(a)). This antenna configuration generates a wave with a vertical electrical field and a horizontal magnetic field propagating away from the source. The wave propagates between the ionosphere and the earth's surface, reflecting off both at a shallow angle (Figure VLF-1(b)). At a great distance, the radius of curvature is so large that it is effectively a plane wave.

A steeply-dipping conductor with a strike in the direction of the transmitter will be optimally coupled to the horizontal magnetic flux. This magnetic flux will induce a secondary field in the conductor (**H** $_{s)}$ which opposes the primary or source field. This is generated by circulating eddy currents which tend to concentrate at the top of the conductor (Figure VLF-2(a)). The current distribution can be considered to be a linear source located at the top of the conductor and consequently, the anomaly shape is relatively insensitive to the dip of conductor. The current at the top of the conductor produces a cylindrical magnetic field centred on the current axis. The primary horizontal magnetic field and the secondary field induced in the conductor add vectorially to produce a resultant magnetic field whose attitude traces out a sine wave or cross-over as shown in Figure VLF-2(a). The wavelength of the response in a general sense is proportional to the depth of the target. Deep targets tend to produce longer wavelength anomalies while shallow anomalies have a shorter wavelength. The distance between the peak and trough of the response is roughly equal to the depth to the current source.

Using the horizontal component as a phase reference, it is possible to partition the secondary vertical field into in-phase and quadrature components. If the conductor is a poor to moderate conductor, the sign of the quadrature will follow that of the in-phase component. If the target conductance is high, the quadrature will display a sign opposite that of the in-phase component (Figure VLF-2(b)). The Omni Plus VLF-EM receiver used in this survey records the signal so that a normal in-phase component cross-over consists of a positive to negative response moving from grid west to east or grid south to north.

Cross-over responses may also be induced by interfering responses from nearby

(a)




(b)

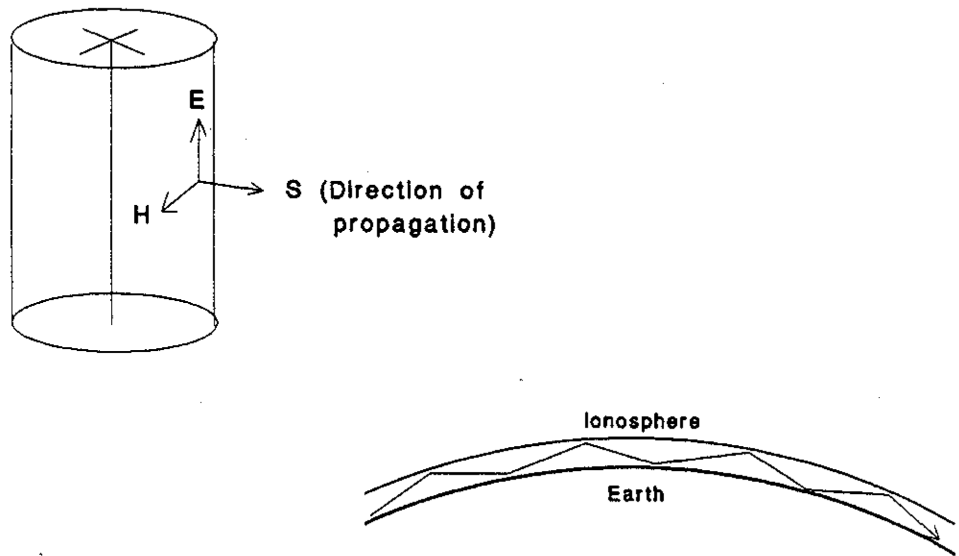



Figure VLF-1. VLF source fields and propagation. (a) Diagram showing Jim Creek, WA VLF transmitter (McNeill and Labson 1990). (b) Propagation of VLF field at a distance from the antenna. The VLF wave propagates between the earth's ionosphere and the surface with a vertical electrical field and horizontal magnetic field. At great distances the signal forms a plane wave.

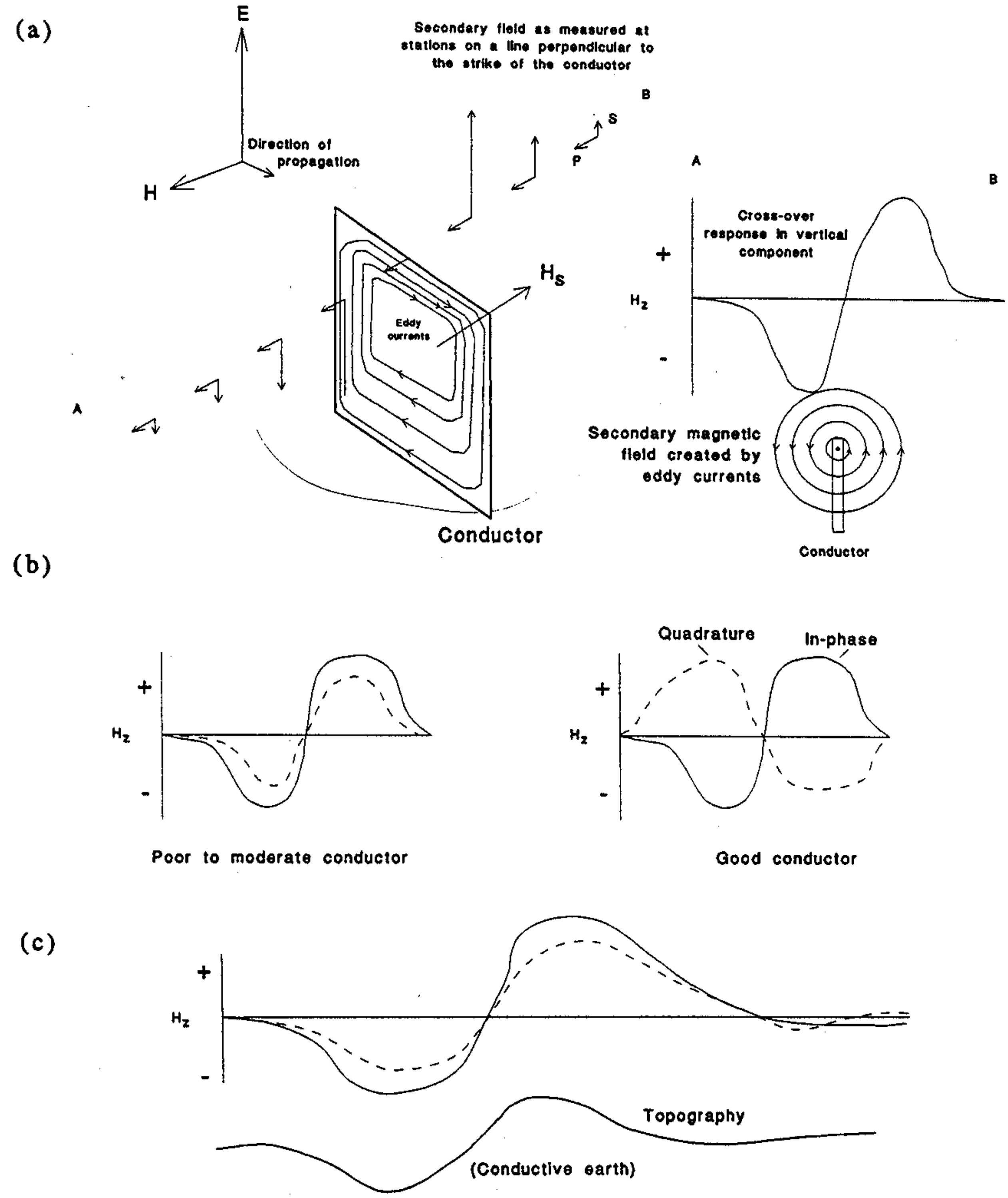
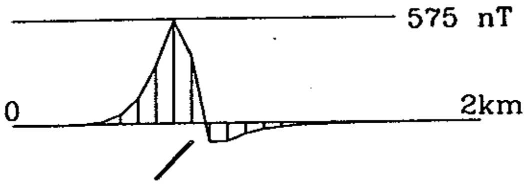


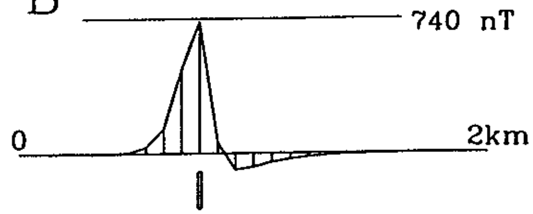

Figure VLF-2. VLF responses. (a) The horizontal magnetic flux from a VLF signal induces a secondary field in a conductor. This, together with the primary field, produces a cross-over response. (b) Quadrature sign can be determined by target conductance. (c) If the ground is conductive, topography can induce VLF responses similar to those expected from bedrock conductors.

A



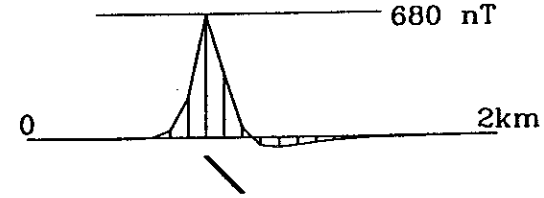

A. Shallow South Dipping Slab
Peak is located approximately 100m south of top of slab. A trough is created to the north.

B



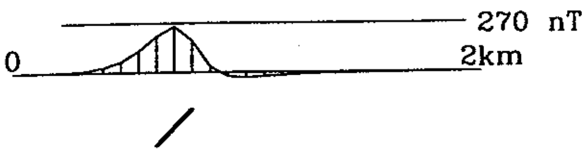

B. Shallow Vertical Slab
Peak is located directly above the slab. A trough is created to the north.

C



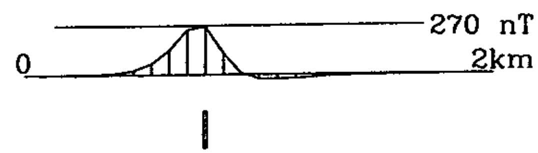

C. Shallow North Dipping Slab
Peak is located directly above top of slab. A relatively low amplitude trough is created to the north.

D



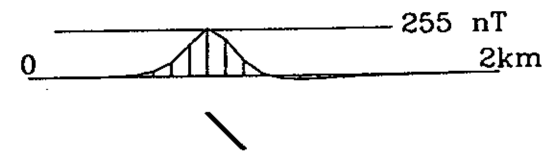

D. South Dipping Slab at Depth
Muted peak is located approx. 100m south of top of slab. A very shallow trough is created to the north.

E




E. Vertical Slab at Depth
Near symmetric peak is centred approximately 50m south of top of slab. A very shallow trough is created to the north.

F




F. North Dipping Slab at Depth
Peak is located directly above top of slab. Trough to the north is absent.

Figure 4. Magnetic Forward Models

Magnetic forward models were generated using REVS software. The magnetic responses for a variety of dipping slabs were determined using the IGRF reference field model for the project area of 57485 nT (total field), with declination of 29.8° and inclination of 76°. Slabs (A–F) have similar dimensions, 200m thickness, 200m depth projection, 500m strike length, and magnetic susceptibility of 0.05 S.I. units. Slabs A–C have tops located at 100m depth, while slabs D–F have tops at 200m depth. Models were generated with slabs striking at 320° – 140°, perpendicular to survey lines.

conductors, sometimes producing false-crossovers with senses opposite to that normally occurring over a discrete conductor. In addition, topography can generate false cross-over responses. VLF-EM waves follow the surface topography to some extent with the degree of correlation determined by the conductivity of the local earth. In very conductive ground, the VLF wave follows topography quite closely and cross-over responses similar to those expected from a bedrock conductor can be generated by undulating topography with suitable spatial wavelengths (Figure VLF-2(c)). In poorly conductive ground, the wavelength of the topographic effect is much longer, reflecting the greater depth of penetration by the VLF-EM wave. In these situations, it is relatively easy to discriminate between bedrock conductors and topographic anomalies.

A knowledge of expected magnetic responses on the property is useful in interpreting the data. Forward models of typical magnetic responses for a dipping slab target were generated using Geopak REVS software to determine the signature of a prospective target on the property. The models incorporate the local earth field as calculated by the International Geomagnetic Reference Field (IGRF) for the time and location of the survey. The mean magnetic field at the Red Cap Property had an IGRF total field strength of 57,485 nT, declination of 29.8° E and inclination of -76° at the time of the survey. The models show the response of a 500 m (strike length) by 200 m (depth extent) by 20 m (thick), slab striking 140° and displaying a susceptibility contrast of 0.050 SI units. The depth-to-top and dip of the sheet were varied to illustrate the range of possible anomaly shapes.

The results of the modeling are presented in Figure 4. Models A to C show the response of a shallow (100 m) slab at various dip angles and Models D to F illustrate the response of a deep (200 m) slab at the same dip angles. All models show the response from south (left) to north (right). The trough on the north side of the slab is most pronounced when the body dips to the south. Peak amplitude are recorded for a vertical slab and vary from 575 to 740 nT for the four models. Increasing the depth reduces the response amplitude and particularly suppresses the trough on the magnetic north side of the conductor. Peak amplitudes for the deep case vary from 255 to 270 nT. At depth, slabs of varying dip are virtually indistinguishable from each other by magnetic response because of the suppression of the north side trough.

## 9.0 RESULTS

Digital data is appended to this report on disk. The magnetic field data is in the following format:

Line Station UTM_E UTM_N Corr_field

where Corr_field is the corrected magnetic field. The VLF-EM data is in the following format:

| Line | Station | UTM_E | UTM_N | IP | Q | Slope |
|---|---|---|---|---|---|---|

where IP and Q are the in-phase and quadrature component and slope is the terrain slope. IP, Q and Slope are recorded in percent.

The following plots at 1:5,000 are appended to this report in the back pockets:

| | |
|---|---|
| Figure 5. | Total magnetic field stacked profiles |
| Figure 6. | Total magnetic field contour map |
| Figure 7. | VLF-EM stacked profiles - Seattle |
| Figure 8. | VLF-EM stacked profiles - Hawaii |
| Figure 9. | VLF-EM Fraser filtered VLF - Seattle |
| Figure 10. | VLF-EM Fraser filtered VLF - Hawaii |

The total magnetic field identified several significant features on the property. A broad magnetic high centered at L3750N 5200E is coincident with the mineralization on the LJ Knob and a weaker magnetic high centered to the east at L3650N, 5425E delineates a large granodiorite plug.

VLF-EM anomalies were extracted from the Seattle data as this station is optimally coupled with conductors perpendicular to the survey lines. Three VLF-EM anomalies were identified by the survey. Conductor **A** extends from L3800N 5038E to L3950N 4963E and consists of a sharp cross-over in both in-phase and quadrature superimposed on a regional dip. Quadrature follows in-phase suggesting that the conductor is poor to moderate and the source appears to be in the order of 25 to 50 m below surface. The conductor axis is coincident with a second order positive magnetic anomaly and the shape of the magnetic response suggests that the source is dipping to grid east at a shallow angle. The magnetic anomaly is part of a zone of elevated magnetic response centred on the granodiorite plug and the conductor appears to follow the western contact between the granodiorite and the volcanics.

Conductor **B** extends from L4150N 4738E to L4400N 4813E and consists of a weak, sharp cross-over in the in-phase and a very weak cross-over in the quadrature component. Quadrature follows in-phase suggesting that the conductor is poor to moderate and the source appears to be in the order of 25 to 50 m below surface. The conductor axis is coincident with a magnetic low on the west side of a sloping positive magnetic response. Modelling results suggest that this low is a discrete feature not associated with the source of the magnetic high immediately east of the anomaly. The negative response suggests that the target is reverse magnetized.

Conductor **C** extends from L4200N 5550E to L4450N 5500E and consists of a weak, sharp cross-over in the in-phase with no significant quadrature response. This suggests that it may be a very poor conductor. The conductor appears to be offset by 25 m into two short segments and the wavelength of the response suggests that the source is in the order of 25 to 50 m below surface. The magnetic response along **C** varies from south to north by segment. The southern segment (L4200N 5550E to L4300N 5550E) has a coincident magnetic response similar to that of conductor **B**, suggesting that the anomaly is caused by a discrete, reverse magnetized source. The magnetic response on the northern segment of the conductor consists of a positive anomaly coincident with the VLF conductor suggesting that the source of the anomaly is a magnetic body with little remnant magnetism.

## 10.0 DISCUSSION

Large total magnetic field anomalies define magnetite bearing granodiorite plugs in the southern portion of the grid - features which have been confirmed by geological mapping. VLF conductor **A** follows the western margin of a large plug in the southern portion of the grid and is in a geological setting which could host mineralization similar to the Red Cap showing. VLF conductors **B** and **C** are associated with apparently reverse magnetized conductive features and merit additional geological investigation. The author has worked on pyrrhotite-rich showings in Stuhini Group rocks near the Yukon / B.C. border which were reversed magnetized and this may account for the unusual magnetic response of VLF conductors **B** and **C**. Of the VLF conductors detected, conductor **A** appears to have the strongest signature and stands the best chance of hosting sulphide mineralization.

## 11.0 CONCLUSIONS

The results of the magnetometer and VLF-EM surveys conducted on the Red Cap Property suggest the following conclusions:

**a.** VLF conductor **A** follows the contact between granodiorite and volcanics and may host mineralization similar to the Red Cap showing.

**b.** VLF conductors **B** and **C** are associated with magnetic features which may be reversed magnetized. The strength of these anomalies is relatively weak compared to anomaly **A** and the tenor of sulphide mineralization may be less in these conductors. They may be caused by mineralized shear zones in volcanic rocks.

## 12.0 RECOMMENDATIONS

The following recommendations are made based on the conclusions of this work:

> **a.** VLF conductors **A, B** and **C** should be investigated to determine their source and tested by drilling if results warrant.

Respectfully submitted,
**AMEROK GEOSCIENCES LTD.**

PROFESSIONAL
PROVINCE OF
M.A. POWER
BRITISH COLUMBIA
GEOSCIENTIST

Michael A. Power, M.Sc. P.Geo.
Geophysicist

## References Cited

McNeill, J.D. and V.F. Labson (1990) Geological Mapping Using VLF Radio Fields. in: Nabighian, M.N. (ed.) Investigations in Geophysics No. 3. Electromagnetic Methods in Applied Geophysics. Volume 2, Application , Part B. Tulsa: Society of Exploration Geophysics.

Souther, J.G. (1971) Geology and Mineral Deposits of Tulsequah Map-Area. Ottawa: Geological Survey of Canada Memoir 362.

Telford, W.M., L.P. Geldart and R.E. Sheriff (1990) Applied Geophysics (2nd Edition) New York: Cambridge University Press.

## APPENDIX A. CERTIFICATE

I, Michael Allan Power, with residence and business address in Whitehorse, Yukon Territory do hereby certify that:

1. I hold a B.Sc. (Honours) in Geology granted in 1986 and M.Sc. in Geophysics granted in 1988, both from the University of Alberta.

2. I have been actively involved in mineral exploration in the northern Cordillera and in the Northwest Territories since 1988. I am a professional geoscientist registered with the Association of Professional Engineers and Geoscientists of British Columbia (Registration number 21131).

3. I supervised the geophysical surveys described in this report, interpreted the data collected and prepared this report.

4. I have no interest, direct or indirect, nor do I hope to receive any interest, direct or indirect, in Xplorer Gold Corp. or any of its properties.

5. I hereby authorize Xplorer Gold Corp. to use this report or extracts therefrom in connection with any filing submitted to the Vancouver Stock Exchange and the British Columbia Securities Commission.

Dated this 21st day of November 1998 in Whitehorse, Yukon Territory.

Michael A. Power, M.Sc. P.Geo.
Geophysicist

# APPENDIX B. SURVEY LOG

## GEOPHYSICAL SURVEY LOG
## XPLORER GOLD CORP. - TULSEQUAH PROPERTIES
## MAGNETOMETER/VLF SURVEYS - JOB 98-14
## JUNE 8 - JULY 13, 1998

Mon 8 JUN 98

Mobe from Whitehorse, YT to Atlin, BC in Norcan rental truck. Flew in to Tulsequah, then heli-lifted to camp on pass. Client requested that spare mag/vlf unit, printer, and first aid kit be left in Atlin, in order to keep weight down in plane for 1 flight. Client to fly in tomorrow with this additional gear. Client has agreed to having no printouts of todays surveying due to the gear coming in tomorrow. Heli-lifted from airstrip to camp on pass. Set up base mag 100 m south of camp and began surveying on VMS grid north of camp. Rain halfway through survey so requested field assistant (Shane) to radio back to camp to get the cook (Didi) to cover up base mag with plastic box.

Upon returning to camp and retrieving base mag, the LCD on unit was only partially displaying commands and would not dump data; may be wet. Dumped raw mag and vlf data and worked with this. Notified T. Elliott that base mag unit in Atlin is needed in order to do accurate mag survey, but vlf survey could continue until spare base station is brought in from Atlin. T. Elliott requested C. Gooliaff go ahead with mag survey, knowing that the data will not be correct.

Survey was conducted immediately behind Shane, who was putting in the grid. Numerous stops necessary in order not to over run him.

Production : L 1000E 1000N - 1150N
L 975E 1000N - 1150N
L 950E 1000N - 1150N
L 925E 1000N - 1125N

Total Production : 0.575 line-km

Tue 9 JUN 98

Clouds and rain have descended on the pass. Very strong winds. No helicopter today due to weather. Again informed T. Elliott that mag data will not be accurate without the base mag.

T. Elliott requested C. Gooliaff continue surveying both mag and vlf until the base mag comes in, then repeat the mag survey over the grid with base mag operating.

Tried fixing LCD by taking apart and adjusting settings; dried out base mag with blow dryer; also tried numerous cable and battery combinations to get base mag to work. Still not working. Then attempted to retrieve base mag data manually but to no avail.

Survey again conducted directly behind field assistants installing grid, resulting in delays.

| | |
|---|---|
| Production : | L 1025E 1000N - 1375N |
| | L 1000E 1375N - 1500N |
| | L 0975E 1500N - 1600N |
| | L 0900E 1000N - 1325N |
| | L 0875E 1000N - 1325N |
| | L 0850E 1000N - 1087.5N |

Total Production: 1.3375 line-km

Wed 10 JUN 98

Very high winds, tents collapsed during the night. Door does not shut on the tent, thus allowing rime ice to build-up on gear in tent. Suspect that computer and mag/vlf gear will be affected by not being able to cover it properly or keep moisture out. Feels like we're in a wind funnel.

Survey again conducted directly behind field assistants installing grid, resulting in delays.

| | |
|---|---|
| Production: | L 1025E 1000N - 1375N resurveyed |
| | L 1050E 1000N - 1250N |
| | L 0950E 0900N - 1000N |
| | L 0925E 0900N - 1000N |
| | L 0900E 0900N - 1000N |
| | L 0875E 0900N - 1000N |
| | L 0850E 0900N - 1000N |
| | L 0825E 1000N - 1100N |

Total Production: 1.225 line-km

Thu 11 JUN 98

Our tent was flattened again, the cook tent is being torn apart as well. One foam mattress went sailing over the pass like a kite. Moved up LJ Knob to do test survey on LJ Grid. Helicopter has not been able to get in so still surveying without a base mag.

Upon returning to camp found tents down and out for the count. Evacuation of camp at 8 pm. C. Gooliaff retrieved computer gear and field mag in order to continue working on data in town. Left all personal gear in camp in order to save the data. Pick up by helicopter 3000 feet below pass at Redcap Lake.

Cannot dump data in field mag as it has seized up entirely. Have opened it up to dry.

Survey again conducted directly behind field assistants installing grid, resulting in further delays.

| | |
|---|---|
| Production: | L 1350E 0925N - 1062.5 N 62.5N |
| | L 1300E 0925N - 1062.5N |
| | L 1250E 0925N - 1075N |
| | L 1200E 0925N - 1062.5N |
| | L 1150E 0875N - 1075N |
| | L 1100E 0900N - 1075N |
| | L 1050E 0925N - 1075N |
| | L 1000E 0925N - 1150N |

Total Production: 1.2625 line-km

Fri 12 JUN 98 — Drove back to Whitehorse with Terry Elliott and Eric Bergvinson. Dried out field unit and successfully extracted data.

Fri 26 Jun 98 — Mobe day. Drive to Atlin. Fly in to Tulsequah air strip. Boat up Taku to camp. Locate all gear, including generator, toolbox, personal gear, etc. that was left from upper camp. Prep gear for field.

Sat 27 Jun 98 — Mag/vlf survey. Steep ground, horrible talus, fun cliffs.

| | | |
|---|---|---|
| Production: | L4000N | 4112.5E - 5612.5E |
| | L4050N | 4075E - 5800E |

Total Production: 3.225 km

Sun 28 Jun 98 — Mag/vlf survey. More steep ground with bad scree. Lines cut to be surveyed are very spread apart, thus causing much hiking between lines. Production could be higher if lines done side by side. Have mentioned to Bob Nichol (head geologist). He noted this and mentioned they will do so once base line is completed and they have more guys to survey lines. Phoned Amerok office and GSC Mag Update on sat phone.

| | | |
|---|---|---|
| Production: | L4050N | 5800E - 6150E |
| | L4100N | 4075E - 6150E |
| | L4700N | 5000E - 6200E |

Total Production: 3.625 km

Mon 29 Jun 98 — Mag/vlf survey. Surveyed LJ Knob and chased two line surveyors all day. Printed out field copy of mag data.

| | | |
|---|---|---|
| Production: | L3950N | 5000E - 5125E |
| | L3900N | 5000E - 5125E |
| | L3850N | 5000E - 5125E |
| | L3800N | 5000E - 5625E |
| | L3750N | 5000E - 5650E |
| | L3700N | 5000E - 5650E |
| | L3650N | 5000E - 5200E |

Total Production: 2.500 km

Tues 30 Jun 98 — Mag/vlf survey. Steepest terrain yet with numerous cliffs to climb and descend. Caught up with line surveyor near end of day. Still blue skies and beautiful weather! Tried to get out on sat phone; not possible.

| | | |
|---|---|---|
| Production: | L4150N | 4000E - 6150E |
| | L4200N | 4000E - 6200E |

Total Production: 4.350 km

Wed 01 Jul 98 — Mag/vlf survey. Linecutters crossed two lines and had to straighten them out while I waited behind. Ran the lines (rather than walk) to maintain two lines a day pace. Will try to get out on sat phone again tonight.

| | | |
|---|---|---|
| Production: | L4250N | 4000E - 6050E |
| | L4300N | 4000E - 6000E |

Total Production: 4.050 km

Thur 02 Jul 98 — Mag/vlf survey. Did the lines E of LJ Knob. Lots of running over and into cliffs to try to piece the lines together. This terrain is steep! Got out on sat phone but the connection to the antennae is weak. Tried to fix it, with no success.

| | | |
|---|---|---|
| Production: | L3650N | 5325E - 5650E |
| | L3750N | 5725E - 5850E |

| | | |
|---|---|---|
| | L3800N | 5575E - 5875E |
| | L3850N | 5200E - 5900E |
| | L3900N | 5225E - 5900E |
| | L3950N | 5150E - 5900E |
| | L4000N | 5600E - 6125E |

Total Production: 3.400 km

Fri 03 Jul 98

Mag/vlf survey. Had to resurvey part of L4300N due to error on part of linecutters. Hot day, steep ground, lots done.

| | | |
|---|---|---|
| Production: | L4300N | 5325E - 6000E |
| | L4350N | 4000E - 6000E |
| | L4400N | 4025E - 6000E |

Total Production: 4.650 km

Sat 04 Jul 98

Mag/vlf survey. Did steep lines S and W of LJ Knob.

| | | |
|---|---|---|
| Production: | L3600N | 5000E - 5675E |
| | L3550N | 4500E - 5625E |
| | L3500N | 4600E - 5450E |
| | L3450N | 4500E - 5275E |
| | L3400N | 4650E - 5250E |
| | L3350N | 4775E - 5000E |

Total Production: 4.250 km

Sun 05 Jul 98

Mag/vlf survey. Rain in the afternoon signalled an end to the blue skies. Sent data out to Mike for interpretation. Called Whitehorse on sat. phone but connection is not good.

| | | |
|---|---|---|
| Production: | L4450N | 5000E - 6075E |
| | L4600N | 4000E - 6200E |
| | L4500N | 4000E - 5000E |
| | L4550N | 5500E - 6200E |
| | L4500N | 5425E - 6200E |

Total Production: 4.850 km

Mon 06 Jul 98

Stand-by day. Weather socked in to just above Red Cap Lake. Dubious as to whether the helicopter could pick us up at end of day. Scattered showers and low cloud forecast for rest of day. Repaired VLF cable, plotted up 1:1000 scale mag map for LJ Knob, plotted mag map for entire grid surveyed thus far.

Tues 07 Jul 98

Reconnaissance with Bob Nichol, Mark and Erik. Just checking total mag field on NE side of Red Cap Property. Found anomaly at Couloir showing. Tried to call Whitehorse, no luck, sat. phone antennae connection appears to be broken.

| | | | |
|---|---|---|---|
| Wed 08 Jul 98 | Mag/vlf survey. Weather has improved with scattered cloud and workable/flyable conditions. The scree at the north end of the grid appears to be getting worse. | | |
| | Production: | L4450N | 4000E - 5000E |
| | | L3950N | 4800E - 5000E |
| | | L3900N | 4800E - 5000E |
| | | L3850N | 4900E - 5000E |
| | | L3800N | 4950E - 5000E |
| | | L3750N | 4900E - 5000E |
| | | L4500N | 5025E - 5425E |
| | | L4550N | 4700E - 5500E |
| | | L4650N | 4750E - 5000E |
| | | L4700N | 4000E - 5000E |
| | Total Production: 4.125 km | | |
| Thur 09 Jul 98 | Mag/vlf survey. Light rain near end of day. The lines are getting shorter northwards. Still no luck with sat. phone. | | |
| | Production: | L4650N | 5000E - 6200E |
| | | L4750N | 4700E - 5325E |
| | | L4800N | 4700E - 5300E |
| | | L4850N | 4700E - 5225E |
| | | L4900N | 4700E - 5225E |
| | | L4950N | 4850E - 5300E |
| | | L5000N | 4925E - 5250E |
| | | L5050N | 4975E - 5225E |
| | | L5100N | 5000E - 5250E |
| | | L5150N | 4975E - 5250E |
| | Total Production: 4.925 km | | |
| Fri 10 Jul 98 | Stand-by day. Cloud ceiling less than 200m above valley floor with intermittent periods of fog. | | |
| Sat 11 Jul 98 | Mag/vlf survey. The clouds were low so we were put out low on Chair Ridge. Had to walk up and over to where I left off surveying, then return to same spot for pick up. Terrain was very complex and cliffy, with loads of loose scree. Made for a slower day overall. | | |
| | Production: | L5200N | 4700E - 5275E |
| | | L5250N | 4700E - 5175E |
| | | L5300N | 4700E - 5150E |
| | | L5350N | 4875E - 5100E |
| | | L5400N | 4825E - 5075E |

| | | |
|---|---|---|
| | L5450N | 4925E - 5075E |
| | L5500N | 4800E - 5050E |
| | L5550N | 4825E - 5025E |
| | L5600N | 4700E - 5050E |
| | L5650N | 4725E - 5025E |

Total Production: 3.225 km

Sun 12 Jul 98 — Mag/vlf survey. Finished off grid despite low drop-off again. Some short lines but complex terrain. Plotted up all data and started packing for demobe tomorrow.

| | | |
|---|---|---|
| Production: | L5700N | 4725E - 5100E |
| | L5750N | 4800E - 5125E |
| | L5800N | 4800E - 5125E |
| | L5850N | 4950E - 5200E |
| | L5900N | 5000E - 5150E |
| | L5950N | 5000E - 5175E |
| | L6000N | 5025E - 5175E |
| | L6050N | 5050E - 5200E |
| | L6100N | 5100E - 5250E |
| | L6150N | 5075E - 5200E |
| | L6200N | 5075E - 5200E |
| | L6250N | 5025E - 5200E |
| | L6300N | 5025E - 5150E |
| | L6350N | 4900E - 5125E |
| | L6400N | 4800E - 5100E |
| | L6450N | 4900E - 5100E |
| | L6500N | 4900E - 5100E |
| | L6550N | 4800E - 5100E |
| | L6600N | 4775E - 5050E |

Total Production: 4.100 km

Mon 13 Jul 98 — Standby day. Demobe, caught first flight out with 207 and waited in Atlin until Sky Van headed back to Whitehorse. Did data processing while waiting.

<u>Personnel:</u>

Chris Gooliaff
1 Bates Crescent
Whitehorse Yukon, Y1A 5Z3

<u>Survey days:</u> 23

Production: 51.3 line-km mag/VLF

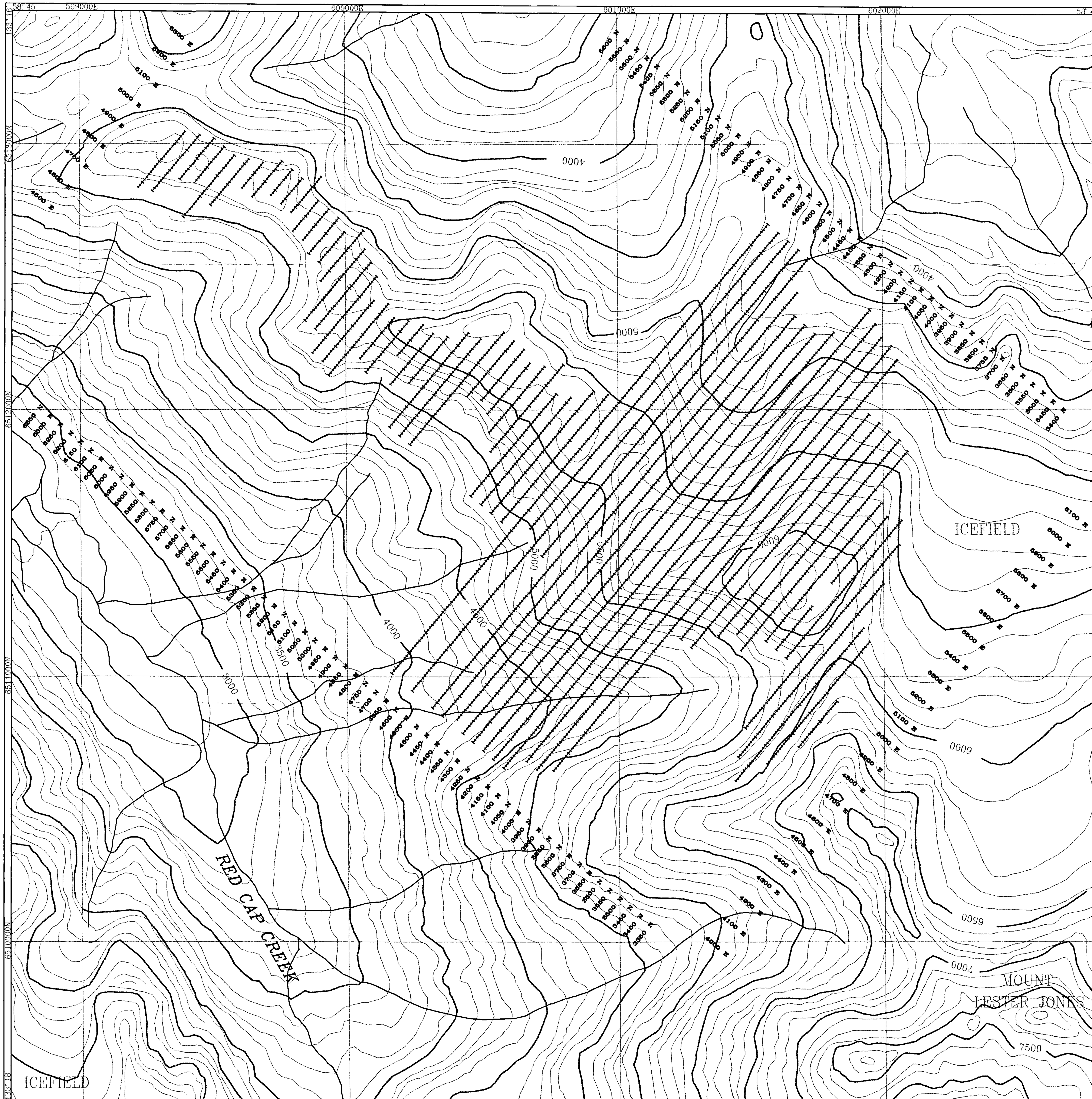
# APPENDIX C. STATEMENT OF EXPENDITURES

| | |
|---|---|
| Line cutting and camp costs | |
| Line cutting personnel and expenses | $17,085 |
| Camp costs | $7,550 |
| | |
| Geophysical surveys | |
| Survey charges 30 @ 575.26 | $17,258 |
| Report | $2,100 |
| | |
| Helicopter & support | |
| Helicopter: | $51,111 |
| | |
| ***Total project expenses*** | ***$95,104*** |

I certify that these expenses are correct to the best of my knowledge.

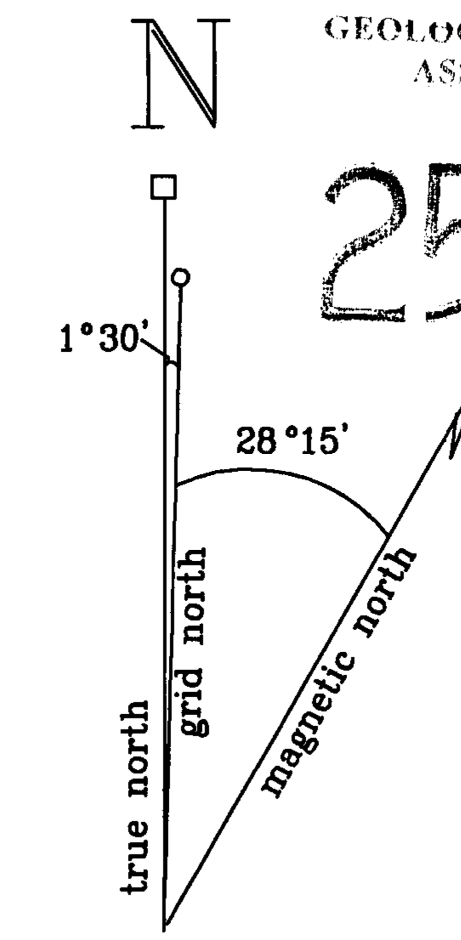
PROFESSIONAL PROVINCE OF M.A. POWER BRITISH COLUMBIA GEOSCIENTIST

Michael A. Power, M.Sc., P.Geo.
Geophysicist




GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,745




CONTOUR INTERVAL = 100 ft

SCALE 1 : 7,500

0 1000

metres

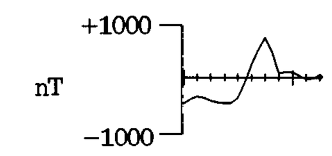
# XPLORER GOLD CORP.
# STUHINI CREEK

CASSIAR LAND DISTRICT
BRITISH COLUMBIA
MAP SHEET 104 K/11
(NAD 1927)

# STORM GRID LOCATION MAP

FIGURE 3

AMEROK GEOSCIENCES LTD.


Magnetic Field
Strength (nT)
1 cm = 1000 nT
Base Level = 56240 nT

Scale 1: 5,000
0 500
metres

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

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XPLORER
GOLD CORP.

RED CAP PROPERTY
(NTS 104 K/11, K/14)

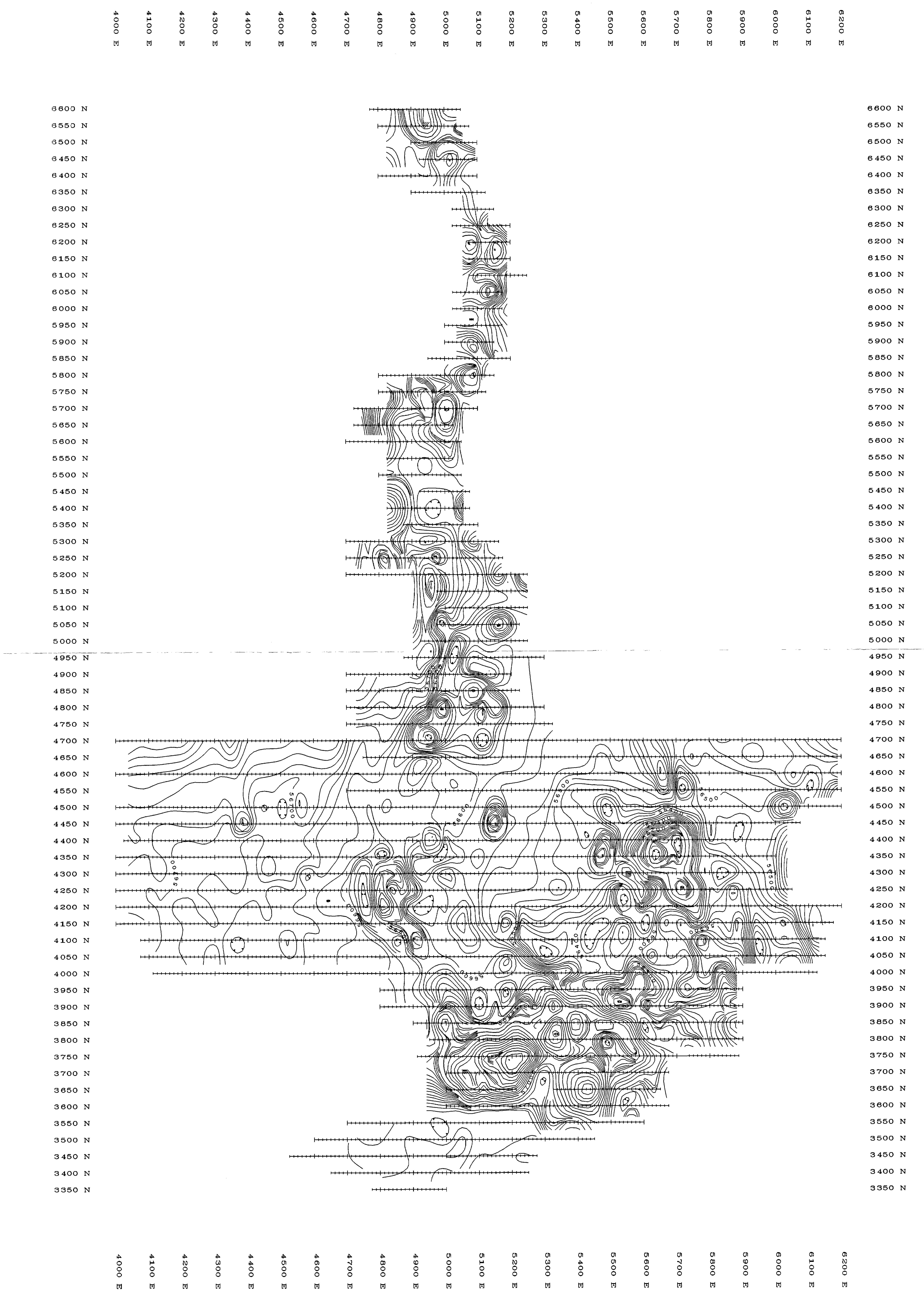
5000E, 4000N = UTM 601326E, 6511346N

STORM GRID

TOTAL MAGNETIC
FIELD
STACKED PROFILES

FIGURE 5

AMEROK GEOSCIENCES LTD.




Contour Interval = 20, 100, 1000 nT

Scale 1: 5,000

0 500

metres

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

# 25,745

## XPLORER GOLD CORP.

RED CAP PROPERTY
(NTS 104 K/11, K/14)

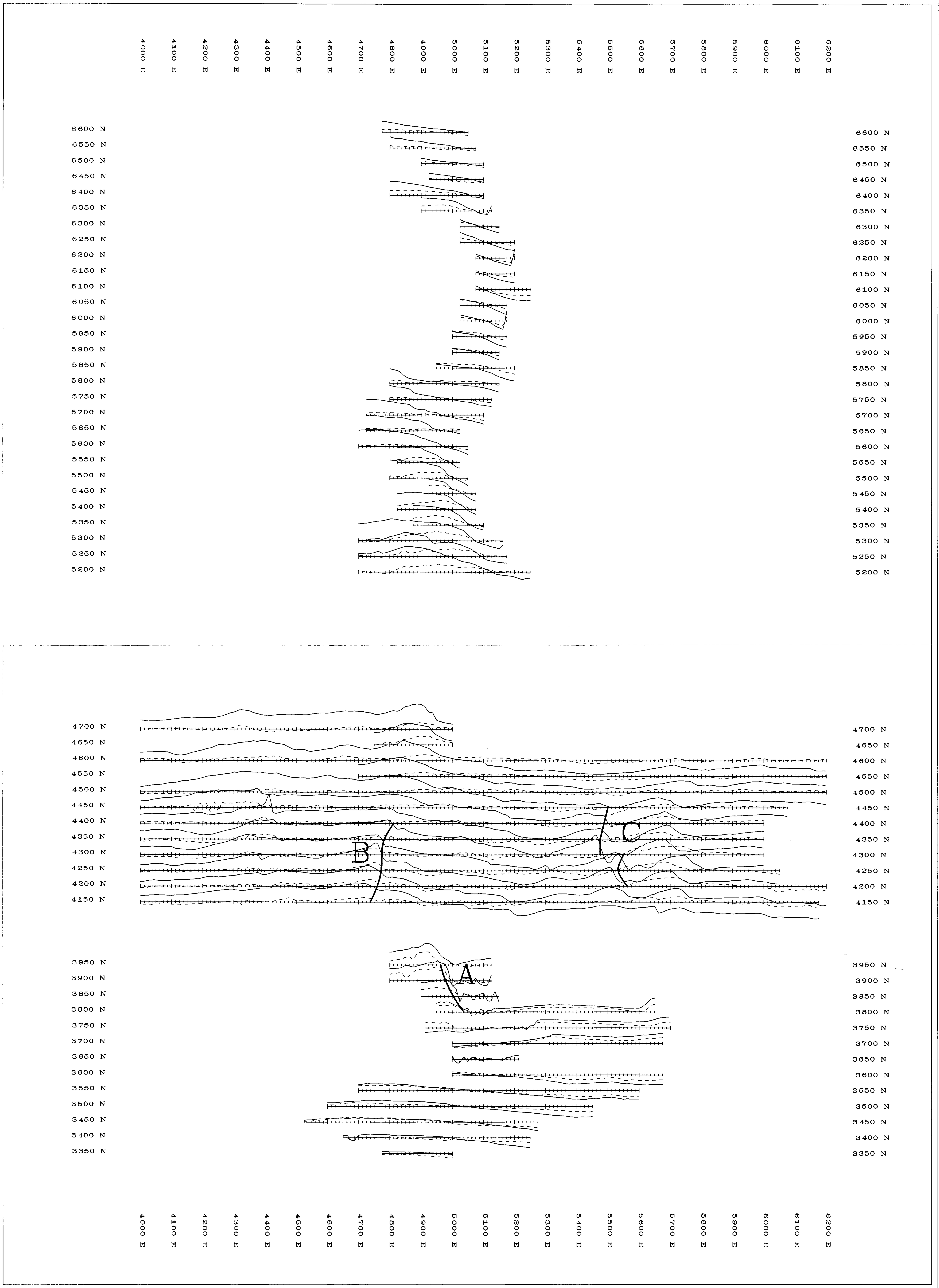
5000E, 4000N = UTM 601326E, 6511346N

## STORM GRID

## TOTAL MAGNETIC FIELD CONTOUR MAP

FIGURE 6

AMEROK GEOSCIENCES LTD.




Seattle – 24.8 kHz
Apparent Azimuth = 160°

In–phase
+50
% Hz
–50
Quadrature

1 cm = 50% Hz
Base level = 0% Hz

Conductor Axis

Scale 1: 5,000
0 500
metres

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,745

XPLORER
GOLD CORP.

RED CAP PROPERTY
(NTS 104 K/11, K/14)

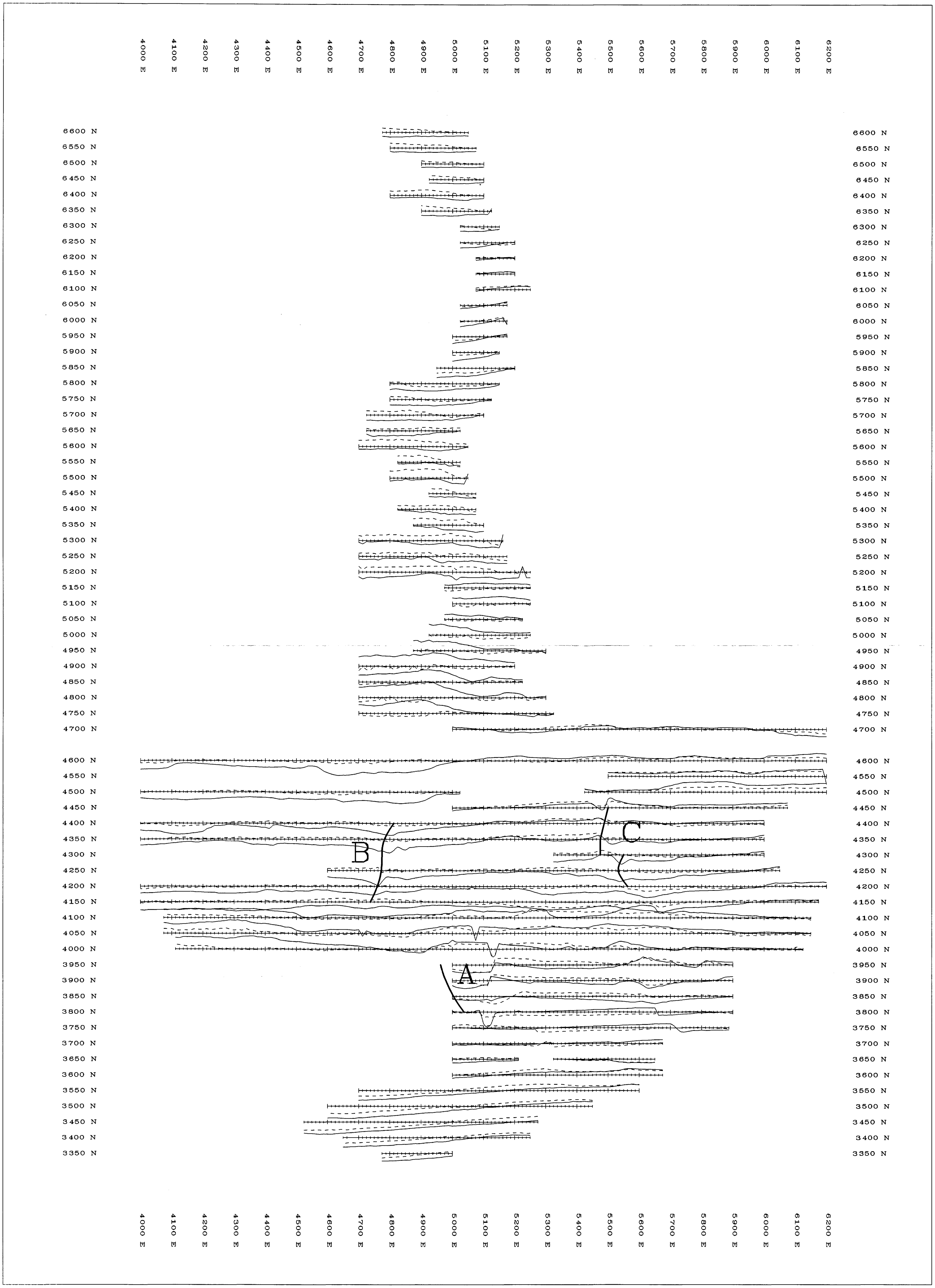
5000E, 4000N = UTM 601326E, 6511346N

STORM GRID

VLF–EM SURVEY
SEATTLE – 24.8 kHz
STACKED PROFILES

FIGURE 7

AMEROK GEOSCIENCES LTD.




Hawaii – 23.4 kHz
Apparent Azimuth = 240°

In-phase
+50
% Hz
−50
Quadrature

1 cm = 50% Hz
Base level = 0% Hz

Conductor Axis

Scale 1: 5,000
0 500
metres

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,745

# XPLORER GOLD CORP.

RED CAP PROPERTY
(NTS 104 K/11, K/14)

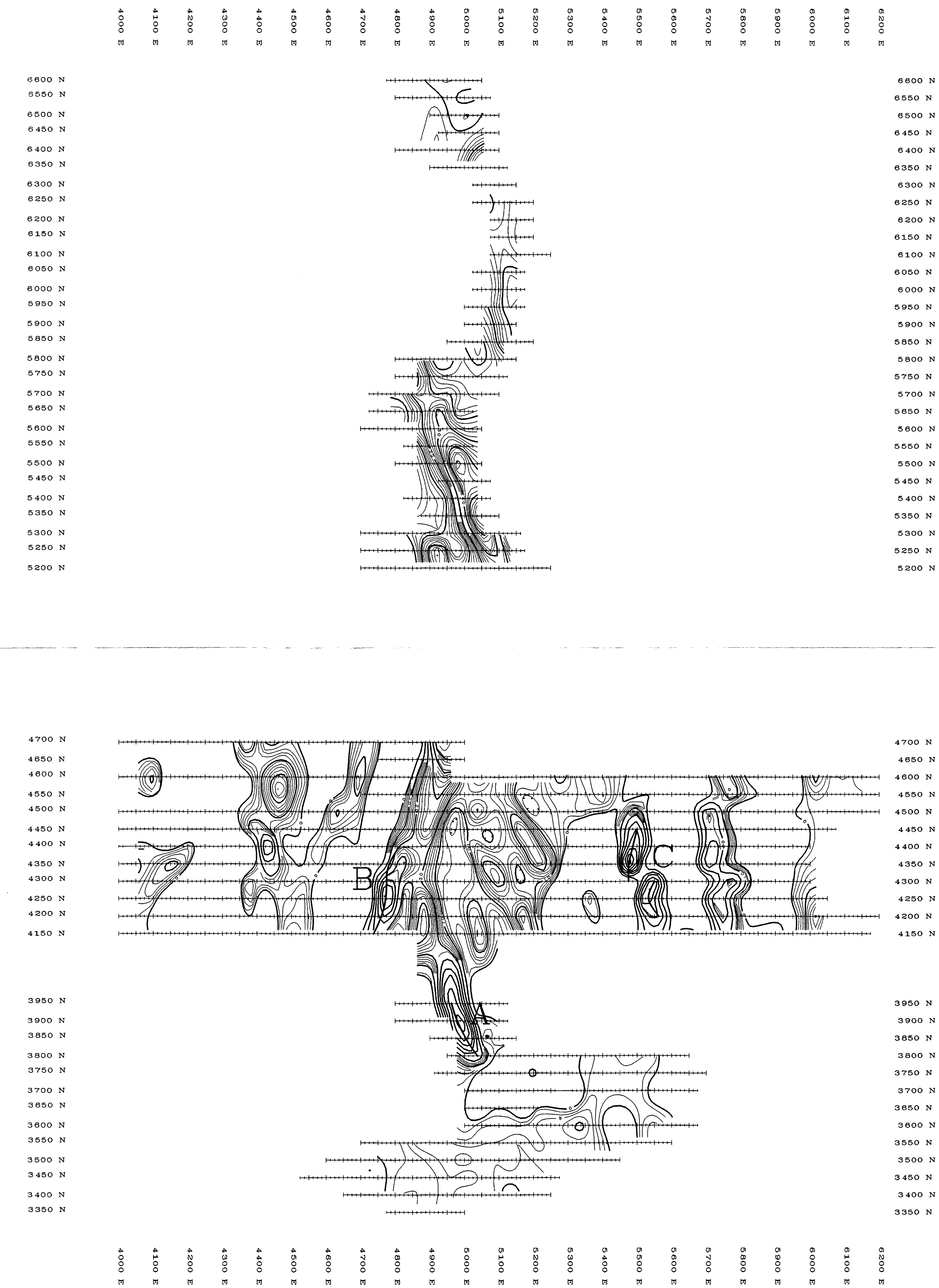
5000E, 4000N = UTM 601326E, 6511346N

## STORM GRID

## VLF–EM SURVEY
HAWAII – 23.4 kHz
STACKED PROFILES

FIGURE 8

AMEROK GEOSCIENCES LTD.




Seattle – 24.8 kHz
Apparent Azimuth = 160°

Contour Interval = 2, 10% Hz

Conductor Axis

Scale 1: 5,000
0 500
metres

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,745

XPLORER
GOLD CORP.

RED CAP PROPERTY
(NTS 104 K/11, K/14)

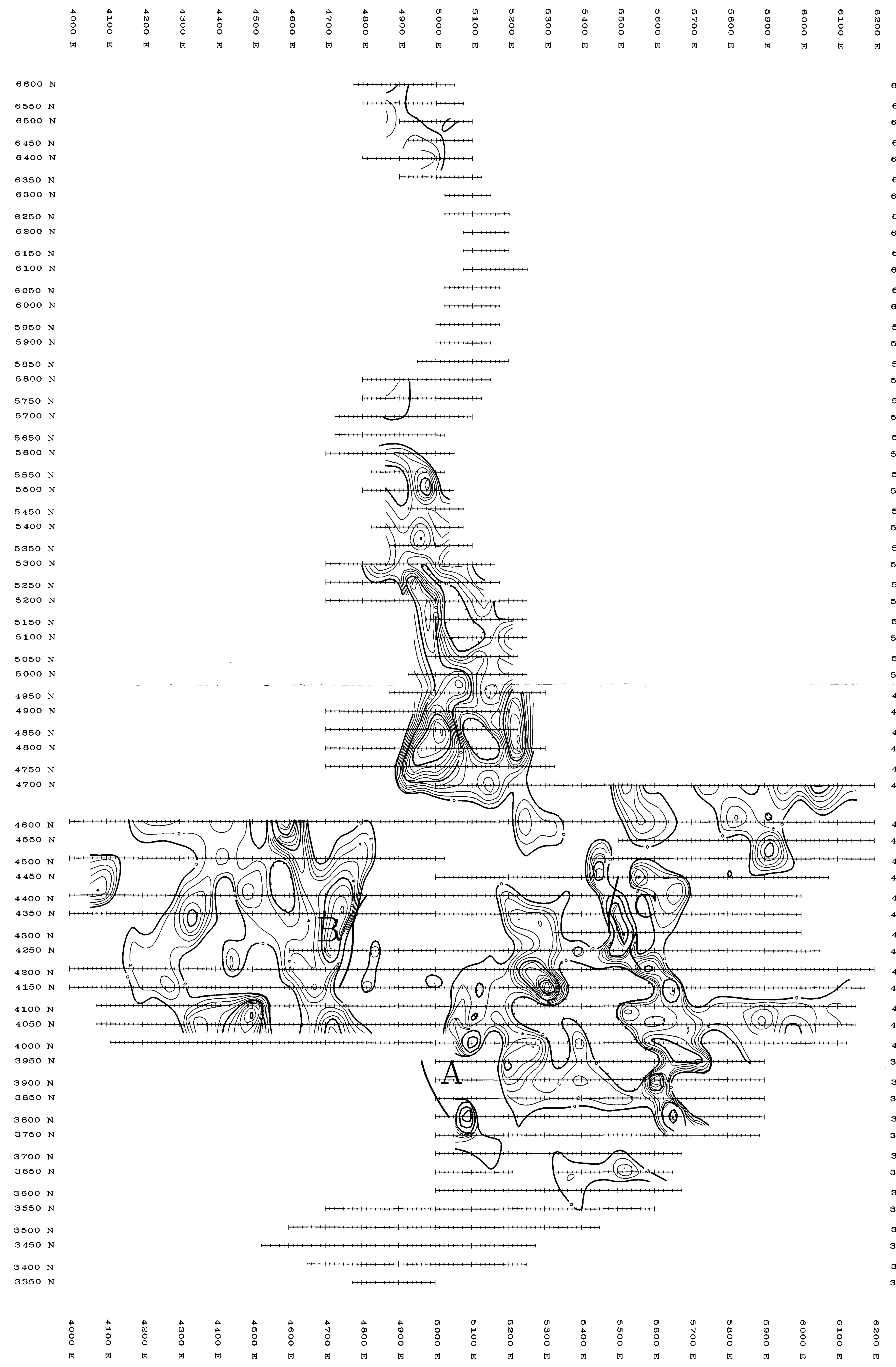
5000E, 4000N = UTM 601326E, 6511346N

STORM GRID

VLF–EM SURVEY
SEATTLE – 24.8 kHz
FRASER FILTERED
IN–PHASE COMPONENT

FIGURE 9

AMEROK GEOSCIENCES LTD.




N

Hawaii – 23.4 kHz
Apparent Azimuth = 240°

Contour Interval = 2, 10% Hz

Conductor Axis

Scale 1: 5,000
0 500
metres

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

25,745

XPLORER
GOLD CORP.

RED CAP PROPERTY
(NTS 104 K/11, K/14)
5000E, 4000N = UTM 601326E, 6511346N

STORM GRID

VLF–EM SURVEY
HAWAII – 23.4 kHz
FRASER FILTERED
IN–PHASE COMPONENT

FIGURE 10

AMEROK GEOSCIENCES LTD.