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AMEROK GEOSCIENCES LTD.

TROYMIN RESOURCES LTD.

INDUCED POLARIZATION SURVEY AT THE PROSPECTOR MOUNTAIN PROPERTY, CARMACKS AREA, YUKON TERRITORY

093669

M.A. Power M.Sc. P. Geoph.

Location: 62° 27' N 137° 48' W
NTS: 115 I 5
Mining District: Whitehorse, YT
Date: September 8, 1998

SUMMARY

Induced polarization (IP) and resistivity, magnetometer and radiometric surveys were conducted on the Prospector Mountain Property for Troymin Resources Ltd. to identify porphyry hosted disseminated base metal sulphide mineralization. A total of 10.9 line-km of pole-dipole IP surveys, 12.5 line-km of total magnetic field and 10.0 line-km of radiometric surveys were conducted on two grids centred on soil geochemical anomalies.

On the Lightning Grid, induced polarization surveys identified a chargeability anomaly up to 300 m wide with a complex resistivity response. The source of the chargeability anomaly is inferred to be a buried chargeable body with intrinsic chargeability of up to 80 ms. Total magnetic field responses were dominated by short spatial wavelength features inferred to be associated with overburden or differential weathering and one magnetic anomaly appears to be associated with a felsic dyke. The radiometric survey identified a narrow linear trend in uranium, thorium and potassium channels approximately 100 m east of the eastern margin of the main chargeability anomaly. The consistent response in all elements is attributed to remobilization of radiometric minerals by ground water and the lack of an extensive magnetic field or potassium total count anomaly suggests that extensive porphyry style mineralization may not be present on this grid. Despite this, the source of the geochemical anomalies in copper and molybdenum has not been identified and these geochemical anomalies are coincident with a significant chargeability anomaly.

On the No Sweat Grid, IP surveys identified a pair of broad chargeability anomalies running across the grid. The western anomaly appears to be flat lying to shallow dipping and the anomaly on the eastern side of the grid appears to be more steeply dipping. These anomalies are associated with elevated soil geochemical responses and are covered by overburden.

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1.0 INTRODUCTION

This report describes induced polarization (IP), electrical resistivity, magnetometer and radiometric surveys conducted on the Prospector Mountain Property for Troymin Resources Ltd. in the Whitehorse Mining District, Yukon Territory. The surveys were conducted to identify disseminated sulphide mineralization hosting base metals within a high-level porphyry system.

2.0 LOCATION AND ACCESS

The Prospector Mountain property is centred at approximately 62° 27' N 137° 48' W (Figure 1). The property is accessible by helicopter from Carmacks, 90 km southeast of the property. An abandoned CAT trail branching from the Freegold Road also extends onto the property. Currently, this road is impassible without upgrading and access to the road from the Big Creek road is impeded by a bridge washout.

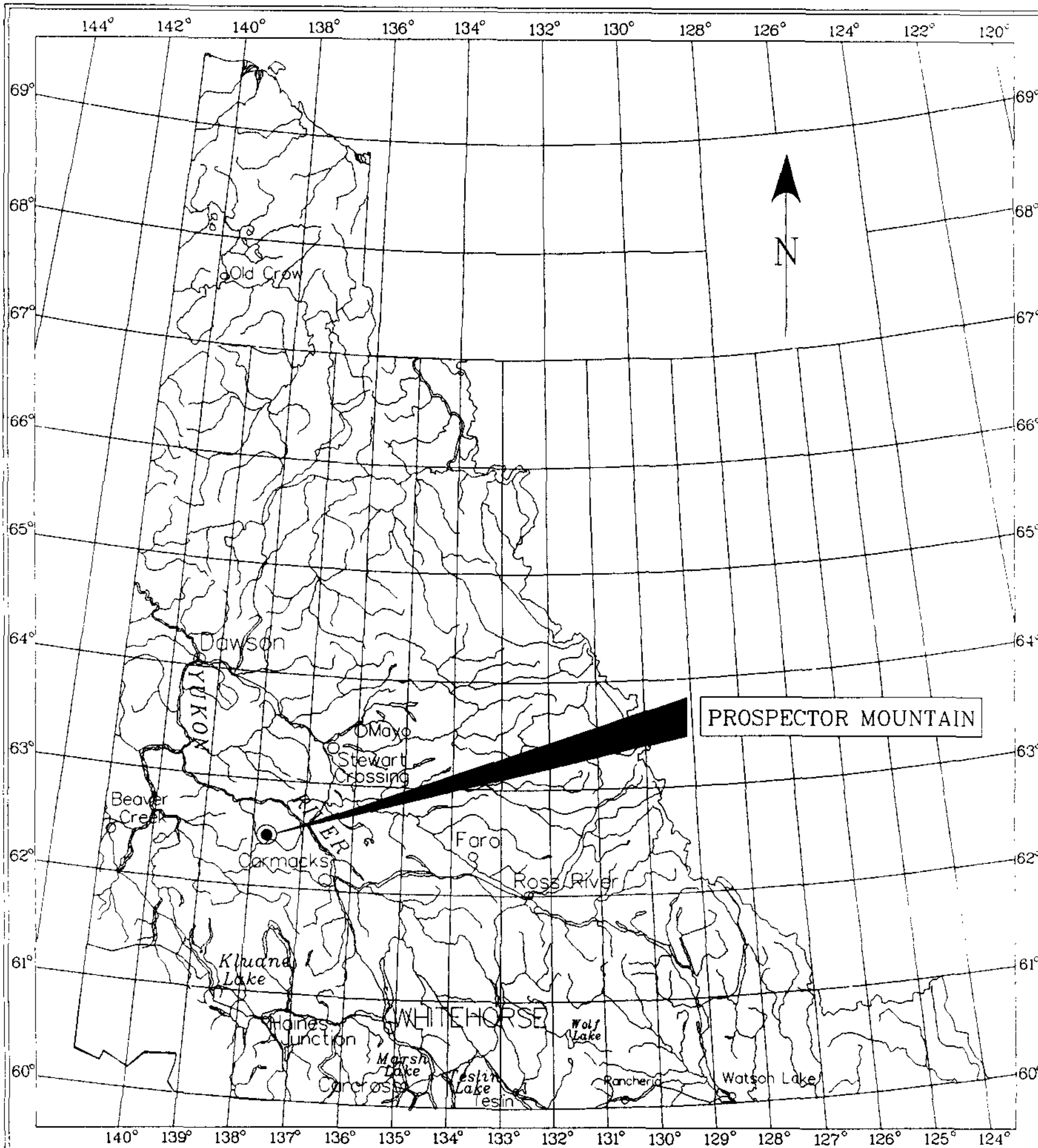
3.0 GRID

The location of the survey grid is shown in Figure 2 relative to the boundaries of the property. Survey lines were cut and straight-chained (not slope corrected) with stations placed at 50 m intervals and marked with half-length, tagged survey lathe. A total of 10.9 line-km were covered during the IP survey. Following the IP survey, a magnetometer and radiometric survey was conducted over the old grid and over intermediate lines flagged in at the time of the radiometric survey. These surveys covered 12.5 and 10.0 line-km respectively. The Lightning grid consisted of 8.5 line-km of IP line and 6 line-km of additional flagged lines. The No Sweat Grid consisted of 2.4 line-km of IP lines.

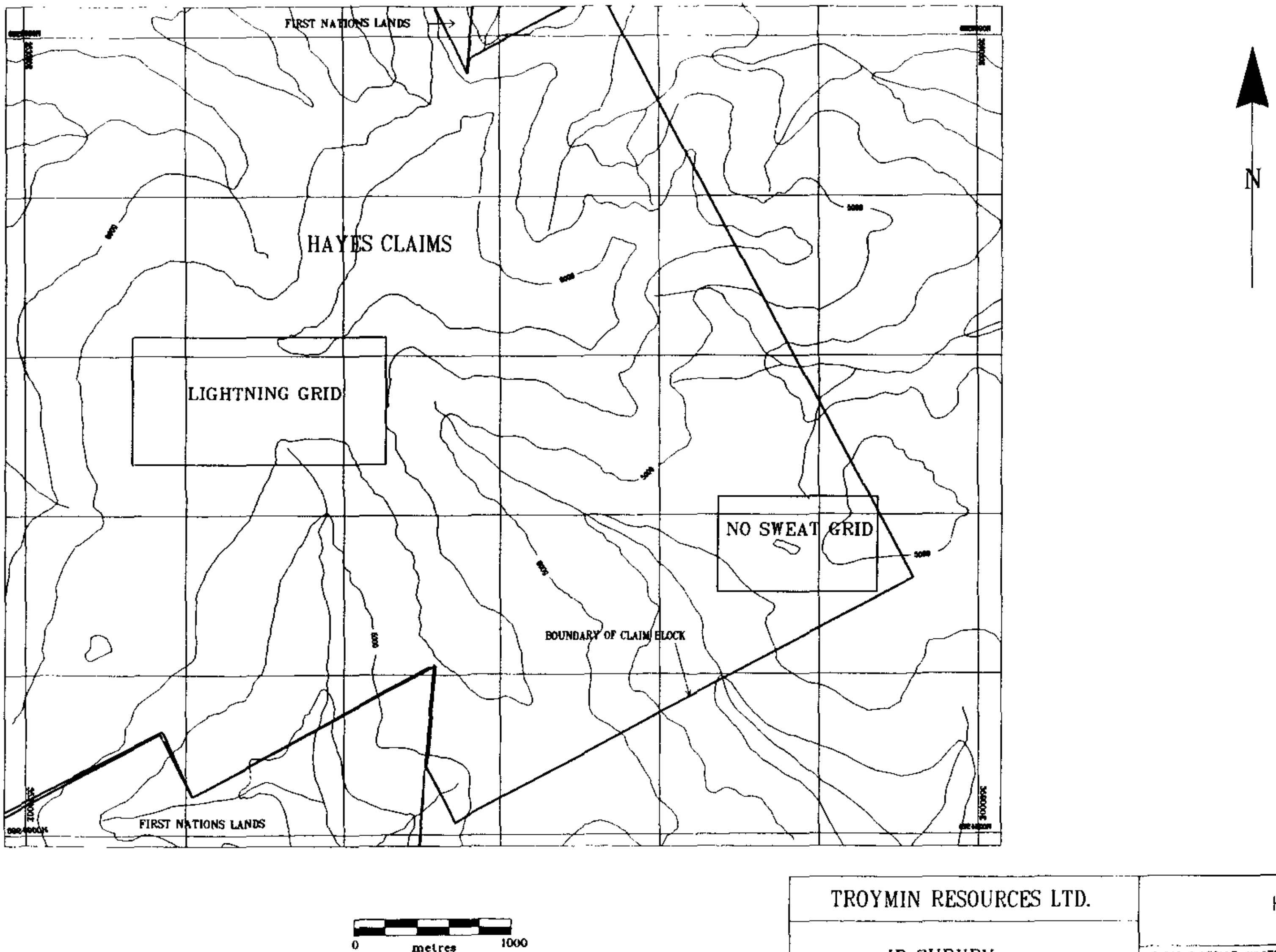
4.0 PERSONNEL AND EQUIPMENT

The surveys were conducted by the following staff from Amerok Geosciences Ltd.:

Person	Position	Address
Mike Power	Crew chief	1 Bates Crescent Whitehorse YT Y1A 4T8
Gary Smith	Technician	Apt. 209 - 410 Strickland



TROYMIN RESOURCES LTD.	PROSPECTOR MOUNTAIN PROPERTY
PROPERTY LOCATION	MINING DISTRICT: DAWSON
	NTS: 115 I/5 — SCALE: 1:6 000 000
	DRAWN BY CP
AMEROK GEOSCIENCES LTD	DATE 13 AUG 98 — FIGURE 1



TROYMIN RESOURCES LTD.	HAYES CLAIMS
IP SURVEY GRID LOCATION	MINING DISTRICT: WHITEHORSE NTS: 15 I/5 — SCALE: 1 : 40,000 OPERATOR: G.M.
AMEROK GEOSCIENCES LTD	DATE: 08SEPT98 — FIGURE 2

		Whitehorse YT Y1A 2K2
Andrew Davis	Technician	Box 5808 Whitehorse YT Y1A 5L6
Christine Purves	Field Assistant	16 Alsek Road Whitehorse YT Y1A 3J8

The crew were equipped with the following instruments and equipment:

IP Transmitter:	Phoenix IPT-1 mated with 2.5 KW motor generator. Maximum output voltage: 1500 V / maximum output power approximately 2.2 KW. Spare Phoenix IPT-1 provided.
IP Receiver:	IRIS IP-10 digital 10-channel IP time domain receiver
Magnetometers:	2 - GEM proton precession magnetometers
Scintillometers:	2 - Urtec UG-130 portable spectrometers (U-Th-K)
Data processing:	P-100 laptop and HP-680C colour printer. Data processing with Geopak IPSECT software and proprietary data conversion software.
Other equipment:	6-conductor 50 m IP cables, stainless steel electrodes, 4 km wire, winders, VHF radios, F350 truck, camp and groceries.

The crew spent a total of 11 days on the Property. The survey log is attached as Appendix B.

5.0 SURVEY SPECIFICATIONS

The IP surveys were conducted according to the following specifications:

Array:	Pole-dipole
Infinite:	$\geq$ 1000 m from nearest dipole
Dipole spacing:	50 m

Separations read: n=1 to 6

Signal: 0.125 Hz / 50% duty cycle / reversing polarity

Receiver synch: synchronization using n=1 dipole signal in most cases.

Signal sampling: 20 windows, Cole-Cole logarithmic sampling over 2 s.

Measurements:
Vp - primary voltage prior to shutoff
M_n - nth time slice chargeability (n=1 to 20)
Mt - total chargeability
Ro - apparent resistivity
Sp - self potential
Rs - electrode resistance
C - spectral IP amplitude parameter
Tau - spectral IP time constant parameter

Noise threshold: Standard deviation in Mt kept to $\leq$ 5 ms where possible. In the event that this was not possible, readings were repeated several times to ensure repeatability.

Stacking: minimum 15 times, maximum 30 times for a single reading.

The magnetometer surveys were conducted according to the following specifications:

Station spacing: 12.5 m

Base station: Located on the survey grid and cycled at 15 s (i.e. sufficient to remove temporal geomagnetic variation).

The radiometric surveys were conducted according to the following specifications:

Station spacing: 25 m

Measured parameters: Uranium, thorium and potassium counts and total count, averaged over 10 s with sensor held at knee height in all cases.

The radiometric survey was conducted over dry ground and no precipitation occurred during the survey period. The data are thus considered to be free of any temporal surface water effects.

6.0 DATA

Copies of the corrected IP data in Geosoft format (.gsf) files are appended to this report on 3.5" diskettes. IP pseudosections are contained in Appendix C. Significant chargeability and resistivity anomalies are indicated by horizontal lines above the respective pseudosections, indicating the horizontal location of the tops of the source bodies. The anomalies are assigned a letter designator, from left to right across the pseudosections.

A small number of readings were deleted from the data set because they contained high apparent errors and readings were not repeatable in the field. These occurred in talus, resulting from poor ground contact, or in very conductive ground where very low primary voltages (< 1 mV) were recorded. Default (no data) values were inserted for these points and the software contoured around them.

Chargeability and resistivity anomaly location are shown in plan view together with mapped geology, drill hole, trench and soil anomaly locations in Figure 3 (back pocket). This anomaly map depicts the location of the apparent sources of the chargeability and resistivity anomalies relative to geological and geochemical features on the property.

Constant separation maps of apparent resistivity and chargeability are contained in Appendix D. Geochemical anomalies and geological features are also superimposed on these maps.

Total magnetic field and radiometric data is also contained on the attached disk in Geopak XYZ format and contoured total magnetic field data is shown in Figure 5. Figures 6 through 9 are contoured uranium, thorium, potassium and total count radiometric maps. These figures are in pockets at the back of the report.

7.0 IP INTERPRETATION PROCEDURES

The IP data was interpreted using a procedure sketched schematically in Figure 4. The numbers in the flow chart refer to information sheets in the company interpretation manual. Key features of the responses mentioned in these sheets are summarized below and are drawn from summaries and investigations by Telford *et. al.* (1990), Sumner (1985), Hanneson (1990), Hohmann (1990), and Coggon (1973).

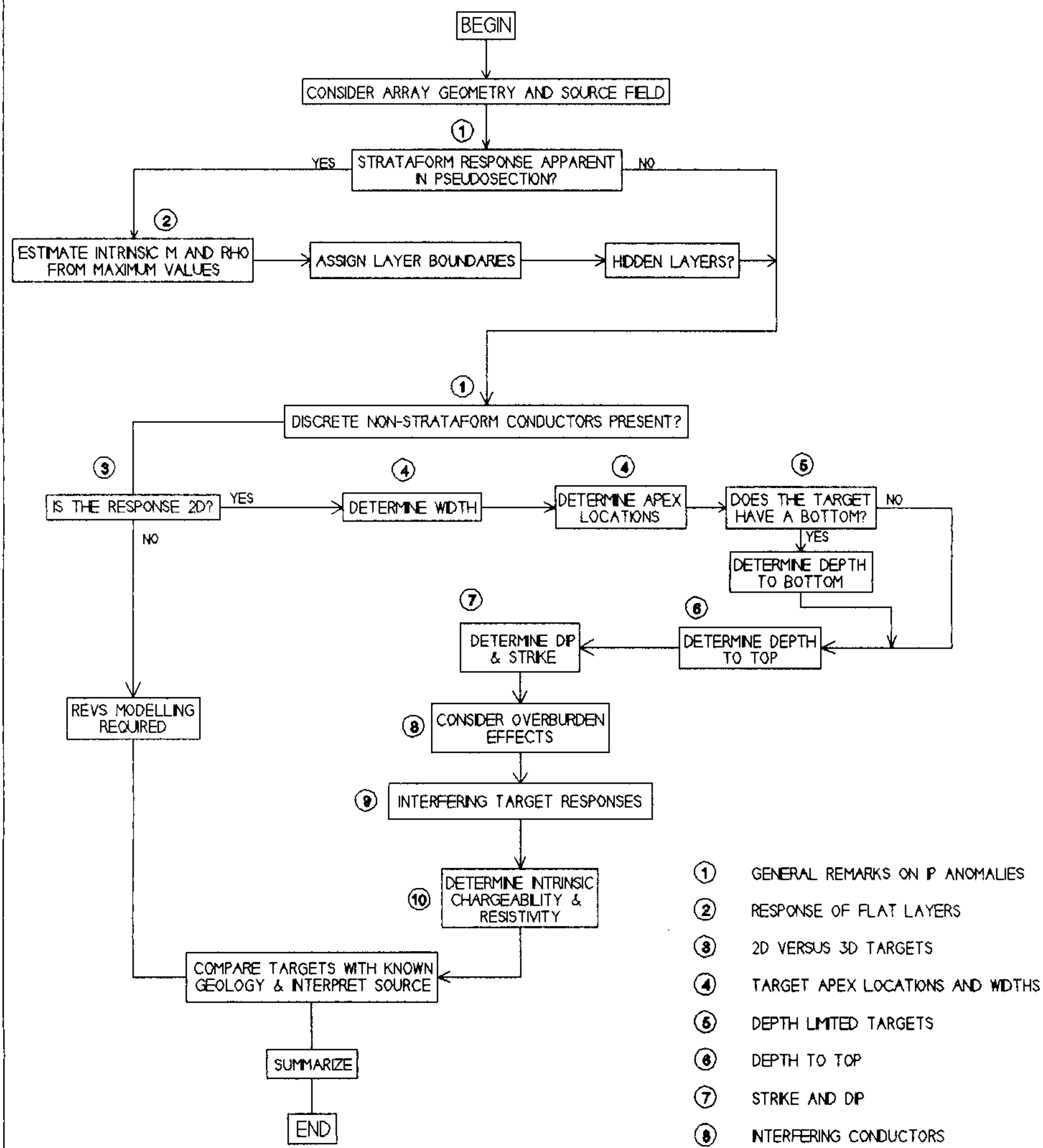


Figure 4. IP interpretation flow chart.

The source field for the surveys was a grounded current dipole with the nearest electrode located 50 m from the first receiving electrode and the second (infinite) electrode at a distance of at least 1000 m from the nearest potential electrode. The receiving dipoles were separated from the near current electrode by a variable spacing of 1 to 6 times the 50 m dipole spacing (n=1 to n=6). The source field from a grounded pole source introduces asymmetry into the otherwise symmetric responses produced by most targets. In this survey, the location of the current source was east of the receiving array on the Lightning Grid and west of the receiving array on the No Sweat Grid. IP responses will show a higher gradient on the current electrode side of the anomaly.

7.1 Overburden responses

Overburden responses in a dipole-dipole survey show up as a flat-lying layer in the pseudosection. The depth to the boundary between layers of different resistivity or chargeability can be estimated as 1.5 to 2.0 times separation at which the gradient between the two layers is the greatest. This inevitably leads to an overestimation if the dipole spacing is large relative to the thickness of the layer. In some cases, the overburden response is not visible as a separate resistivity anomaly but is apparent as a flat lying layer of lower chargeability - usually only down to n=1. This is attributed to oxidation or leaching of chargeable minerals or graphite from bedrock near the surface or to the absence of chargeable minerals in overburden. Features which appear to be limited in depth extent are referred to as depth limited in this report.

7.2 Two dimensional versus three dimensional responses

Responses were interpreted as two dimensional (i.e. extending along strike to some extent) unless otherwise stated. If a target is in fact three dimensional and is interpreted as being two dimensional, the contrast between the host and target properties will be underestimated.

7.3 Apex location and width

Targets which are less than one half a dipole spacing (i.e. 25 m) will produce single slash responses. The apparent dip of the single slash response *does not* indicate the dip of the feature but merely indicates which electrode was closer to the source. A thin target may also produce a symmetric two-slash response if it is centred at an electrode site. The width of the source body was considered to be definitely less than 25 m if a single slash anomaly was encountered and to be at least 25 m if a symmetric response were encountered. It is difficult to discriminate between a 25 and 50 m wide target response if the response is symmetric and the author has chosen to err on the wide side. If the response at the shortest separation is wider than one dipole, this is an indication that the source body is also wider than one dipole. The width of the response at the shortest separation was used to determine the width of the source body in most case; in certain circumstances, however, the response was compared with model responses to determine the source width. The solid lines in the pseudosections and on the anomaly maps show the horizontal location of the top of the source bodies and the apparent width of the target. The error in apex location is conservatively estimated $\pm$ 1 dipole (50 m).

7.4 Depth to top

The depth to the top of a source body is generally indicated by the shortest separation at which the response if visible. Thus a target at a depth of 50 m would be expected to produce some response at n=1 but a target with a top at 100 m would generally not be visible at n=1.

7.5 Dip direction

The dip direction and dip of a source body are difficult to estimate with dipole-dipole data. Dip must be estimated using both the resistivity and chargeability data because the dip direction will be different depending upon whether the chargeable target is more or less resistive than the host. If the target is more resistive than the host, the dip in the chargeability pseudosection will be in the same direction as the target. If the target is less resistive than the host, the apparent dip will be opposite the true dip. At a dipping contact, the steepest gradient in a resistivity section dips in the opposite direction to the true dip of the contact. Estimates of dip direction are difficult or impossible to make where targets of alternating resistivity are adjacent to each other.

7.6 Target resistivity and chargeability

Estimates of true or intrinsic target chargeability and resistivity can be made once the interpreter has some idea of the target dimensions. In general, for a given resistivity and chargeability contrast, the target response will decrease as the target dimensions decrease. In addition, the amplitude of the chargeability contrast will be affected by the resistivity contrast. Targets which are very resistive or very conductive will show much lower apparent chargeabilities relative to true chargeability.

A three dimensional target (eg. a sphere) will produce an anomaly with a maximum apparent chargeability which is at best 30% of the true chargeabililty response. If the target is two dimensional, the maximum apparent chargeability is 50% of the true chargeability unless the target is thin in which case the maximum apparent chargeability will be up to 40% of the true intrinsic chargeability.

Estimates of the true chargeability and, to a lesser extent, resistivity can be used to estimate the probable source of an anomaly. Chargeabilities are largely determined by the bulk concentration of chargeable minerals such as sulphides or graphite. It is difficult to discriminate between the two although spectral IP analysis shows a lot of promise in this direction. Rules of thumb cited by Sumner (1976) and Hohman (1990) relate chargeable mineral content to recorded IP parameters:

$$1\% sulphides \cong 3\% PFE \cong 20 ms \cong 10 mrad$$

There are wide variances between the sulphide content predicted by these relations and the actual sulphide content. These arise from the effect of electrical resistivity on measured chargeability. Rocks which are highly resistive (few current paths) or very conductive (too many current paths) will exhibit lower than predicted apparent chargeability and estimates of chargeable mineral content will err on the low side. In addition, estimates of sulphide content based on chargeability must account for background chargeability due to clay minerals.

7.7 Spectral IP response.

Conventional IP surveys record the total chargeability which is an integration of the decay voltage over an arbitrary time interval. This measure ignores the shape of the decay curve which has been found to contain valuable information on the source parameters. The decay curve can be fitted to an exponential decay model expressed as a complex impedance (Cole-Cole impedance) described by Johnson (1990) as:

$$Z(\omega) = R_o\left[1 - m\left(1 - \frac{1}{1 + (i\omega\tau)^c}\right)\right]$$

where Z is the complex impedance at angular frequency ω, R_o is the apparent resistivity, m is the chargeability, C is an amplitude constant, $i=(-1)^{0.5}$, and τ (tau) is the time constant. This equation can be used to generate decay curves in the time domain for different tau and C. The time constant governs the shape of the curve whereas the amplitude constant C controls the amplitude of the curve. Graphite has a very large (long) time constant and sulphides show a large time constant relative to clay sources which show a small time constant. Thus the decay curve for clays is quite steep whereas the decay curve for chargeable sources such as graphite or sulphides are much flatter. Extraction of spectral IP parameters is performed by matching the decay curves with a table of standard curves to determine which combination of C and Tau most closely matches that of the observed decay curve. The extracted spectral IP parameters are commonly plotted in pseudosections and used to discriminate between possible sources based on differences in spectral IP response. The confidence that can be placed in spectral IP response is in some degree determined by the apparent error in chargeability and this should be examined with the spectral IP data. For this reason, the apparent error in chargeability is commonly plotted together with extracted IP parameters.

8.0 IP SURVEY RESULTS

Disseminated sulphide or graphite mineralization produce high chargeability responses. If the concentrations are very high, they may significantly lower rock apparent resistivity as well. Silicification or potassic alteration can raise bedrock apparent resistivity by blocking current paths, even if significant sulphide concentrations are present. In effect, chargeability is governed by the surface area of chargeable minerals present and the apparent resistivity is controlled by the extent to which conductive minerals are electrically connected. Consequently, high chargeability anomalies indicate the presence of disseminated sulphides or graphite. Low apparent resistivities may indicate the presence of clay alteration or significant sulphide concentrations which lower the overall electrical conductivity of the bedrock. Background chargeability appears to be from 2 to 5 ms and is probably due to bedrock clay alteration. Graphite has not been described on the property nor is it likely in this environment; consequently chargeable minerals present are assumed to be sulphides and/or clay. Descriptions of the data, anomalies and interpreted source parameters for each line follow.

8.1 Lightning Grid

<u>Line 10200N</u>

Chargeability anomaly **A** is an asymmetric response at n=2 to n=6. The source appears to be located at 10725-10775E at a depth of 75 to 150 m. It appears to be steeply dipping, possibly to the east and to have an intrinsic chargeability of 50 to 90 ms suggesting a sulphide content of 3 to 5%.

Chargeability anomaly **B** is a single-sided response at n=1 to n=6. The source appears to be located between 10850 - 10900E at a depth of 0 to 50 m. It appears to be a thin (<25 m), steeply dipping body with an intrinsic chargeability of about 100 ms suggesting a sulphide content of 5%. It is roughly coincident with a thin, depth limited, resistive feature in bedrock (Resistivity anomaly **C**).

Chargeability anomaly **C** is a single-sided response at n=1 to n=6. The source appears to be located at 11225-11250E at a shallow depth (0 to 25 m). It appears to be a thin (<25 m), steeply dipping body with an intrinsic chargeability of up to 80 ms suggesting a sulphide content of 4%.

Chargeability anomaly **D** is a single-sided response at n=2 to n=6. The source appears to be located at 11625 - 11650E at a depth of 50 to 100 m. It appears to be a thin (< 25m), steeply dipping body with an intrinsic chargeability of 20 to 30 ms suggesting a sulphide content of about 1-2%.

Resistivity anomalies **A** through **D** are thin (<25 m), shallow (0-25 m), steeply dipping features. The zone of high apparent resistivity on the eastern end of the grid appears to define a separate rock unit of higher apparent resistivity. The boundary between the two units is placed at 11550E ± 50 m and appears to indicate the contact between the main intrusion and later stage unaltered megacrystic monzonite.

Line 10400N

Chargeability anomaly **A** is a wide, asymmetric response at n=1 to n=6. The source appears to be located at 10850 - 11100E at a shallow depth (0 - 50 m). The weak response at large separations beneath the centre of the target suggests that it is depth limited and possibly flat lying. It appears to have an intrinsic chargeability in the order of 100 ms suggesting a sulphide content of around 5% or more. This anomaly is coincident with soil anomaly 4C.

Chargeability anomaly **B** is a single-sided response at n=1 to n=6. The source appears to be located at 11175 - 11200E at a shallow depth (0 to 50 m). It appears to be a thin (< 25m), steeply dipping body with an intrinsic chargeability of over 100 ms suggesting a sulphide content in excess of 5%.

Several resistivity anomalies at n=1 to n=2 on this line appear to be caused by talus. There are several single sided resistivity highs apparent in the data which are likely caused by thin, steeply dipping structures in bedrock. None of these are associated with the chargeability anomalies.

Line 10600N

A number of readings in noisy, talus covered ground were deleted from the data for this line, leaving a single-slash gap in the record. Chargeabilities are suppressed and resistivities enhanced at n=1 in the area of 10550E-10800E, suggesting the influence of permafrost.

Chargeability anomaly **A** is a wide, complex high at n=1 to n=6. The source appears to be located at 10950 - 11200E at a shallow depth (0 - 50 m). The response in the interval 10950-11175E indicates a source with considerable depth extent while the response to the east suggests a thinner or depth-limited source. The bulk of the anomaly appears to be caused by a wide (150 - 200 m) steeply dipping source with an intrinsic chargeability in the order of 100 ms suggesting a sulphide content of around 5% or more. This anomaly is coincident with soil anomaly 4C.

Chargeability anomaly **B** is an asymmetric response at n=3 to n=6. The source appears to be located at 11475 - 11525E at a depth of approximately 100 m. The chargeability source appears to lie adjacent to a resistivity anomaly to the east. The source of this anomaly appears to be a thin, steeply-dipping source. The chargeability anomaly has an intrinsic chargeability in the order of 60 ms suggesting a sulphide content of around 3% or more.

Resistivity anomaly **A** is a single sided low at n=1 to n1=6. It appears to originate from a thin (<25 m), shallow (0 -25 m) source between 10475 - 10500E. Resistivity anomaly **B** is a single sided high at n=1 to n1=6. It appears to originate from a thin (<25 m) source at a depth of around 50 m between 10825-10850E.

Line 10800N

Several flat resistivity highs at n=1 to n=2 may be caused by permafrost or talus. Chargeability anomaly **A** is a wide, symmetric response at n=1 to n=6. The source appears to extend from 10800 - 11100E and have a depth to top varying from about 50-75 m on the west side to less than 25 m on the east side. Target dip cannot be reliably estimated on account of the complex response and the source appears to have an intrinsic chargeability of approximately 60 ms suggesting a sulphide content in the order of 3%. The anomaly is partially coincident with each of two copper geochemical anomalies and two resistivity anomalies (**A** and **B**).

Resistivity anomaly **A** is a single sided low apparently originating from a thin (<25 m) source between 10925-10950E at a shallow depth. It is adjacent to a single-sided resistivity high (**B**) with similar geometry between 11075-11100E.

Line 11000N

Chargeability anomaly **A** is a complex asymmetric high at n=2 to n=6 apparently originating from a source extending from 10750E to 11000E with a possible extension to 11150E. The apparent depth to source varies from 0 to 50 m on the west to 100 to 150 m on the east side of the anomaly. The strong negative response within the larger overall chargeability high suggests a complex source including a mass of chargeable mineralization adjacent to the survey line (i.e. off-line). Maximum estimated intrinsic chargeability is in the order of over 200 ms suggesting a sulphide content in excess of 10% on the east flank of the anomaly with chargeable mineral concentrations declining to the west. The zone of greatest chargeability is coincident with a region of relatively low apparent resistivity (200 ohm-m).

Several single sided resistivity highs on this line may originate from narrow (<25m), shallow (0-25 m), steeply dipping resistive sources. These might be caused by silicified fault zones, shears or vein systems.

Baseline 11000E

Chargeability anomaly **A** is a broad chargeability high at n=1 to n=6 centred at 10400-10450N. The source appears to be a moderate to steeply dipping body with top extending from 10300N to 10650N. The north flank of the body appears to dip in this direction at a shallow angle. The apparent intrinsic chargeability appears to be up 90 ms suggesting a sulphide mineral content of perhaps 5%. An asymmetric resistivity high (**A**) centred at 10850N appears to originate from a steeply-dipping source between 10825-10875E.

There is good agreement between the chargeability records on the cross lines and the base line between 10200E through 10600E. The responses on 10800N and on the base line in the area of 10800N are not in close agreement. Chargeabilities in the range of 15 to 20 ms are recorded at n=3 to n=6 on the base line and chargeabilities in the range from 20 to 25 ms are recorded at n=1 to n=6 on Line 10800N. It is difficult to account for this discrepancy if the common source were large and uniformly mineralized.

8.2 No Sweat Grid

Flat-lying apparent resistivity highs and chargeability suppression at n=1 are probably caused by permafrost. Chargeabilities are generally high throughout the survey area with a background level of 10 to 15 ms.

Line 10000N

Chargeability anomaly **A** is a broad high with maximum responses at short separations. The source appears to lie in the interval 13125-13300E and to be flat lying and depth limited. This is inferred from the overall flat pattern in the chargeability pseudosection coupled with the decrease in chargeability values at n=4 to n=6. The estimated intrinsic chargeability of this target is up to 80 ms suggesting a chargeable mineral content of approximately 4%.

Chargeability anomaly **B** is an asymmetric response at n=3 through 6. The source appears to be a steeply dipping, thin (25-50m) target with an intrinsic chargeability of 70 to 80 ms. This suggests a possible chargeable mineral content of around 4%. Both chargeability anomalies occur in low resistivity rock and the two are separated by a pronounced resistivity low (<200 ohm-m) at n=3 to n=6.

<u>Line 10200N</u>

Chargeability anomaly **A** is a complex chargeability high in the interval 13150 - 13225E at n=2 to n=5. The source appears to be depth limited given the decrease in chargeability at n=6. Chargeability anomaly **B** is a wide zone of elevated chargeability at n=3 to n=6. It is coincident with a zone of relatively low apparent resistivity (<300 ohm-m) and has an apparent depth of approximately 150 m.

Resistivity anomaly **A** is a single sided low at n=2 through n=6. The source appears to be a thin (<25 m), steeply dipping body with apex between 13425-13450E at a depth of 25-75m.

<u>Line 10400N</u>

Chargeability anomaly **A** is flat response at n=2 to n=5. The source appears to be a flat lying body perhaps 100 m thick from 13050–13300E. Intrinsic chargeability is estimated at greater than 50 ms suggesting a sulphide content in excess of 2%. Chargeability anomaly **B** is a single sided response at n=2 to n=6. The source appears to be a thin (<25 m), steeply dipping body with top between13425-13450E and an intrinsic chargeability of around 80 ms at a depth of at least 50 m. This suggests a sulphide mineral content of around 4%. Chargeability anomaly **C** is a single sided response at n=1 to n=6. The source appears to be a thin (<25 m), steeply dipping body with top between13525-13550E and an intrinsic chargeability of around 80 ms. This also suggests a sulphide mineral content of around 4%.

The chargeability anomalies occur in rock with moderate apparent resistivity (400 ohm-m). The resistivity low beneath the permafrost high at n=1 may be caused by current channelling. Resistivity anomaly **A** is a single sided high at n=1 to n=6. It appears to originate in a thin, steeply dipping, shallow, highly resistive source.

9.0 MAGNETIC SURVEY RESULTS

The magnetic field over the Lightning Grid (Figure 5.) shows over 1000 nT relief in a chaotic, short wavelength pattern which does not correlate with the chargeability anomalies. The main zone of elevated chargeability near the base line is within a low on the southern portion of the grid and crossed to a magnetic high further north. The magnetic response shows little line-to-line correlation suggesting that the sources are isolated and may be magnetic boulders or areas of differential weathering. The expected correlation between magnetic response and high chargeability values encountered in some alkalic copper-gold porphyries is not apparent in the data. A strong magnetic high centred at 10650E on Line 10400N is coincident with a mapped felsic dyke and similar associations may occur elsewhere on the grid.

10.0 RADIOMETRIC SURVEY RESULTS

The uranium, thorium, potassium and total count results for the Lightning Grid (Figures 7-10) show little correlation with the chargeability anomalies. A narrow zone of elevated radiometric response in all parameters extends across the grid from south to north at 11100E. This is not coincident with the bulk of the main chargeability anomaly which lies approximately 100 m west of the axis of the radiometric high. There is no wide zone of elevated potassium count present which might indicate extensive near surface potassic alteration. The narrow radiometric response in all elements at 11100E may be caused by ground water remobilization of radiometric elements along a permeable fault or fracture zone and does not appear to indicate a zone of significant porphyry style mineralization.

11.0 DISCUSSION

The geophysical survey results afford inconclusive evidence for the existence of a porphyry system on the property. A large chargeability anomaly extends across the grid with apparent widths varying from 50 m near the north and south ends to 300 m in the middle of the grid. If graphite is implicitly excluded as a possible chargeable mineral in this situation, eestimated sulphide content is in the order of 2 to 5% based on rule-of-thumb correlations between chargeability and sulphide concentrations. The apparent resistivity in the region of the chargeability anomaly is in the order of 200 to 1000 ohm-m and does not display the uniform apparent resistivity found beneath some large porphyry systems. As an example, Witherly and Vyselaar (1990) described the IP response of the Poplar Lake deposit, a Mo-porphyry with a classic alteration assemblage. Here, the inner potassic alteration zone has uniform apparent resistivity in the 200 to 300 ohm-m range and chargeabilities of 60 to 80 mrad, suggesting sulphide contents in the range of 6 to 8%. Observed sulphide concentrations were up to 5% at Poplar Lake. The higher resistivities and more complex resistivity pattern at Prospector Mountain suggests that any hydrothermal alteration present is less intense than is commonly found in other economic porphyry systems. Similarly, the magnetic field results do not indicate the presence of extensive uniform magnetite enrichment. Lastly, the radiometric survey results in potassium do not indicate the presence of widespread potassic alteration associated with the chargeability anomaly.

The chargeability anomaly is associated with copper and molybdenum soil geochemical anomalies and the volume of chargeable rock suggested by the IP survey results could contain a sizeable concentration of economic porphyry mineralization but the supporting evidence in the form of apparent resistivity, total magnetic field and potassium count data suggests that any porphyry system present on the grid may be poorly developed.

The results on the No Sweat Grid are also inconclusive but nonetheless promising. Broad chargeability anomalies suggesting flat to shallow dipping sources occur on the west side of the grid and more steeply dipping features are present on the east side of the grid. The apparent resistivity is uniformly low and more closely resembles that expected in a porphyry system. Radiometric or magnetic field data are not available for this grid and these might indicate more clearly the significance of the IP anomalies.

9.0 CONCLUSIONS

The results of the induced polarization, resistivity, total magnetic field and radiometric surveys on the Lightning Grid suggest the following conclusions:

a. An extensive chargeability anomaly extends across the Lightning Grid widening from 50 m on the north and south ends to over 300 m in the centre of the grid. Estimated intrinsic chargeability is in the order of magnitude expected for a porphyry system with 2 to 8% disseminated sulphides.

b. The apparent resistivity in the area of the chargeability anomaly is complex with thin resistive sources apparent within rock with lower apparent resistivity. The generally high resistivities and the complex pattern they form is not that expected beneath a large extensive porphyry system with extensive hydrothermal alteration.

c. The total magnetic field and potassium total count data do not correlate with the main chargeability anomaly. The radiometric survey data delineate a relatively narrow zone of radiometric response on all channels to the east of the chargeability anomaly. This may be caused by ground water remobilization along a permeable fault zone. The total magnetic field data may indicate the location of late stage felsic dykes but there is no extensive pattern suggesting widespread introduction of magnetite or destruction of magnetic minerals through hydrothermal alteration.

d. The total magnetic field and radiometric data do not support the hypothesis that extensive near surface porphyry style alteration occurs on the grid.

e. The chargeability anomaly occurs in an area of elevated geochemical response in copper and molybdenum and the source or sources of the geochemical anomaly has not been identified.

The results of the induced polarization survey on the No Sweat Grid suggest the following conclusions:

a. Extensive chargeability anomalies occur on the grid. These appear to be caused by flat lying sources on the west side of the grid and by steeply dipping sources on the east side of the grid.

b. Low apparent resistivities in the range encountered in porphyry alteration systems are found associated with the chargeability anomalies. The pattern of apparent resistivity is uniform and on the whole more closely resembles that expected beneath a porphyry system.

c. The chargeability anomalies occur in an area of elevated geochemical response permissive for the occurrence of a porphyry system. The source or sources of the geochemical response has not been identified.

10.0 RECOMMENDATIONS

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

a. The main chargeability anomaly on the Lightning Grid should be tested by trenching or drilling on Line 10400N at 11000E. At this location, the anomaly appears to be shallow on both the wing line and base line survey and the chargeability anomaly is coincident with a soil geochemical anomaly in both copper and molybdenum (Soil anomaly 4C).

b. A total magnetic field and perhaps radiometric survey should be conducted on the No Sweat Grid to further evaluate its potential to host porphyry style mineralization.

Respectfully submitted,
AMEROK GEOSCIENCES LTD.

REGISTERED PROFESSIONAL GEOPHYSICIST
M.A. POWER
LICENSEE
N.W.T.

M.A. Power M.Sc. P.Geoph.
Geophysicist

GEOSCIENCES LTD.

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APPENDIX A. CERTIFICATE

I, Michael Allan Power, M.Sc. P.Geo., P.Geoph., with business and residence addresses in Whitehorse, Yukon Territory do hereby certify that:

1. I am a member of the Association of Professional Engineers and Geoscientists of British Columbia (registration number 21131) and a professional geophysicist registered by the Northwest Territories Association of Professional Engineers, Geologists and Geophysicists (licensee L942).

2. I am a graduate of the University of Alberta with a B.Sc. (Honours) degree in Geology obtained in 1986 and a M.Sc. in Geophysics obtained in 1988.

3. I have been actively involved in mineral exploration the Northern Cordillera since 1988.

4. I conducted the IP surveys and supervised the magnetic field and radiometric surveys described in this report.

5. I have no interest, direct or indirect, nor do I hope to receive any interest, direct or indirect, in Troymin Resources Ltd. or any of its properties.

Dated this 8th day of September, 1998 in Whitehorse, Yukon.

Respectfully Submitted,

REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
N.W.T.

Michael A. Power M.Sc. P. Geoph.

APPENDIX B. SURVEY LOG

AMEROK GEOSCIENCES LTD.

SURVEY LOG
TROYMIN RESOURCES LTD. - PROSPECTOR MOUNTAIN
IP/MAGNETOMETER/RADIOMETRIC SURVEYS - JOBS 98-15 & 21
JULY 7 - JULY 14 & AUGUST 6, 1998

Personnel:	Mike Power - geophysicist and crew chief (MP) Gary Smith - geophysicist (GS) Andrew Davis - geophysicist (AD) Christine Purves - field assistant (CP) Dan Hall - technician (DH)
Tue 07 JUL 98	Mobilization to property. Left Whitehorse at 11:00 am, arrived on site at 6:00 pm. Camp finished 10:00 pm. GS spent night in Carmacks. Five helicopter loads from Guder Junction. Wx: sunny with cloudy periods, warm.
Wed 08 JUL 98	IP survey. Begin 7:30, lift to site via helicopter. Setup of generator/transmitter/ infinity pole finished at 10:00 am. Survey of L800N. Tx-GS, Rx-AD, Current-MP, cables-CP. Wx: partly cloudy, windy. Production: L800N: 1800E - 300E. Total: 1.5 line-km
Thu 09 JUL 98	IP survey. Begin 7:30, lift to site via helicopter. Survey of L600N. Tx-AD. Began survey of L400N. Wx: partly cloudy, with some rain in the late afternoon. Production: L600N: 1800E - 300E. L400N: 1800E - 1450E. Total: 1.85 line-km

Fri 10 JUL 98	IP survey. Begin 8:30, walk to site. Continue L400N from 1450E to 300E; also began survey of L200N. Tx-MP, Rx-AD, Current-GS, cables-CP. Wx: fair in morning, thick fog and cloud with rain in pm. Production: L400N: 1450E - 300E. L200N: 2000E - 1850E. Total: 1.3 line-km
Sat 11 JUL 98	IP survey. Begin 7:30, lift to site via helicopter. Completed survey of L1000N and Base Line. Tx-MP, Rx-GS, Current-AD and cables-CP. Wx: partly cloudy and breezy all day. Production: L1000N: 1800E - 300E. Base line: 1000N - 200N Total: 2.3 line-km
Sun 12 JUL 98	IP survey. Begin 8:30. Walk to L200N 1850E. Completed survey of L200N. Tx-GS, Rx-AD, Current-CP, cables-MP. GS, MP, CP picked up line and packed up Tx site. Wx: unsettled, partly cloudy with periods of heavy rain, thunder and lightning. Production: L200N: 1850E - 300E. Total: 1.55 line-km
Mon 13 JUL 98	Standby day. Wx: Visibility poor, rain and wind. Unable to fly to Tx site. AD sent into Carmacks to move truck to Guder Junction the next morning. MP & CP picked up wire. GS plotted data.
Tue 14 JUL 98	IP survey on No Sweat Grid. Moved gear from Tx site to grid. Troymin geologists assisted with survey. Demobed camp during survey operations. Finished survey and demobed in late afternoon to Guder Junction and thence to Whitehorse. Wx: cloudy, clearing later in the day. Production: L10000N: 10000E-10800E L10200N: 10000E-10800E L10400N: 10000E-10800E Total: 2.4 line-km

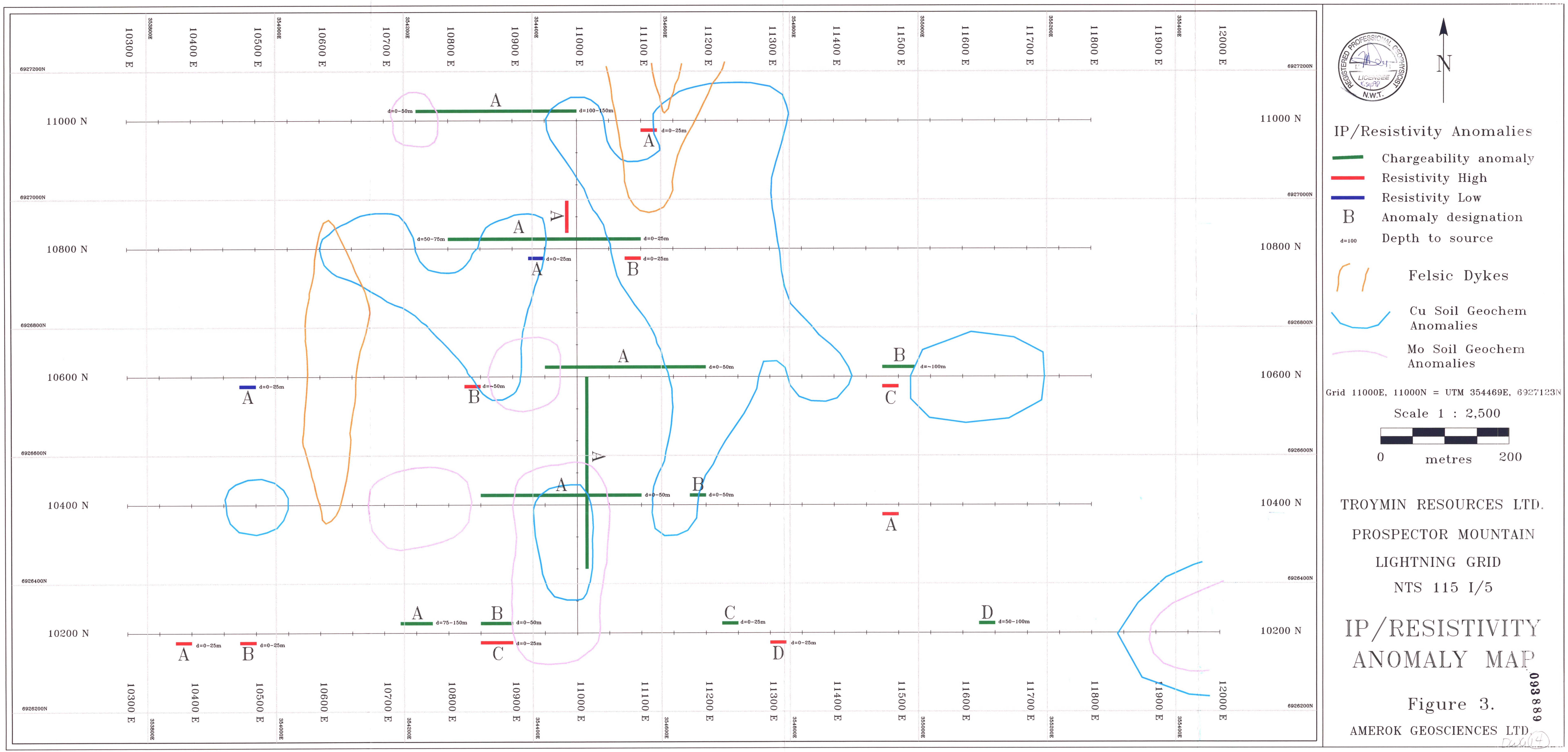
Thu 06 AUG 98	Magnetometer and radiometer surveys. Drove to Carmacks in early a.m.; flew into property at 0800 hours on helicopter; began surveys immediately. GS and CP flagged in grid and conducted radiometer survey; DH conducted magnetometer survey. Helicopter pick up at 2100 hours; return to Carmacks and drove back to Whitehorse.
Total Production:	12.5 line-km magnetometer survey 10.0 line-km radiometer survey 10.9 line-km induced polarization survey

Total man-days:

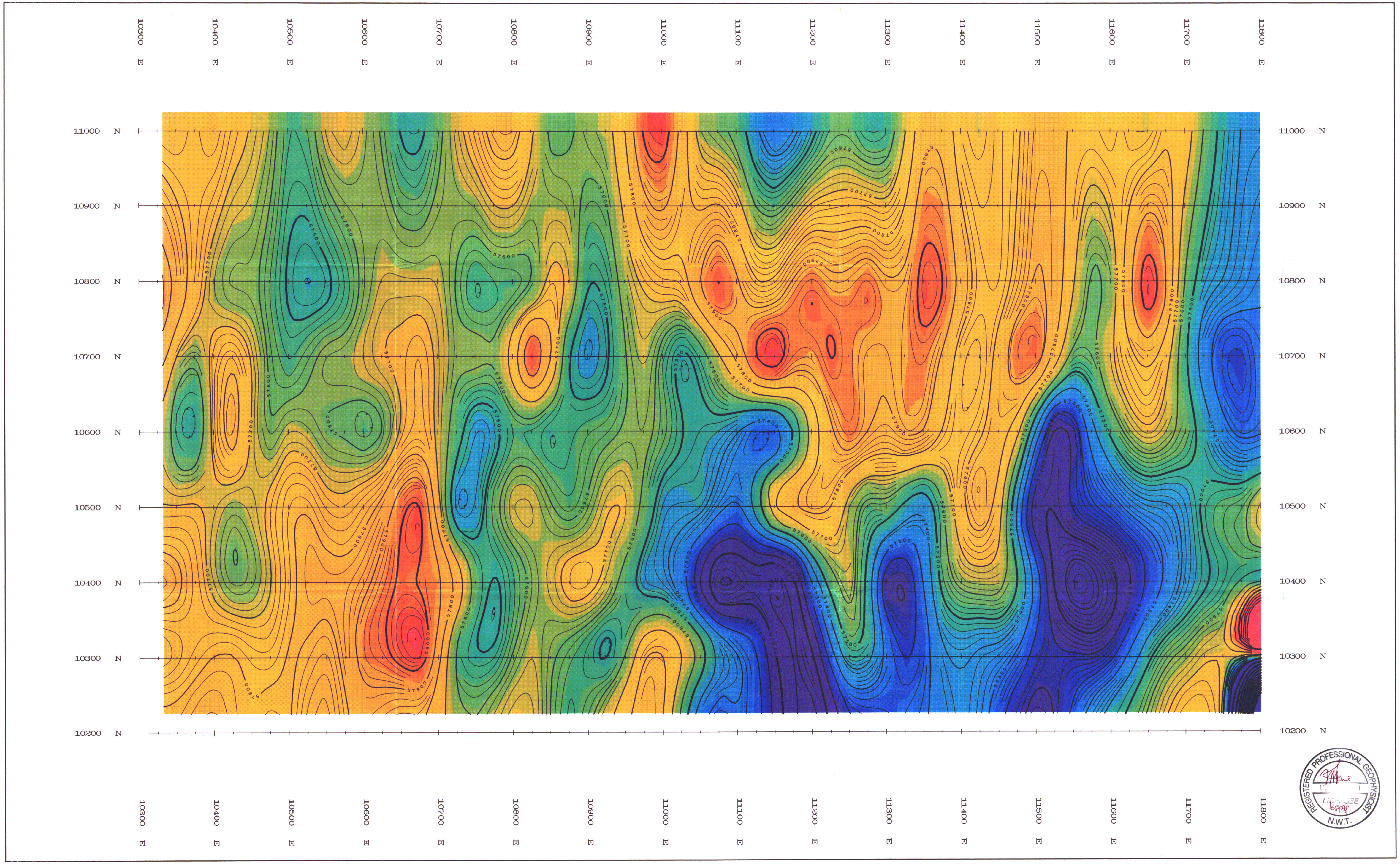
IP survey	28 man-days
Magnetometer survey	1 man-days
Radiometric survey	2 man-days

APPENDIX C. PSEUDOSECTIONS

APPENDIX D. CONSTANT SEPARATION MAPS



IP/Resistivity Anomalies
Chargeability anomaly
Resistivity High
Resistivity Low
B Anomaly designation
d=100 Depth to source
Felsic Dykes
Cu Soil Geochem Anomalies
Mo Soil Geochem Anomalies
Grid 11000E, 11000N = UTM 354469E, 6927123N
Scale 1 : 2,500
0 metres 200
TROYMIN RESOURCES LTD.
PROSPECTOR MOUNTAIN
LIGHTNING GRID
NTS 115 I/5
IP/RESISTIVITY ANOMALY MAP
Figure 3.
AMEROK GEOSCIENCES LTD.
093889



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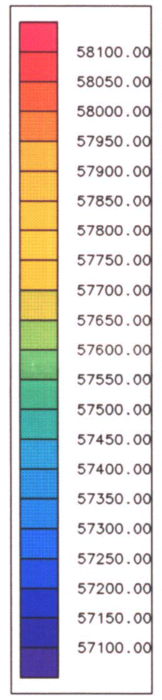


093889

Total Field (nT)

Contour Intervals: 20, 100 500 nT

Grid 11000E, 11000N = UTM 354469E, 6927123N

Scale 1 : 2,500

0 metres 200

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

NTS 115 I/5

TOTAL MAGNETIC FIELD

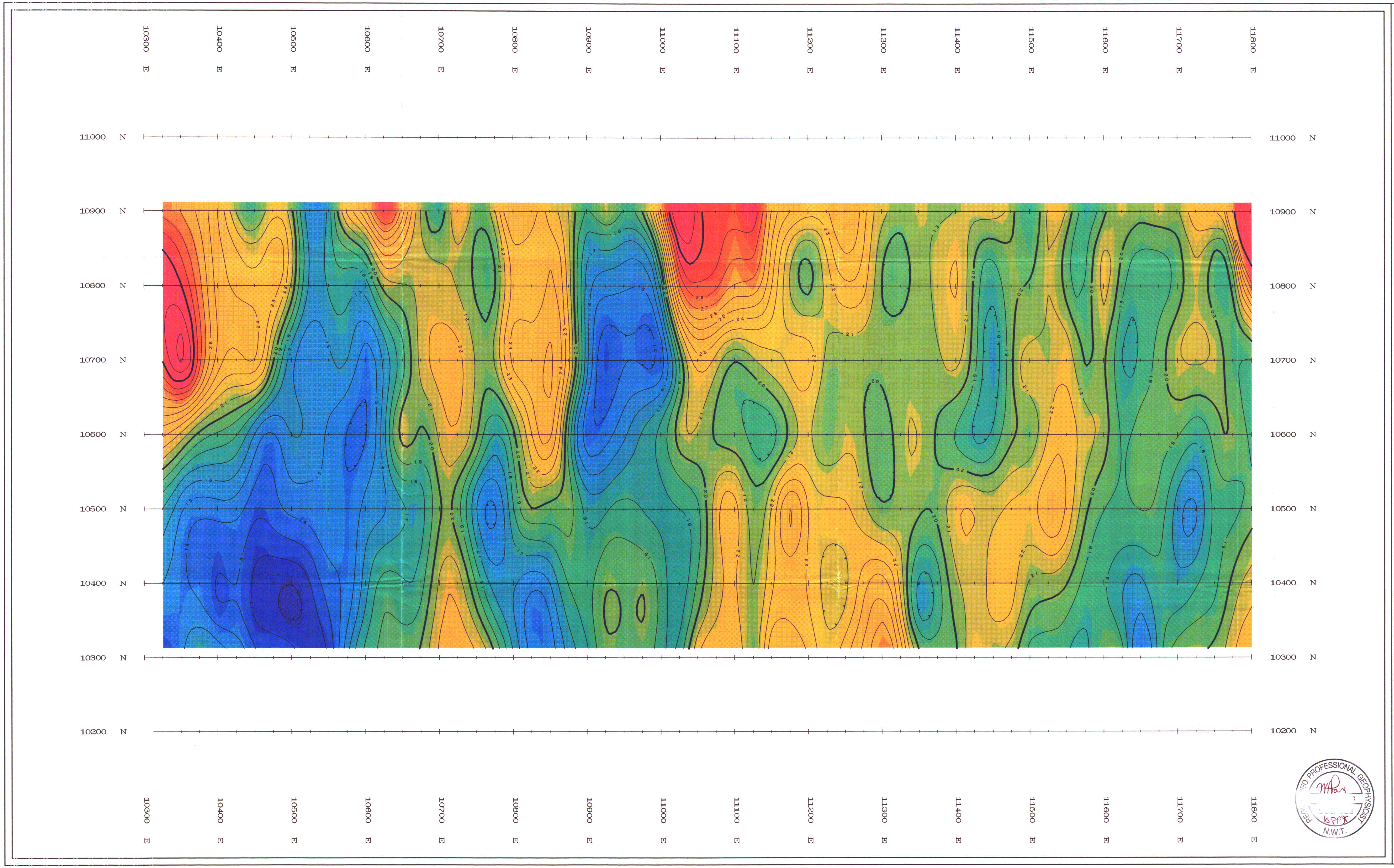
CONTOUR MAP

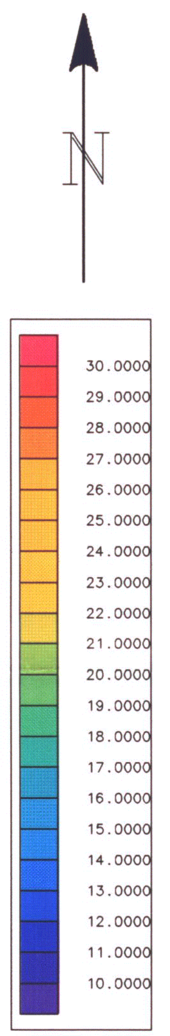
Figure 5.

AMEROK GEOSCIENCES LTD.

DWG 15

REGISTERED PROFESSIONAL GEOPHYSICIST N.W.T.





Counts per second

Contour Interval: 1, 10 cps

Grid 11000E, 11000N = UTM 354469E, 6927123N

Scale 1 : 2,500

0 metres 200

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

NTS 115 I/5

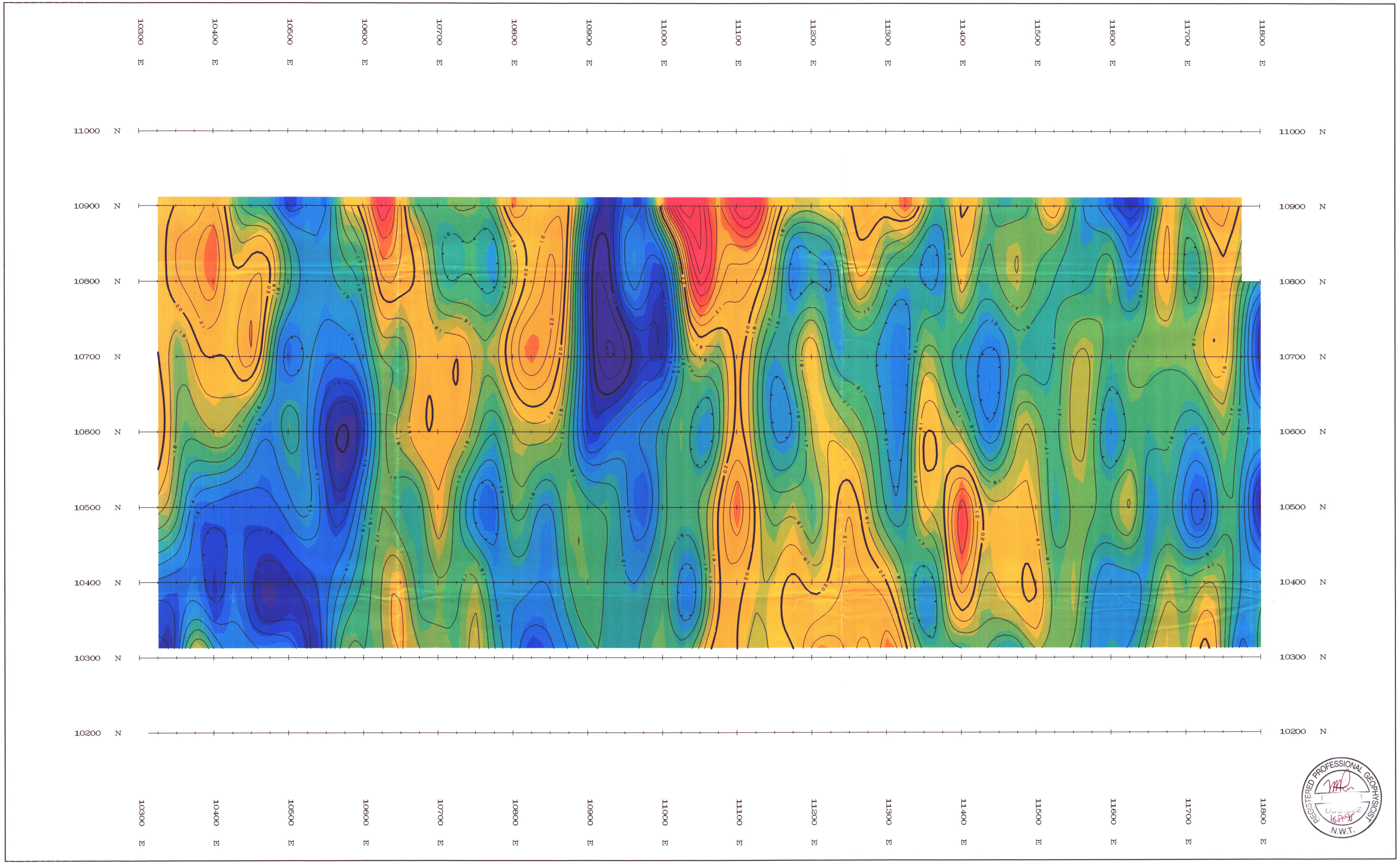
093069

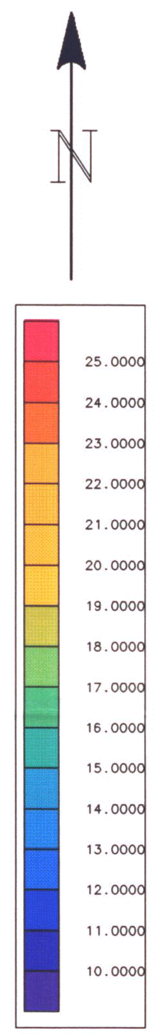
RADIOMETRIC SURVEY

URANIUM

Figure 6.

AMEROK GEOSCIENCES LTD.





Counts per second
Contour Interval: 1, 10 cps

093889

Grid 11000E, 11000N = UTM 354469E, 6927123N

Scale 1 : 2,500

0 metres 200

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

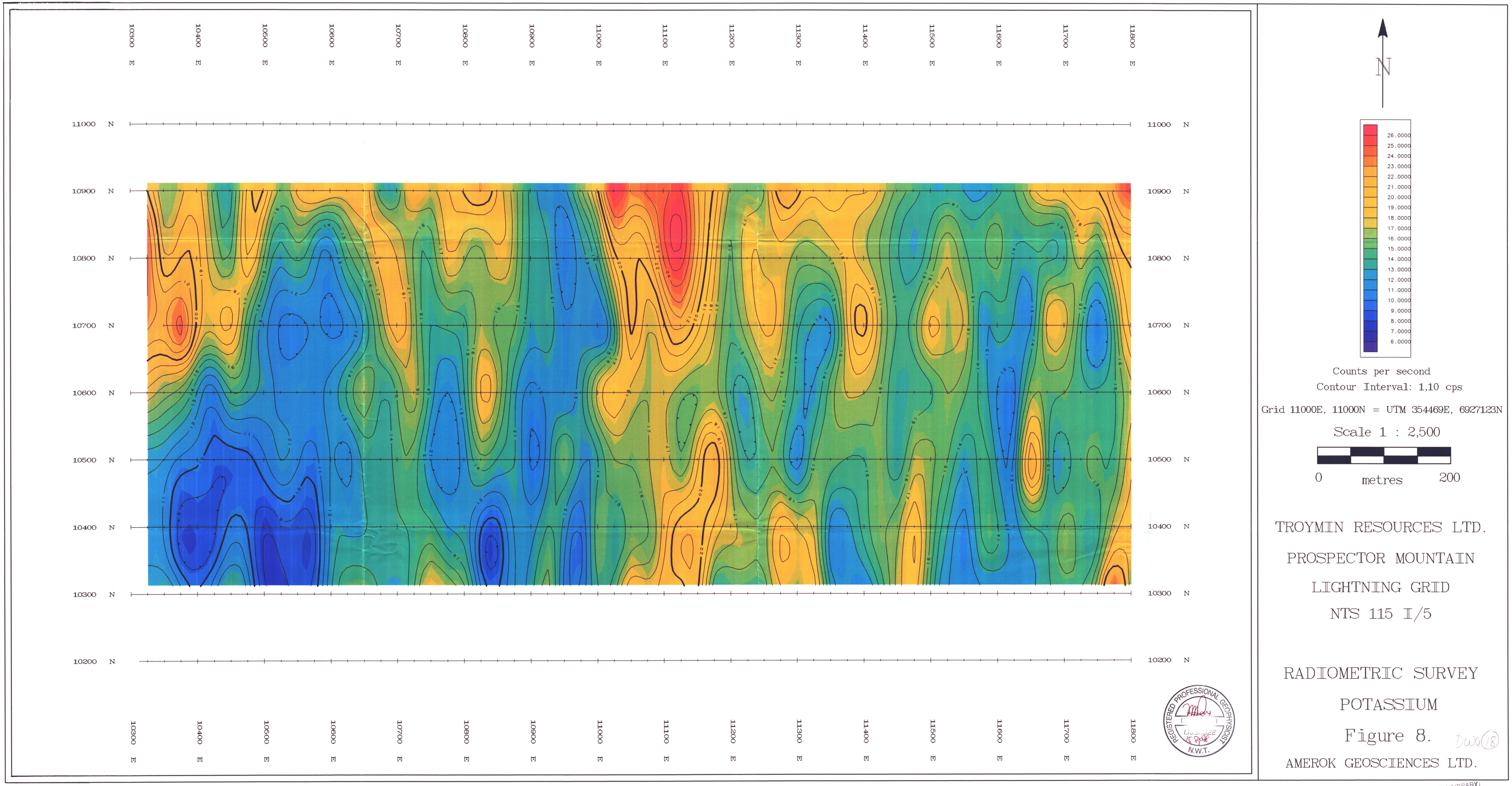
NTS 115 I/5

RADIOMETRIC SURVEY

THORIUM

Figure 7.

AMEROK GEOSCIENCES LTD.



TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

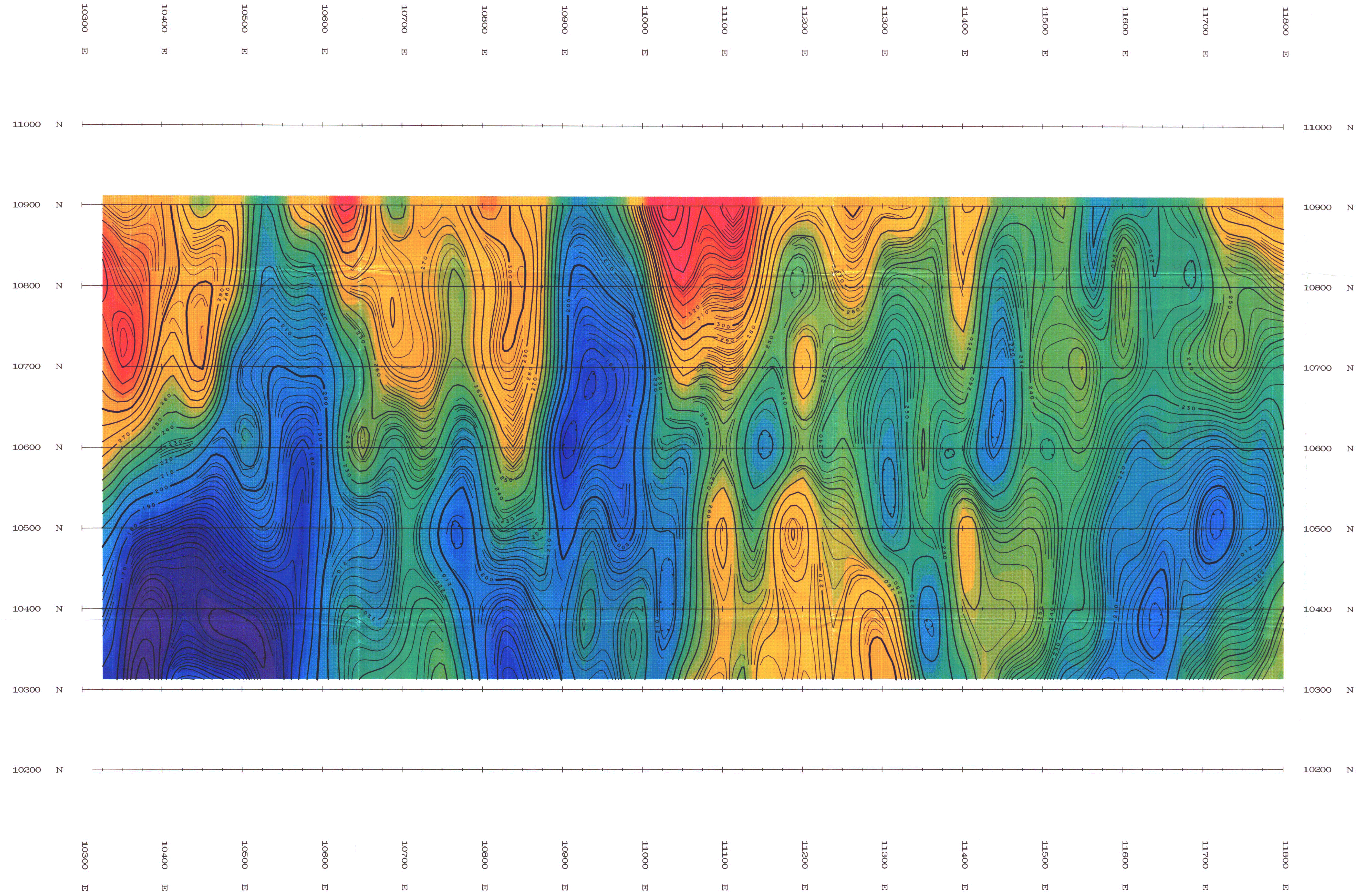
NTS 115 I/5

RADIOMETRIC SURVEY

POTASSIUM

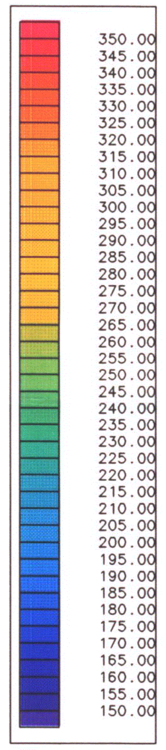
Figure 8.

AMEROK GEOSCIENCES LTD.



REGISTERED PROFESSIONAL GEOPHYSICIST
LICENSEE
N.W.T.

N



Counts per second

Contour Interval: 2, 10, 100 cps

Grid 11000E, 11000N = UTM 354469E, 6927123N

Scale 1 : 2,500

0 metres 200

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

NTS 115 I/5

RADIOMETRIC SURVEY

TOTAL COUNTS

Figure 9.

DWG 19

AMEROK GEOSCIENCES LTD.

1998 ASSESSMENT REPORT
ON THE
PROSPECTOR MOUNTAIN PROPERTY

NTS 115 I/05 **093889**

Latitude 62°27'
Longitude 137°53'

Whitehorse Mining District

QUARTZ CLAIMS

Hayes	1-112 (YB66122-YB66233)
Hayes	113-130 (YB97178-YB97195)
Hayes	131-172 (YB97090-YB97131)
Hayes	173-180 (YB97196-YB97203)
Hayes	181-226 (YB97132-YB97177)
Hayes	227-239 (YB97204-YB97216)
Hayes	240-272 (YC08343-YC08375)

For: **TROYMIN RESOURCES Ltd.**
206, 622 - 5th Avenue S.W.
Calgary, Alberta
T2K 0M8

By: Scott Casselman, B.Sc., P.Geo.
Casselman Geological Services
16 Hunterhorn Gate N.E.
Calgary, Alberta
T2K 6H3

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APPENDICES

INTRODUCTION

The objective of the 1998 exploration program on the Prospector Mountain Property was to follow-up anomalous rock, soil and stream sediment sample results from previous work on the property, to evaluate airborne geophysical anomalies from a GSC survey flown in the area in 1995, and to determine the potential for the property hosting a porphyry-type target.

The property has been explored intermittently over the past thirty years for its precious metal vein and porphyry copper potential. Much of the exploration focused on the precious metal veins in the western half of the property which is underlain by quartz-tourmaline veined andesitic volcanic rocks. This area has undergone extensive soil sampling, prospecting, mapping, rock sampling, trenching and diamond drilling.

The eastern half of the property is underlain predominantly by quartz-monzonite intrusive rocks of the Prospector Mountain Suite with lessor volcanic rocks. This area has seen much less exploration activity. In 1971, the area was mapped and soil sampled and since then has had only minor follow-up work.

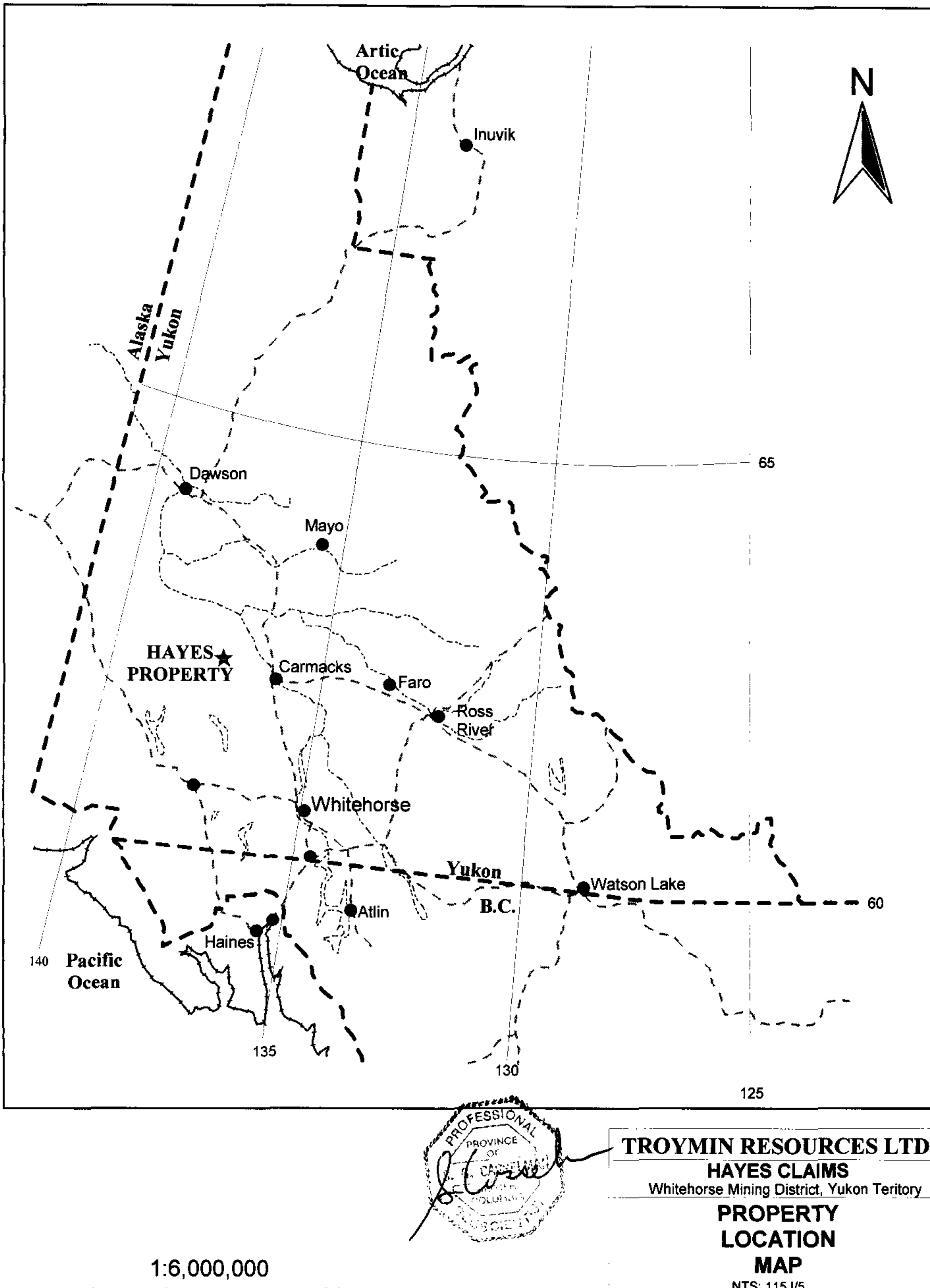
In 1995, The GSC conducted an airborne Magnetic/Radiometric survey over the area as part of a larger survey covering three - 1:50,000 map sheets. The survey outlined a number of potassium (K) radiometric highs, magnetic highs and a Thorium/Potassium (Th/K) low which required follow-up.

A two person crew was mobilized to the property on June 23 and conducted follow-up mapping, prospecting and sampling. The crew was demobilized on July 17. Amerok Geosciences, of Whitehorse, was contracted to perform 10.9 line-km of Induced Polarization (IP) surveying and mobilized a crew of 4 from July 7 to 14. At a later date, Amerok was contracted to perform a ground magnetic and radiometric survey on the Lightning Grid. They mobilized a crew of three for a one day survey on August 8. The geophysical survey results are documented in a separate report by Amerok Geosciences Ltd.

LOCATION AND ACCESS

The Prospector Mountain Property is located in the Dawson Range of west-central Yukon Territory, 88 km west-northwest of Carmacks (Figure 1). The property is situated in the northwest corner of NTS map 115 I/05 with geographic coordinates of the center of the property being approximately 62° 27' north latitude and 137° 53' west longitude.

A network of gravel roads and trails provide access to the property via the Freegold Road which runs west of Carmacks to within 30 km of the property. From there an old "cat" trail known as the Lilypad road was built to property in the early 1980's and a gravel airstrip was constructed southwest of Prospector Mountain. The Lilypad road was



TROYMIN RESOURCES LTD.

HAYES CLAIMS

Whitehorse Mining District, Yukon Teritory

PROPERTY LOCATION MAP

NTS: 115 I/5

CASSELMAN GEOLOGICAL SERVICES

August, 1998

Figure 1

partially repaired in 1997 to provide 4x4 access, but heavy rains prevented completion. The airstrip requires re-grading before it is useable.

For the 1998 program, crews were mobilized by helicopter from Guder Junction at kilometer 73 on the Freegold Road.

PHYSIOGRAPHY AND CLIMATE

The property straddles Hayes Creek and covers Prospector Mountain peak, to the east, and Center Mountain peak, to the west. Elevations on the property range from 1128 m (3700 ft) to 1965 m (6450 ft). Most of the property is above treeline and covered by alpine vegetation, lower slopes are covered by dwarf birch and willow. Upper north and east facing slopes are generally underlain by permafrost, elsewhere slopes are drier.

The area escaped continental glaciation, but has undergone some alpine glaciation. Because of the lack of glaciation and the effects of permafrost, there is relatively little outcrop on the property. Most outcrop is confined to ridge tops and occasional creek exposures. Mountain tops and slopes are generally covered by felsenmeer and talus.

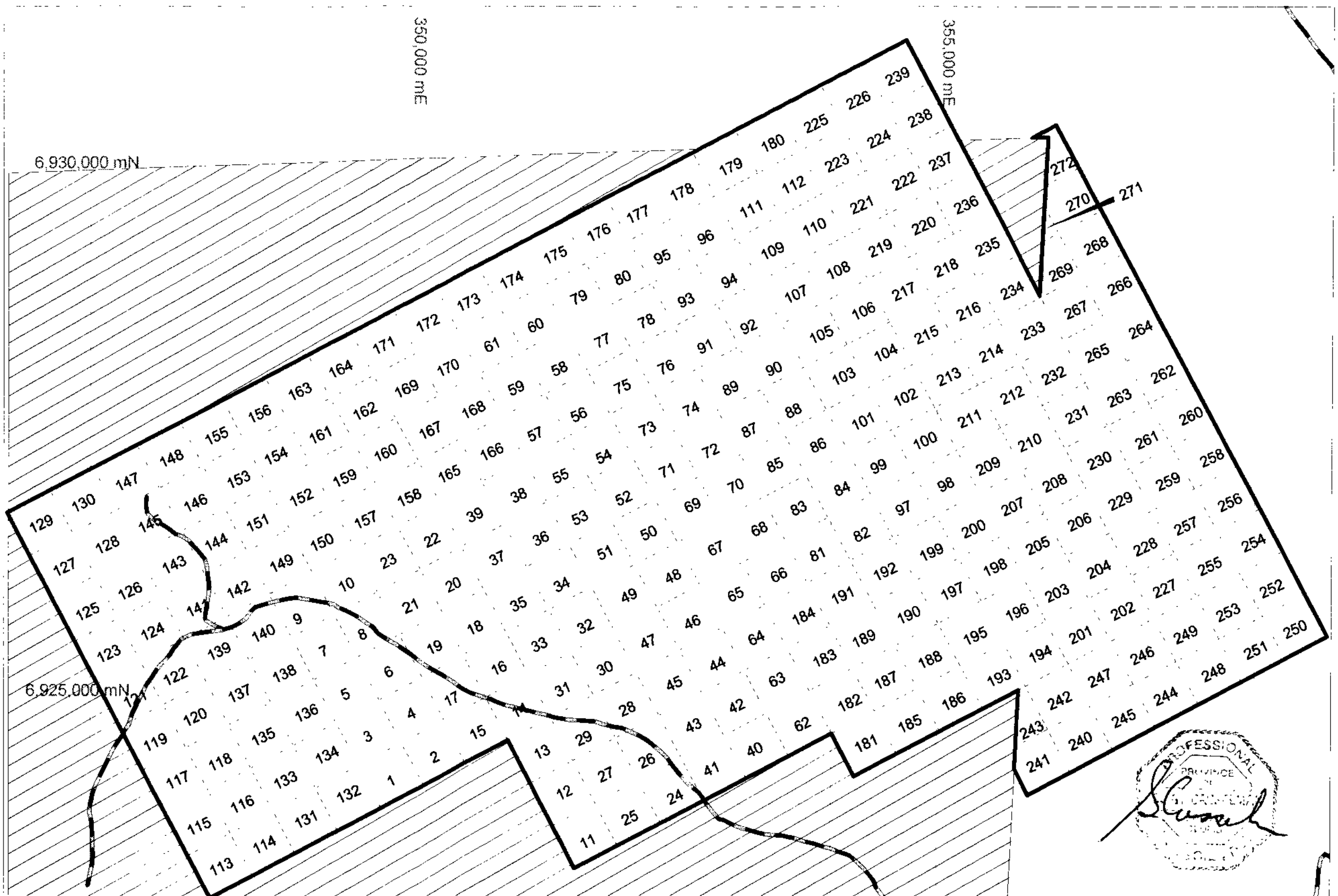
The climate in the area is typified by moderate to low precipitation (30 cm annually), dry summers and cold winters. The ridge tops are generally quite windy.

PROPERTY STATUS

The Prospector Mountain Property consists of the Hayes 1 to Hayes 272 contiguous, un-surveyed, two post quartz claims (Figure 2), staked in accordance with the Yukon Quartz Mining Act. The claims are in the Whitehorse Mining District and are on Quartz and Placer claim map NTS 115 I/05. The claims cover an area of approximately 5685 hectares. Claim data is as follows:

Claim Name	Grant Nos.	Expiry Date *
Hayes 131-149, 151	YB97090-108, YB97110	December 30, 2000
Hayes 155-156, 217-226	YB97114-115, YB97168-177	
Hayes 5-10, 20- 23	YB66126-131, YB66141-144	January 8, 2001
Hayes 34, 36-37, 50-53	YB66155, YB66157-158, YB66171-174	
Hayes 67, 69, 71	YB66188, YB66190, YB66192	
Hayes 113-130, 150, 152	YB97178-195, YB 97109, YB97111	
Hayes 157-158, 234-239	YB97116-117, YB97211-216	
Hayes 201-204, 206, 208	YB97152-155, YB97157, YB97159	December 30, 2001
Hayes 210, 212	YB97161, YB97163	
Hayes 1-2, 12-15, 26-31	YB66122-123, YB66133-136, YB66147-152	January 8, 2002
Hayes 38-39, 44-45	YB66159-160, YB66165-166	
Hayes, 54-55, 64, 68	YB66175-176, YB66185, YB88189	
Hayes, 70, 72-74	YB66191, YB66193-195	
Hayes 153-154, 159-161	YB97112-113, YB97118-120	
Hayes 165, 167, 184	YB97124, YB97126, YB97135	
Hayes 227-233, 240-272	YB97204-210, YC08343-375	
Hayes 186, 193-200	YB97137, YB97144-151	December 30, 2002
Hayes 205, 207, 209, 211	YB97156, YB97158, YB97160, YB97162	
Hayes 213-214, 216	YB97164-165, YB97167	
Hayes 3-4, 11, 16-19	YB66124-125, YB66132, YB66137-140	January 8, 2003
Hayes 24-25, 32-33, 35	YB66145-146, YB66153-154, YB66156	
Hayes 40-43, 46-49	YB66161-164, YB66167-170	
Hayes 56-63, 65-66	YB66177-184, YB66186-187	
Hayes 75-112	YB66196-233	
Hayes 162-164, 166	YB97121-123, YB97125	
Hayes 168-183, 185	YB97127-134, YB97136	
Hayes 187-192, 215	YB97138-143, YB97166	

* Expiry dates are based on the 1998 work being accepted for assessment credits.



N

LEGEND

119 Hayes Claim Number

Native Land Settlement

Roads

1:50000

1 0 1 Kilometers

TROYMIN RESOURCES LTD.

HAYES CLAIMS

Whitehorse Mining District, Yukon Teritory

CLAIM MAP

NTS: 115 I/5

CASSELMAN GEOLOGICAL SERVICES August, 1998

Figure 2

GEOLOGY

Regional Geology

The Prospector Mountain property is in the Dawson Range subdivision of the Yukon Plateau. The oldest rocks in the area are metamorphosed Proterozoic to Paleozoic (?) sedimentary and igneous rocks of the Yukon Metamorphic Complex (Figure 3). They are divided into two distinctive units: The lower Metasedimentary Unit, comprised of quartzite, schist, meta-greywacke, argillite, slate, conglomerate, re-crystallized limestone and meta-volcanic rocks; and the upper Quartz-Feldspathic Gneiss/Schist Unit, comprised of schistose volcanic rocks and gneissic plutonic rocks (Payne, et. al., 1987).

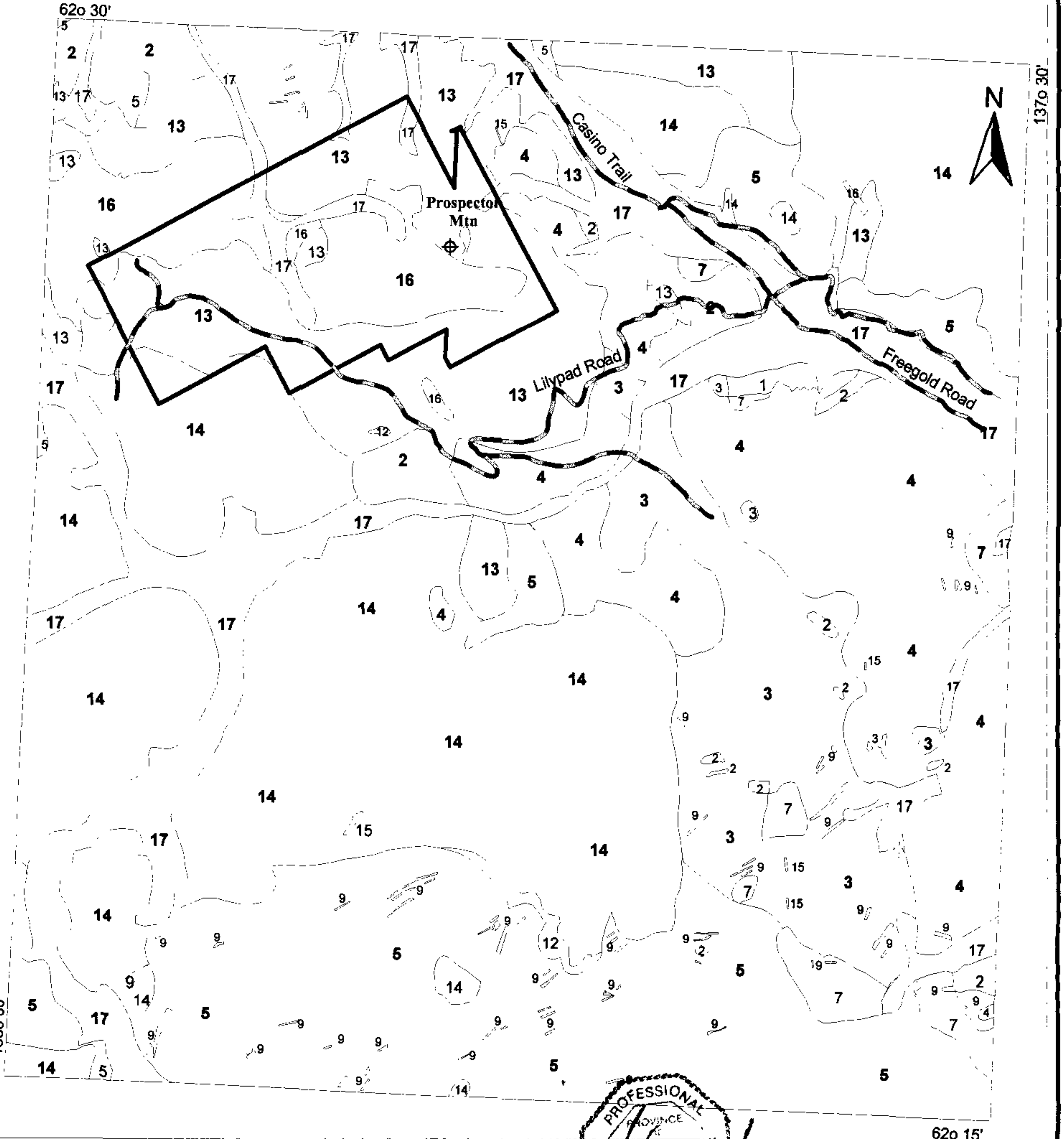
The Yukon Metamorphic Complex has been intruded by batholiths and plutons of three Mesozoic suites. The older two, which show penetrative metamorphic textures, are the Triassic (?) Klotassin Suite (hornblende-biotite granodiorite to diorite) and the Jurassic (?) Big Creek Suite (hornblende monzonite to quartz-bearing monzonite). The third is the un-metamorphosed, Early Cretaceous, Dawson Range Suite (hornblende-biotite-quartz diorite to quartz monzonite). Slightly younger igneous units consist of felsic to intermediate volcanic and subvolcanic rocks of the Mount Nansen Suite. Early Tertiary igneous rocks include extrusive andesite, basalt, and minor rhyodacite of the Carmacks Suite, and the slightly younger monzonite to quartz monzonite of the Prospector Mountain Suite.

The dominant structure in the area is the northwest-trending Big Creek Fault, east of the property. Numerous north to northeast-trending minor structures may be splays off the Big Creek Fault.

The area has numerous porphyry-style mineral deposits, the most significant of which is the Casino Porphyry copper-gold-molybdenum deposit. Published reserves at Casino are 445 M tonnes grading 0.27 g/t Au, 0.23% Cu, and 0.024% Mo. These deposits are associated with Cretaceous porphyry stocks and volcanic rocks in proximity to major regional structures such as the Big Creek Fault. A small Cu-Ag-Zn Skarn showing, known as the Starbird, was described south of the property by Payne (1987).

Property Geology

The property is underlain by volcanic rocks of the Late Cretaceous to Early Tertiary Carmacks Suite (Figure 4). These have been divide into three sections, two of which are exposed on the property. The Lower Volcanic Section (Unit 13) is comprised of andesite flows, tuff, breccias, minor shale and basalt and is dominant in the northeast, south and west. The Upper Volcanic Section (Unit 14) is comprised of andesite and basalt flows and is exposed in the southwestern corner of the property. The Basal Volcanic Section of the Carmacks Suite consists of rhyodacite tuff, but it has not been observed on the property.



LEGEND

QUATERNARY
- 17 Alluvium

LATE CRETACEOUS TO EARLY TERTIARY
- 16 Prospector Mtn Suite - Qtz-monzonite

Carmacks Suite
- 15 Late Dykes - andesite
- 14 Upper Volcanics - andesite/basalt
- 13 Lower Volcanics - andesite
- 12 Basal Volcanics - rhyodacite tuff

EARLY CRETACEOUS
Mount Nansen Suite
- 9 Late Dykes - latite
- 7 Volcanic Rocks - andesite

Dawson Range Suite
- 5 Qtz-diorite

JURASSIC (?) - Big Creek Suite
- 4 Hb-monzonite

TRIASSIC (?) - Klotassin Suite
- 3 granodiorite to diorite

PROTEROZOIC - PALEOZOIC
Yukon Metamorphic Complex
- 2 Qtz-feldspathic gneiss/schist
- 1 Metasedimentary Unit

1:150,000

0 5 Kilometers

TROYMIN RESOURCES LTD.

HAYES CLAIMS
Whitehorse Mining District, Yukon Teritory

REGIONAL GEOLOGY MAP

NTS: 115 I/5

CASSELMAN GEOLOGICAL SERVICES

August, 1998

Figure 3

The volcanic rocks are intruded by the Prospector Mountain Suite (Unit 16) which occurs as an irregular east-west band through the center of the property. These rocks are monzonitic to quartz monzonitic with variable amounts of biotite and hornblende. They vary from equigranular to porphyritic with potassium feldspar phenocrysts up to 2 cm long. Distinct phases were observed but not mapped in detail. Numerous, late stage, quartz-bearing porphyritic monzonite dykes of the Prospector Mountain Suite (Unit 16c) were observed intruding the monzonite on the ridge west of the Prospector Mountain peak. These dykes were up to 20 meters wide and appeared to exploit north-trending, steeply dipping, structures.

Two linear structural trends predominate; 000° to 005° and 020° to 045°. In the volcanic rocks, especially in the western portion of the property, these structures tend to be filled by quartz-tourmaline veins and occur as linear depressions on ridge crests. In the intrusive rocks the structures are occasionally exploited by dykes, as described above. A large north-trending structure is evident along the Hayes Creek valley, off-setting the Prospector Mountain Intrusive through this area.

Mineralization on the property has been observed in two forms: precious metals veins and disseminated "porphyry-style" pyrite with variable copper-molybdenum-gold content. The vein mineralization occurs in the volcanic rocks predominantly on the western part of the property. The veins are generally less than a few meters in width with the occasional vein to 10 or 15 m wide. They contain quartz-tourmaline and variable amounts of galena, sphalerite, chalcopyrite, gold and silver. Archer, Cathro and Associates (1981) Limited conducted extensive surveys of the veins from 1980 to 1984, including diamond drilling to test the down-dip continuity. Their observations were that the veins are associated with quartz-feldspar porphyry dykes and that sulphide mineralization and precious metal values occur very sporadically.

"Prophyry-style" alteration and mineralization was observed in the Prospector Mountain Monzonite at the Lightning Grid (Figures 5, 6). The mineralization consists of two large areas of sub-cropping, disseminated pyrite mineralization, one on the northern edge of the grid, the other covering much of the southern portion. The central portion of the grid is cover by grassy swampland and no outcrop was observed. Minor chalcopyrite and molybdenite was also observed with the pyrite.

The alteration consists of weak to moderate pervasive epidote/clay/sericite alteration of feldspars, variable potassic alteration and weak chlorite alteration of mafic minerals. As well, there is abundant tourmaline spots and veinlets and, in the northern part of the grid, there are two large silica-clay-tourmaline-pyrite breccia zones. A sample of sheeted quartz-magnetite-chalcopyrite veins in the intrusive was collected late in the program and sent for chemical and petrographic analysis (R2 580805). The sample is characterized as a monzonite containing 40 to 45% potassium feldspar, some of which is likely secondary, with micro-veinlets of quartz, magnetite and actinolite.

1998 EXPLORATION PROGRAM

The 1998 exploration program focused on the eastern half of the property, as well as, following-up three streams in the western half which contained anomalous gold-in-stream-sediment from the 1997 program. Seven airborne geophysical anomalies (2 magnetic highs, 4 potassium radiometric highs and one Thorium/Potassium low) were identified from a GSC Airborne Geophysical survey flown in 1995 (O.F. 3000) and five soil geochemical anomalies from a soil survey conducted by Occidental Minerals Corp. in 1971. The follow-up work consisted of prospecting, mapping and sampling to determine the cause of the anomalies and to determine if the potential for porphyry-style alteration and mineralization exists on the property. Two survey grids were established on the property: the Lightning Grid and No Sweat Grid. The Lightning Grid has 100 m line spacing and 50 m picketed stations. The No Sweat Grid has 200 m line spacing and 50 m picketed stations. The soil and airborne geophysical anomalies and the grids are shown in Figures 4 and 5.

A total of thirty-eight rock samples were collected and sent to Acme labs in Vancouver for gold analysis by MIBK extraction - graphite furnace atomic absorption and for 34 element analysis by "Ultratrace ICP".

Amerok Geoscience conduct 10.9 line-km of IP surveying on the two grids, and 12.5 line-km of magnetometer and 10.0 line-km of radiometric surveying on the Lightning Grid. The IP survey was conducted using a pole-dipole array with dipole spacing of 50 m and 6 separations. The magnetometer survey was conducted using a base station to correct for temporal geomagnetic variation and stations were read at 12.5 m - interpolation was done by pacing between station pickets. The radiometric survey was conducted measuring thorium, uranium, potassium and total count every 25 m using 10 second averaging. The methodology, equipment, and results are documented in the Amerok report.

RESULTS

Airborne Geophysical Anomaly Follow-up

Four K-high anomalies were identified in the northeastern part of the property in the northeastern lobe of the Prospector Mountain intrusive and two magnetic high anomalies along the margins of the intrusive; one to the south and one to the east (Figures 4 and 5). It was thought the K-high anomalies may represent potassic alteration zones at the core of a porphyry system and the magnetic-highs may represent contact metasomatic or skarn zones.

At each of the K-high areas the cause of the anomaly was found to be a K-feldspar-rich phase of the quartz-monzonite intrusion. The intrusive is a K-feldspar megacrystic porphyritic monzonite with up to 10% biotite and little to no quartz. The K-feldspar occurs as large euhedral phenocrysts and is primary in origin. These rocks were unaltered and unmineralized, containing much less than 1% disseminated pyrite.

The eastern airborne magnetic high was found to be a capping of magnetic, basalt flow in the Carmacks volcanics. It was unaltered and un-mineralized.

The magnetic high in the southern part of the property is near where the Starbird Zinc Skarn showing is described. This area is underlain by Carmacks andesitic volcanics which have been contact metamorphosed (hornfelsed) by the intruding Prospector Mountain monzonite. The volcanics are weakly chlorite and epidote altered and are fairly magnetic, but no sulphide mineralization was observed. The Starbird Showing, which should be just south of the property boundary, could not be located.

Stream Sediment Anomaly Follow-up

Stream sediment sampling in 1997 identified three streams in the western half of the property with anomalous gold values which required follow-up work in 1998. The three areas, shown on Figure 4, are known as the Frog Creek Anomaly, the Southern Stream Sed Anomaly and the Western Stream Sed Anomaly. The follow-up work consisted of prospecting the stream beds and traverses along both slopes to look for signs of veining, mineralization or alteration.

Prospecting at the Southern Stream Sed Anomaly found the creek to contain boulders of andesitic volcanic which was unaltered and unmineralized. As the traverses progressed up the creek, towards the headwaters, some quartz-tourmaline vein float was observed. This vein float is believed to be coming from the top of the ridge in the area where trenching and diamond drilling (holes LP82-1, LP84-7 and LP84-9) tested quartz-tourmaline veins. The drilling found the veins to be narrow and that precious metals values were very erratic.

The Western Stream Sed Anomaly creek contained mixed boulders of andesite and monzonitic intrusive. Occasional intrusive boulders contained disseminated pyrite to 3%. The volcanic rarely had narrow quartz-tourmaline veining. Traverses along both slopes did not locate any veining or mineralization. As with the Southern Stream Sed Anomaly there has been trenching and diamond drilling (hole LP82-3) on the ridge at the headwaters of the creek. Again, it is believe the gold is coming from the quartz-tourmaline veins and that their source has been thoroughly test by trenching and drilling on the ridge.

Prospecting along the Frog Creek Anomaly creek gave similar observations to those at the other two stream sediment anomalies. The creek contained boulders of unaltered volcanic rock and some intrusive rocks down stream, towards the intrusive contact. There were occasional small pieces of quartz-tourmaline float and some weakly pyrite-mineralized andesite dykes. The quartz-tourmaline vein float is believed to be originating from the ridge tops on either side of the creek, where extensive trenching and diamond drilling has tested the veins.

Soil Geochemical Anomaly Follow-up

It was generally observed that the volcanic rocks have a higher background of copper in soils and that the molybdenum anomalies are concentrated in areas underlain by intrusive rocks.

Soil Anomaly #1 is a coincident, linear, copper and molybdenum anomaly which occurs along a creek in the southeastern part of the property. It contains some of the highest molybdenum values (up to 37 ppm). It was difficult to evaluate the anomaly due to poor exposure; the area is covered by a large grassy swamp and there is no outcrop. The anomaly is near the contact between the intrusive rocks to the west and andesitic volcanic rocks to the east. Because of the lack of exposure it is unknown whether the contact is an intrusive contact or a fault contact. Prospecting in the creek bed located some pyrite-mineralized volcanic and quartz monzonite float which returned up to 62.8 ppm Mo. A small grid (the No Sweat Grid) was established over this area and an IP survey completed to determine if there was any sulphide mineralization in bedrock at depth.

Soil Anomaly #2 extends from the peak of Prospector Mountain northward and is underlain by Carmacks Group andesitic volcanic rocks. It is a copper-only anomaly and has some very anomalous values (up to 860 ppm) in a northerly trend. Field work identified quartz-tourmaline±galena±sphalerite±chalcopyrite veins in volcanic float trending northerly along the slope. Anomalous values ranged up to 11 g/t Ag, 0.12% Cu and 0.11% Zn. The veins are up to 5 cm wide and are very difficult to trace.

Soil Anomaly #3 is a copper anomaly with one value of 1270 ppm. The anomaly occurs at the contact between volcanics, up slope, and monzonite, down slope. The source for the high copper values could not be located, however, it is believed to be originating in the volcanic rocks. Further up slope and to the south a small piece of float (3 cm diameter) containing abundant fracture filling malachite and azurite in andesite was found, however, the source for this float was not located. It is suspected the copper mineralization may a result of be contact metasomatism in the area.

Soil Anomaly #4A is a molybdenum anomaly underlain by monzonite. This area has some minor quartz-tourmaline veining which was thoroughly rock sampled in 1997 with no significant anomalies being identified.

Soil Anomalies #4B and #4C form a north-south trend with coincident copper and molybdenum in soils in an area underlain by intrusive rocks. The north and central portion of anomaly #4B are not exposed due to grass and talus cover, but at its southern extent is a large gossanous area. The gossan continues southward where it is buried under a grassy swamp, then re-appears at the southern end of anomaly #4C. The gossanous zone is a quartz+clay+tourmaline+pyrite±chalcopyrite breccia zone at the north end and an extensive area of disseminated pyrite mineralization in clay-sericite altered monzonite at the south end. This anomalous trend is localized along a zone of north-south faulting, which also localized much of the dyke activity on top of the ridge (Figure 6). The "Lightning Grid" was established in this area and an IP survey was conducted to test for sulphide mineralization at depth.

Float sample R2 580805, described earlier as a quartz-magnetite-chalcopyrite sheeted vein in intrusive was collected from the eastern part of the grid. The sample returned 764 ppb gold and 769 ppm copper. The sample has not yet been followed-up and it is unknown how large the area of sheeted veining is. Other rock samples collected from the Lightning Grid returned mildly anomalous values, with gold to 102 ppb, silver to 1654 ppb, copper to 331 ppm, and molybdenum to 42 ppm.

Soil anomaly #4D is south east of anomaly #4C, occurs on a steep, east-facing slope and is a good, coincident, copper and molybdenum anomaly. The southern most airborne K-high anomaly occurs just north of the soil anomaly. In the field, there was very little mineralization evident to explain the anomaly. The slope is covered by large blocky talus of fairly fresh, megacrystic, K-feldspar monzonite. A narrow (1 to 3 cm wide) quartz-tourmaline-pyrite±chalcopyrite vein was found on the ridge above the anomaly. The vein was traced, intermittently, in talus for approximately 150 m diagonally across the slope in the western part of the anomaly. Three samples were collected from the vein and returned up to 162 ppb gold, 2593 ppb silver, 343 ppm copper, 5225 ppm lead and 3367 ppm zinc. This vein, however, is not sufficient to explain the extensive area of anomalous soil geochemistry. The Lightning Grid covered a small portion of the northwest corner of anomaly #4D and the IP survey revealed some very chargeable rocks at the end of line 102+00 N at depth in this area. The slope is very difficult to work due to the steep, blocky ground, however, more work is required in the area to determine the cause of the large soil anomaly and the IP chargeability.

Soil anomaly #5 is a few scattered copper and molybdenum anomalies underlain by intrusive rocks in the central part of the property. The anomalous area occurs in a large slide area, where material from the ridge tops has slid down slope in a large rock "glacier". The debris is comprised of mixed intrusive and volcanic rocks. No significant mineralization was observed in the area and it is believed the anomalous copper values are coming from volcanic boulders which has sloughed down.

GEOPHYSICS

IP Geophysical Survey Results

Chargeability highs from the IP survey are plotted as solid bars on the survey grid lines on Figures 5 and 6. The IP survey on the Lightning Grid identified a chargeability anomaly up to 300 m wide, 800 m long and up to 150 m thick. The chargeable zone is coincident with the alteration and pyrite mineralization observed on surface at the north and south end of the survey grid. An estimate of sulphide content base on intrinsic chargeability gives 2 to 8% disseminated sulphides at depth. The depth of the chargeability zone varies from 0 to 150 m and is open on lines 104+00 to 110+00. Barren monzonite dykes within the zone show up quite well as chargeability lows.

A strong chargeable high is observed at depth on the far eastern part of line 102+00 N. This high occurs at the northwestern edge of Soil Anomaly #4D. Field work in the area did not identify any sulphide mineralization or alteration on surface. This anomaly warrants further follow-up to determine the cause of the high chargeability.

The Resistivity through the Lightning Grid area is generally low and the barren monzonite dykes are easily identified as north-northwest trending, steeply dipping, resistivity highs. At a few locations surface response (N=1) is strong, resistivity highs; typical of permafrost areas. At the far eastern part of line 102+00 N is a large resisitivity high which corresponds with the large, blocky, talus slope at Soil Anomaly #4D.

The IP survey on the No Sweat Grid identified two broad (to 150 m wide) chargeability anomalies running north-south, across the grid. The western anomaly appears flat lying to shallow dipping, while the east anomaly is more steeply dipping. Both anomalies have Low apparent resistivities which, in association with high chargeability, are typical of porphyry alteration systems.

The western anomaly occurs at the western edge of the grassy field where there is no rock exposure, but it is believed to be underlain by monzonite. The eastern anomaly is near the contact between the monzonite and andesitic volcanics at Soil Anom #1, which has strong, coincident molybdenum and copper in soils. The nature of the contact is unknown.

The resistivity response at N=1 on the No Sweat Grid is typical of permafrost profiles near surface. On line 104+00 N there appears to be narrow, highly resistive zone at both the western and eastern edge of the line. These zones may represent dykes.

Magnetometer Survey Results

The magnetometer survey on the Lightning Grid identified a weak, north-northeast trending, magnetic low slightly east of the mineralized zone which is bordered by a magnetic high to the northeast and a smaller magnetic high to the west. The northeastern mag high occurs in the area where the float sample containing sheeted quartz-magnetite veins (R2 580805) was collected. This mag high may give an indication of the size of the sheeted vein area (approximately 300x300m). At the eastern end of line 102+00 N, at Soil Anomaly #4D, is a mag high that is coincident with the IP chargeability high.

Radiometric Survey Results

The Radiometric survey on the Lightning Grid gave similar responses from the Total Count, Potassium, Thorium and Uranium. All show the mineralized zone to have a radiometric high to the east and radiometric low to the west. The radiometric highs occur from line 110+00 N at 110+00 E to line 103+00 N at 111+00 E (line 102+00 N was not surveyed). Also, in all cases there is a high area at the western ends of lines 107+00 N and 108+00 N. Field work in the western part of the grid did not identify any anomalous rock types to explain the western anomaly.

CONCLUSIONS AND RECOMMENDATIONS

The 1998 exploration program on the Prospector Mountain Property identified two areas worthy of follow-up work: the Lightning Grid and the No Sweat Grid. The Lightning Grid has an extensive zone of alteration and pyrite mineralization that has been observed on surface over a distance of 800 + meters long by up to 250 m wide. The zone is characterized as a silica-tourmaline-clay-K-feldspar-sericite alteration zone with up to 10% disseminated pyrite. This alteration is similar to that described for the Casino porphyry deposit, 40 km to the north. Soil geochemical surveys, in 1972, identified a north-south trending zone of anomalous copper and molybdenum mineralization. The IP survey over this zone identified a chargeability anomaly that is 800 m long, 300 m wide, 150 m deep and is open to the north, south and at depth. Magnetic and Radiometric surveys also identified the north-south trending zone. A float sample of sheeted quartz-magnetite veining may indicate a zone of sheeted quartz-magnetite-k-feldspar alteration typical of the core of porphyry copper system. This sample was found late in the program and remains to be followed-up.

Rock sampling of the pyrite mineralized rock in the Lightning Grid area returned some mildly anomalous copper, gold, molybdenum and silver values. The low values may be a result of leaching, as at the Casino deposit where the leached cap is from 30 to 150 m deep. Alternatively, the erosion level at Prospector Mountain may be to the level of the outer "pyrite halo" and the mineralized "ore zone" may be some depth below.

The No Sweat Grid overlies the contact between the Prospector Mountain monzonite and Carmacks Volcanics. The IP survey identified two chargeable zones that are 300 m long and up to 150 m wide. The 1972 soil sample survey identified a strong, linear, coincident copper and molybdenum anomaly which is coincident with the eastern IP chargeability anomaly. Prospecting in the area identified some pyrite mineralized intrusive and volcanic float. The cause of the soil and IP anomalies could not be found as the area is covered by a grassy swamp. Further testing of the anomaly will require mechanized trenching or diamond drilling.

The follow-up of the GSC Airborne Geophysical anomalies revealed the radiometric highs were caused by megacrystic K-feldspar porphyritic monzonite. The k-feldspar appeared to be primary due to the large, euhedral crystals. No sign of potassic alteration was observed.

Follow-up of the Airborne magnetic anomalies found that the southern magnetic high was caused by contact metasomatism of the andesitic volcanic rocks with little to no significant sulphide mineralization. The eastern magnetic anomaly was caused by a capping of magnetic basalt on the andesite.

The stream sediment anomalies in the western part of the property are caused by float of quartz-tourmaline veins from the ridge tops accumulating in the creek beds. The veins on the ridges have been tested by trenching and diamond drilling and found to be narrow (generally 2 to 50 cm) and that precious metals values from surface sampling were quite variable and generally not reproducible at depth.

Follow-up of soil anomalies #2, #3, #4A found that they were caused by the quartz-tourmaline veins in volcanic and intrusive rocks and that the veins were too narrow, too discontinuous and too low grade to be of further interest.

Recommendations for future work on the property are to: Follow-up Soil Anomaly #4D, possibly by extending the IP survey to the south and east over the anomaly; To test the Lightning Grid anomaly with approximately 600 meters of diamond drilling (3 to 4 holes); And to test the No Sweat Grid IP anomalies with magnetic and radiometric surveys, followed by trenching and/or diamond drilling (2 holes, 300 meters).

Respectfully submitted,

S.G. Casselman, B.Sc., P.Geol.
Geologist

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STATEMENT OF QUALIFICATIONS

I, Scott Casselman, residing at 16 Hunterhorn Gate N.E., Calgary, Alberta, T2K 6H3, certify that:

1) I graduated from Carleton University, Ottawa, Ontario, with a Bachelor of Science Degree in Geology in 1985.

2) I have practised the profession of geology since graduation and that I am a currently private geological consultant.

3) I am a member of the Association of Professional Engineers and Geoscientists of British Columbia, Registration No. 20032.

4) I am the author of this report on the work program on the Prospector Mountain Property, which is based on data collected between June 23 and July 17, 1998 and on referenced reports.

5) I have no direct or indirect interests in the properties or securities of Troymin Resources Ltd.

6) I consent to the use of this report by Troymin Resources Ltd. provided that no portion is used out of context in such a manner as to convey a meaning differing materially from that set out in the whole.

Dated this 24th day of September 1998, at Calgary, Alberta

Scott G. Casselman, BSc., P.Geol.

STATEMENT OF EXPENDITURES

Personnel -	Scott Casselman, Project Geologist May 11 to 27, June 18 to Aug 14, 48 days @ $325/day	15,600
	Frederick Meyer, Geologist June 22 to July 18, 27 days @ $275/day	7,425
Analytical - 38 samples @ $21/sample		794
Helicopter Charter - 25.6 hours @ $888/hour		22,733
Expediting		850
Equipment Rental		649
Equipment Purchase		1,109
Accommodation		1,203
Groceries		1,200
Airfares		2,200
Communications		600
IP Geophysical Survey		14,650
Magnetometer/Radiometric Survey		2,910
Report Writing and Reproduction		1,200
	TOTAL	**73,123**

APPENDIX I

Rock Sample Descriptions

Prospector Mountain Project - 1998 Rock Sample Descriptions

Sample #	Sample Type	Rock Type	UTM North	UTM East	Elev. (ft)	Area	Rock Description	Alteration	Sulphide Mineralization	Structure
FM 98001	Float	Qtz-Monzonite	6,928,550	354,920	5302	N.E. K-high	Qtz-K-spar Porphyry, dyke (?), with diss. pyrite and chalcopyrite (?).	weak clay alteration of K-spar	5% py and cp (?)	Moderate fracturing in dm range.
FM 98002	Float	Monzonite	6,926,780	354,600	5900	Lightning Grid	Strongly clay altered Monzonite with qtz-tourmaline veining.	pervasive clay alteration of F-spars, qtz-tour veining.	5% pyrite.	Qtz-tourmaline veining.
FM 98003	Float	Qtz-Monzonite	6,926,660	354,950	5720	Lightning Grid	Medium grained, K-spar porphyritic.	Moderate clay alteration of feldspars.	5 to 8% diss. pyrite.	Fracturing in cm range.
FM 98004	Float	Qtz-Monzonite	6,926,190	355,590		Soil Anomaly 4D	Qtz-Monzonite with Qtz-tourmaline veining with diss. pyrite, chalcopyrite and malachite.	Pervasive clay alteration of feldspars.	4% diss. pyrite, 1% diss. chalcopyrite.	Qtz-tourmaline veining.
FM 98005	Float	Qtz-Monzonite	6,926,230	355,600		Soil Anomaly 4D	Medium grained, K-spar porphyritic, diss. pyrite and chalcopyrite (?).	Very weak clay alteration.	4-5% diss. and vuggy py, possibly up to 1% diss. cp.	Fracturing in dm range.
FM 98006	Grab	Qtz-Monzonite	6,926,270	355,540	5270	Soil Anomaly 4D	Medium grained, K-spar porphyritic, minor diss. pyrite.	Weak clay alteration of plagioclase.	1% pyrite.	Fracturing in dm range.
FM 98007	Float	Qtz-Monzonite	6,926,538	354,649	5150	Lightning Grid	Medium grained, K-spar porphyritic, strongly clay altered, diss. pyrite.	Pervasive clay alteration of feldspars.	5% diss. pyrite.	Fracturing.
FM 98008	Float	Andesite	6,926,090	357,920	4724	No Sweat Grid	Fine grained, slightly silicified Andesite with diss. pyrite and chalcopyrite (?).	Slightly silicified.	2-5% pyrite, poss. chalcopyrite	Weak fracturing.
FM 98009	Float	Monzonite	6,926,300	357,900		No Sweat Grid	Medium grained, strongly altered Monzonite with qtz-tourmaline veining in mm and cm range, vuggy.	Pervasive clay alteration of feldspars.		Strong qtz-tourmaline veining with vugs.
FM 98010	Float	K-spar Porphyry	6,927,720	357,170		Eastern Mag-high	Fine to medium grained, K-spar Porphyry with abundant diss. pyrite.	Moderate clay alteration of K-spars.	10 to 12% diss. pyrite.	Strong fracturing in cm range.
FM 98011	Float	Andesite	6,927,920	356,040		Soil Anomaly 2	Fine grained Andesite with Hematite veins or layers, diss. pyrite, poss. chalcopyrite and covellite, sphalerite (?).	Strong pervasive clay alteration of feldspars.	1 to 2% pyrite, poss. 1% chalcopyrite.	Fracturing in cm range, Hematite veins (or layers).

Sample #	Sample Type	Rock Type	UTM North	UTM East	Elev. (ft)	Area	Rock Description	Alteration	Sulphide Mineralization	Structure
FM 98012	Float	Andesite	6,928,050	356,050	5650	Soil Anomaly 2	Very fine grained Andesite with porphyritic quartz, diss. pyrite, chalcopyrite and malachite in qtz-rich nodules of up to 2cm.	Pervasive epidote and chlorite.		
FM 98013	Float	Qtz-Monzonite	6,926,703	353,865		Lightning Grid	Medium grained, slightly K-spar porphyritic, diss. pyrite.	Weakly clay alteration of feldspars.	5 to 8% pyrite	Fracturing in cm range.
FM 98014	Float	Qtz-Monzonite	6,926,540	354,010		Lightning Grid	Medium grained, K-spar porphyritic, minor diss. pyrite.	moderate clay altered Fspars	1 to 2% pyrite.	Fracturing.
FM 98015	Float	Qtz-Monzonite	6,926,550	354,320		Lightning Grid	Fine to medium grained Qtz-monz., diss. pyrite, qtz-tourmaline veining.	Moderate clay alteration of feldspars.	2 to 3% pyrite	
FM 98016	Float	Qtz-Monzonite	6,926,510	354,380		Lightning Grid	Medium grained, strongly altered, with diss. pyrite.	Strong clay alteration of feldspars.	2 to 3% pyrite.	Fracturing in cm range.
FM 98017	Float	Qtz-Monzonite	6,926,510	354,430		Lightning Grid	Medium grained, Kspar porphyritic, abundant diss. and fracture filling pyrite, chalcopyrite (?).	Moderate clay alteration of feldspars.	10 to 12% pyrite, chalcopyrite (?).	Fracturing in cm range.
FM 98018	Float	Qtz-Monzonite	6,926,536	354,455		Lightning Grid	Medium grained, slightly K-spar porphyritic, Qtz-tourmaline veining, abundant pyrite as diss. and in qtz-tourmaline veins.	Weak to moderate clay alteration of feldspars.	10 to 12% pyrite.	Fracturing in cm range, qtz-tourmaline veining.
FM 98019	Float	Qtz-Monzonite	6,926,510	354,460		Lightning Grid	Medium grained, slightly K-spar porphyritic, tourmaline spots, abundant pyrite.	Pervasive clay alteration of feldspars, large tourmaline specs.	10% pyrite.	
FM 98020	Float	Qtz-Monzonite	6,926,560	354,550		Lightning Grid	Medium grained, slightly K-spar porphyritic, qtz-tourmaline veining.	Pervasive clay alteration of feldspars, tourmaline specs.	5% pyrite.	Fracturing in cm range, qtz-tourmaline veining (mm).
FM 98021	Float	Qtz-K-spar Dyk	6,926,538	354,677		Lightning Grid	Fine to medium grained, abundant pyrite and magnetite, fine tourmaline veining.		10 to 12% diss. and fracture filling pyrite.	Fracturing in cm range, fine tourmaline veining.
FM 98022	Float	Qtz-K-spar Dyk	6,926,522	355,151		Lightning Grid	Fine grained, K-spar and Qtz porphyritic, diss. pyrite.	Moderate clay alteration of K-spars.	5 to 8% diss. pyrite.	Fracturing in dm range.
FM 98023	Float	Qtz-Monzonite	6,926,740	355,010		Lightning Grid	Medium grained, K-spar porphyritic.	Weak clay alteration.	2 to 3% pyrite.	Fracturing in cm range.

Sample #	Sample Type	Rock Type	UTM North	UTM East	Elev. (ft)	Area	Rock Description	Alteration	Sulphide Mineralization	Structure
FM 98024	Float	Qtz-Monzonite	6,926,753	354,638		Lightning Grid	Medium grained, K-spar porphyritic, (Qtz)-tourmaline veining, diss. pyrite and py in tourmaline veins.	Slightly clay altered, stronger along tourmaline veins.	5 to 15% diss. pyrite, and along tourmaline veins.	Weak fracturing and veining.
FM 98025	Float	Qtz-K-spar Dyk	6,926,720	354,610		Lightning Grid	Fine to medium grained, Kspar and Quartz porphyritic Dyke (?), diss. pyrite, chalcopyrite (?).	Very weak clay alteration of K-spar.	5 to 8% diss. pyrite, chalcopyrite (?).	Fracturing in cm range.
FM 98026	Float	Qtz-Monzonite	6,926,750	354,490		Lightning Grid	Medium grained, K-spar porphyritic, diss. pyrite.	Very weak clay alteration of feldspars.	1 to 2% diss. pyrite.	Fracturing in cm range.
R2 58080	Float	Qtz-mag-py-cp	6,926,822	354,604	5950	Lightning Grid	Qtz-mag-py-cp sheeted vein in prospector Mtn unit	Sheeted vein of qtz-mag	py and cp in sheeted vein	
SC 98001	Float	Qtz-Monzonite	6,927,200	354,346	5800	Lightning Grid	Slightly porphyritic with K-spar phenocrysts to .8 cm. 5 - 8 % biotite to 3 mm.	Rock is weak to modertely altered. Feldspars altered to clay (w-m). washed alteration of Si or K-spar. Possibly some Biotite alt.	< 1% very fine grained diss. pyrite, rare specs of blue sulphide - Mo?	
SC 98002	Float	Si-Tour Breccia	6,927,206	354,368	5793	Lightning Grid	Intensely altered and brecciated qtz-monzonite.	Bx fragments strongly altered to clay in a pervasive Si matrix with tourmaline and py spots.	2 to 3% diss. pyrite.	Rock is brecciated. Can not get measurements - no outcrop.
SC 98003	Float	Si-Tour Breccia	6,927,340	354,680	5574	Lightning Grid	Intensely altered and brecciated qtz-monzonite.	Bx fragments strongly altered to clay in a pervasive Si matrix *with tourmaline spots* and veinlets.	3% diss. pyrite assoc. with Tourmaline spots *and veinlets.*	Brecciated, intensely alterd and veined.
SC 98004	Float	Qtz-Tour vein	6,928,320	353,680	4608	Soil Anom 4A	3 to 4 float boulders to 15 cm round in sea of intrusive blocks. Boulders are intensely silicified or qtz veined. Protolith believed to be Qtz-monz. Veins of qtz-tour, slightly laminated.	Laminated veins or replacement by Qtz and Tourmaline.	Trace of vfg dissem. py.	
SC 98005	Float	Monzonite	6,926,660	355,030	5637	Soil Anom 4C	Weakly altered, medium grained, slightly porphyritic monzonite with up to 5% splashy pyrite.	Weak clay and spotty epidote alteration. Rare tourmaline spot.	Splashy disseminated pyrite.	

Sample #	Sample Type	Rock Type	UTM North	UTM East	Elev. (ft)	Area	Rock Description	Alteration	Sulphide Mineralization	Structure
SC 98006	Float	Andesite	6,924,230	355,660	4800	Skarn(?) Showing	Andesitic volcanic with moderate epidote-clay-calcite alteration and veined with 0.5 cm ca-hem vein.	Pervasive ep-clay-ca alteration.		Ca-hem vein.
SC 98007	Float	Si-Tour Breccia	6,927,212	354,360	5826	Soil Anom 4B	Intensely altered and brecciated qtz-monzonite.	Bx fragments strongly altered to clay in a pervasive Si matrix with tourmaline and py spots.	Very fine-grained, disseminated pyrite.	
SC 98008	Float	Andesite	6,927,660	355,820	6222	Soil Anom 2	Tourmaline-qtz-py-cp-cv veined/brecciated andesitic volcanic.	Weak to moderately altered with Silica, epidote and qtz-tour veins. Clay altered vein margin.	Very fine-grained disseminated pyrite in host and veins. Possibly tr of covelite.	
SC 98009	Float	Andesite	6,927,590	355,990	5940	Soil Anom 2	30 cm angular float boulder. Brittly fractured with pyrite in narrow fracture planes to 1 mm wide. Traces of cp? and cv? and a few small spots of malachite observed.	Weak pervasive epidote and chlorite alteration. Qtz-tourmaline-py veining.	Pyrite in qtz-tour vein/fracture filling.	
SC 98010	Float	Andesite	6,927,760	355,920	5952	Soil Anom 2	Talus/rubble of andesite with qtz-tour vein/breccia with up to 8% py-cp-sph?	Moderate pervasive Si-tour alteration.	Up to 8% disseminated pyrite with spec of cp (2 mm) and sphalerite? (2mm).	
SC 98011	Float	Monzonite	6,927,125	354,710	5892	Lightning Grid	K-spar porphyritic monzonite. Weakly altered and mineralized (py, cp?).	Weak clay-ep alteration of feldspars. Micro fracture of tour.	2 to 3 % dissem. py and possibly trace of cp.	
SC 98012	Float	Qtz-tour-py vein	6,927,125	354,790	5928	Lightning Grid	Qtz-tour-py veined monzonite. From a zone approximately 15 m wide. Veins are up to 3 cm wide are quite weathered.	Pervasive Si altertaion, spotty and vein tourmaline alt, clay alt. of k-spars.	Dissem. and vein pyrite.	

APPENDIX II

Analytical Reports

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMAT
To Troymin Resources PROJECT PROSPECTOR MTN.
Acme file # A9802935 Page 1 Received: JUL 20 1998 * 39 samples in this disk file.

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Th	Sr	Cd	Sb	Bi
SAMPLES	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
FM 98001	8.8	4 3	39.1	118.9	187	5	6	638	2.69	1.9	< 5	18	13	0.34	0.4	1.3
FM 98002	6.4	15.4	16	25.3	179	6	< 1	39	1.56	38 5	6	18	9	0.11	1.1	1.1
FM 98003	3.6	6 3	37.5	27.8	126	4	2	153	1.45	10.6	9	25	18	0.06	1.2	0.8
FM 98004	6	343	5225.1	3367.6	2593	7	3	959	0.95	61.4	11	24	6	8.26	4.8	< 1.8
FM 98005	3.9	328.8	51.5	88 9	376	8	6	248	1.63	4.5	20	33	15	0.6	0.5	< .2
FM 98006	6.9	21.4	42.2	55.4	82	8	5	221	2.3	2.4	12	29	17	0.15	0 4	< .2
FM 98007	3.9	71.1	31.9	17.9	146	6	5	127	1.74	9.1	< 5	15	13	0.03	1.3	0.6
FM 98008	2.6	32.2	23.4	39.1	375	42	7	170	2.67	11.3	< 5	8	35	0.13	0.9	1.9
FM 98009	62.8	60.1	26.8	10.5	841	4	1	34	1.02	12.8	< 5	22	31	0.05	0.3	6.4
FM 98010	7.1	14.2	20.6	28.3	132	12	7	139	2.46	98.2	9	21	20	0.08	0.9	0.7
FM 98011	4.6	181.2	213.1	308.8	11193	25	13	5576	11.13	6.3	< 5	13	5	0.14	1.3	92
FM 98012	3 1	158.6	117.9	209	1006	48	20	903	3.25	18.2	< 5	6	54	0.75	1.5	0.6
FM 98013	5.7	18.5	12	25.3	58	6	7	196	2.46	11.2	14	30	19	0.03	0.4	1.5
FM 98014	2.4	11.3	13.9	29.7	32	8	5	199	2.22	4.4	< 5	28	22	0.08	0.6	< .2
FM 98015	27.1	17.1	250.9	91.9	268	4	3	197	2.52	95.2	24	24	16	0.37	3.1	2.4
FM 98016	78.2	9.7	100.7	35	206	5	3	177	4.35	12 2	< 5	13	35	0.01	0.8	1.4
FM 98017	4	119 1	76.8	26.1	605	4	8	249	2.89	20.4	< 5	22	10	0 07	1.5	67 9
FM 98018	6.6	272	30.2	45.1	253	7	7	152	2.2	19.3	8	24	18	0.17	0.9	54.1
RE FM 98018	7.2	274.9	32.5	44.4	281	7	7	156	2.2	17.2	12	24	18	0.16	0.9	62.8
FM 98019	4 9	218	19.9	70.1	248	5	5	299	2.17	3.9	27	27	9	0.03	1.2	3.2
FM 98020	5.3	13.5	12.1	25.8	90	6	3	109	1.44	10.1	9	22	10	0.04	0.8	35.2
FM 98021	20.1	331.1	67.9	85.6	635	8	15	289	5.04	65.7	20	26	12	0.81	1.4	3.9
FM 98022	5.4	11.6	39.1	56.7	241	6	5	398	1.93	11.8	8	22	32	0.21	2	1.5
FM 98023	4.6	21.2	22.3	30.5	81	4	4	168	2	14.1	6	25	14	0.08	1	0.3
FM 98024	41.8	13.4	51.8	30	158	8	3	153	1.86	26.8	9	21	13	0.12	0.5	1.4
FM 98025	2.6	10.4	11.9	22	81	7	9	79	3.73	40.5	< 5	12	14	0.21	0.3	3.2
FM 98026	4.5	23.3	51.2	56.6	350	6	3	203	2	14 2	18	19	25	0.68	1.3	1.3
SC 98001	3.5	6 5	18.8	21.8	41	3	3	195	1.43	3.9	21	30	18	0 04	1 1	0.2
SC 98002	28	8.2	10.4	5.3	234	6	3	28	1.45	36.1	< 5	7	5	0.13	0.4	3.1
SC 98003	6.1	14.3	192.3	24.6	844	3	4	34	1.85	15.1	9	8	8	0.16	0.7	1
SC 98004	68	7.2	40.8	4.9	460	6	2	74	1.86	12.7	10	4	5	0.01	1	1.6
SC 98005	8 8	13.6	25.8	23.3	142	5	4	164	2.05	65.9	9	20	19	0.09	0.9	0.9
SC 98006	2.7	2.8	13	155.9	31	63	16	2005	4.29	18.9	< 5	3	170	0.29	2.2	0.2
SC 98007	4.2	7.2	24.5	6.3	146	2	1	47	1.23	23.1	< 5	12	11	0.07	0.6	2.4
STANDARD D2/C3/AU-S	23.2	121.4	105.7	267.3	1793	31	18	1047	4.62	73.6	23	21	65	1.84	10	17.3
SC 98008	73	77.8	111	27.1	4129	6	1	71	0.92	24.6	< 5	11	9	0.41	29	20.8
SC 98009	1.6	1169.4	99.7	1096.2	2522	119	28	1135	5.34	18.6	< 5	8	19	3.93	4	7
SC 98010	8.1	1305.6	49.6	61.2	3711	13	6	997	4.66	12.6	< 5	7	4	0.13	10.2	58.7
SC 98011	4	104.1	53	59.1	460	4	4	285	2.2	22.5	11	26	13	0.25	1	4 7
SC 98012	5.1	23.3	90.5	72.4	1654	6	6	214	2.61	54	5	19	11	0.54	0.9	9.5
RE SC 98012	4.3	23.7	90.4	72.1	1572	6	6	215	2.59	53.6	5	20	11	0.47	0 6	9.2

ELEMENT	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Tl	Hg	Se	Te	Ga	Au+
SAMPLES	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppb	ppm	ppm	ppm	ppb
FM 98001	46	0.42	0.079	19	20	0.88	25	0.01	< 3	1.16	0.05	0.14	3	< .2	25	< .3	0.2	6.6	3
FM 98002	4	0.01	0.027	7	8	0.02	82	< .01	33	0 21	0.06	0.2	< 2	0.2	14	0.4	< .2	1.1	7
FM 98003	25	0.25	0.068	25	17	0.16	51	0.09	< 3	0.34	0.06	0.14	5	< .2	< 10	0.3	0.2	1.8	4
FM 98004	5	0.41	0.079	26	7	0.05	61	< .01	5	0.48	0.01	0.3	< 2	< 1.8	338	< 2.7	< 1.8	< 4 5	22
FM 98005	50	0.43	0 078	17	26	0.8	56	0.09	4	0.91	0.06	0.45	6	0.4	< 10	0.3	< .2	3.5	162
FM 98006	56	0.31	0.08	14	21	0.61	66	0.13	3	0.87	0.07	0.51	< 2	0.5	< 10	< .3	< .2	3.5	7
FM 98007	29	0.12	0.049	18	20	0.52	166	0.08	< 3	0.86	0.07	0.46	6	0.5	< 10	0.5	< .2	3.3	10
FM 98008	99	0.36	0.19	10	71	1.1	54	0.17	< 3	1.28	0.06	0.82	< 2	1.7	< 10	0.4	< .2	5.6	21
FM 98009	4	0.02	0.042	9	11	0.05	85	< .01	4	0.36	0.05	0.22	4	0.3	15	0.3	0.3	0.9	9
FM 98010	38	0.38	0.149	17	20	0.67	48	0.09	4	0.8	0.07	0.32	< 2	0.3	< 10	< .3	0.3	5.4	5
FM 98011	53	0.09	0.036	16	13	3.23	41	0.02	< 3	3.7	0.01	0.04	6	< .2	45	< .3	2	16.5	63
FM 98012	77	1.23	0.255	18	102	1 38	75	0.1	6	1.38	0.09	0.3	2	0.3	< 10	< .3	< .2	6.2	16
FM 98013	46	0.31	0.079	16	22	0.73	93	0.17	< 3	1.05	0.07	0.36	5	0.3	< 10	0.3	0.3	5.1	4
FM 98014	48	0.27	0.072	18	17	0.47	99	0.11	< 3	0.81	0.07	0.4	2	0.3	< 10	< .3	< .2	3.5	3
FM 98015	14	0.1	0.065	20	13	0.03	34	< .01	70	0.39	0.01	0.15	6	0.2	31	< .3	0.2	1.2	102
FM 98016	55	0.06	0.05	6	12	0.68	53	0.11	4	0.79	0.11	0.2	2	0.4	15	1.3	0.2	7	8
FM 98017	47	0.2	0.071	14	18	0.65	95	0.09	< 3	0.97	0.04	0.39	5	1	< 10	2.4	0.5	5.6	17
FM 98018	31	0.17	0.071	10	18	0.48	67	0.08	8	0.89	0.06	0.38	< 2	0.9	< 10	1.8	2.5	4.3	16
RE FM 98018	31	0.17	0.071	10	12	0.48	67	0.08	8	0.87	0.06	0.38	< 2	1.1	< 10	2.1	2.9	5	18
FM 98019	8	0.11	0.061	6	15	0 18	64	0.03	31	0.41	0.03	0.16	6	0.3	< 10	1.6	0.2	2	61
FM 98020	4	0.16	0.066	7	8	0.08	74	0.03	34	0 3	0.04	0.09	< 2	0.2	< 10	0.9	0.3	1 1	9
FM 98021	27	0.16	0.08	7	10	0.25	35	0.02	13	1	0.04	0.31	4	1.1	< 10	1.2	0.3	4.4	17
FM 98022	38	0.35	0.075	24	18	0.42	89	0.1	3	0.92	0.06	0.19	< 2	0.2	< 10	< .3	< .2	5.7	23
FM 98023	42	0.23	0.072	14	17	0.44	59	0.1	< 3	0.71	0.06	0.37	5	0.6	< 10	< .3	< .2	3.9	56
FM 98024	21	0.2	0.076	5	13	0.41	54	0.06	13	0.68	0.07	0.31	< 2	0.6	< 10	0 5	< .2	3	10
FM 98025	26	0.01	0.013	11	12	0.44	46	0.01	< 3	1.13	0.08	0.15	2	< .2	< 10	1.3	< .2	5.3	11
FM 98026	42	0.13	0.036	14	15	0.46	110	0 12	4	0.99	0.07	0.29	2	0.4	< 10	< .3	< .2	4.7	4
SC 98001	33	0.16	0.049	13	13	0.27	56	0.08	4	0.51	0.05	0.25	5	0.2	< 10	< .3	< .2	3	2
SC 98002	2	0.04	0.008	8	9	0.01	107	< .01	20	0.23	0.01	0.23	2	0.2	< 10	2	0.5	1	7
SC 98003	1	0.02	0.008	16	10	0.01	87	< .01	18	0.2	0.01	0.22	5	0.3	23	1.3	< 2	0.6	16
SC 98004	8	0.01	0.007	9	12	0.02	14	0.01	60	0.2	0.01	0.15	230	0 4	10	0.6	0.3	1.2	9
SC 98005	14	0.23	0.061	13	16	0.24	88	0.09	5	0.52	0.06	0.23	7	0.4	< 10	0 5	< .2	2.5	5
SC 98006	69	2.94	0.192	11	148	1.96	70	0.11	3	1.6	0.05	0.1	10	< .2	< 10	< .3	< .2	6.9	2
SC 98007	2	0.02	0.012	14	10	0.02	135	< .01	17	0.22	0.01	0.24	5	0.3	< 10	1.5	0.6	1.1	10
STANDARD D2/C3/AU-S	74	0.69	0.107	18	57	1.14	280	0.12	33	2.45	0.05	0.71	15	2.3	916	0.3	1.7	5.9	509
SC 98008	9	0.2	0.094	16	9	0.03	25	< .01	38	0.23	< .01	0.13	< 2	0.5	< 10	1.8	5	1.9	20
SC 98009	149	0.68	0.22	14	265	2.8	198	0.36	< 3	2.37	0.06	1.86	< 2	1 8	37	0 4	< .2	5.7	49
SC 98010	28	0.1	0.041	3	15	1.02	20	0.01	32	0.97	< .01	0.03	29	0.3	19	1.2	4.2	4.1	32
SC 98011	26	0.28	0.045	11	16	0.43	61	0.08	< 3	0.63	0.04	0.21	4	0.4	< 10	< .3	< .2	4.4	5
SC 98012	2	0 42	0.036	12	9	0.03	51	< .01	20	0.16	0.01	0.13	< 2	0.3	< 10	1.8	0.6	1.3	29
RE SC 98012	2	0.41	0.036	13	8	0.02	52	< .01	21	0.16	0.01	0.12	< 2	0.3	< 10	1.8	0.5	0.9	23

APPENDIX III

Petrographic Report

SUMMARY

Two samples were submitted by Morgan Poliquin of Almaden Resources Corp. for brief petrographic descriptions.

P5: Tourmaline - Quartz cemented Breccia

Matrix: The matrix consists of approximately 50% tourmaline (black in hand sample), typically occurring as radiating aggregates of tabular crystals and rare suns intergrown with quartz. The tourmaline is zoned from Fe-rich rims to Mg-dominant cores. Possible apatite is also present within the matrix.

Clasts: The clasts are 1-2 cm angular to sub-angular rock fragments, which are supported by the matrix. Fragments are pervasively altered to quartz, sericite (muscovite), and rutile. Minor to rare patches of an isotropic mineral occur throughout. These patches have no crystal outlines and may represent ?apatite or possible flourite.

P6: ?Monzonite, Quartz-monzonite

This sample is characterized by sheeted, microveinlets in a alkalic intrusive host rock. The host consists of medium to course-grained, K-feldspar (also as phenocryst), quartz, plagioclase, biotite and minor magnetite. Approximately 40-45% of the sample now consists of K-feldspar, however, some of this is likely to be secondary. Quartz is typically equigranular and intergrown with feldspar. Apatite occurs throughout the rock (1%) as tabular grains and needles.

Microveinlets: The microveinlets dominantly contain equigranular quartz, magnetite and actinolite. One veinlet, however, is infilled with pyrite, rimmed by ?uralite. Alteration is largely confined to the veinlet selvages, and is characterized again by actinolite, magnetite and apatite. Trace chalcopyrite is also present.

Alteration: As noted above, alteration consists of actinolite, magnetite and apatite. Biotite is stable, but no secondary biotite was noted. Minor secondary K-feldspar may be present.

Fluid inclusions are present in quartz throughout the sample and are typically large with up to two daughter minerals, one of which is cubic. The characteristics of the inclusions are consistent with a magmatic-hydrothermal system.

A.J.B. Thompson
23/8/98

Anne J.B. Thompson, P.Geo.

ITS Intertek Testing Services
Bondar Clegg

CLIENT: ALMADEN RESOURCES CORPORATION PROJECT: NONE GIVEN
REPORT: V98-01336.0 (COMPLETE) DATE RECEIVED: 31-JUL-98 DATE PRINTED: 6-AUG-98 PAGE 1A(1/ 3)

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Ag PPM	Cu PPM	Pb PPM	Zn PPM	Mo PPM	Ni PPM	Co PPM	Cd PPM	Bi PPM	As PPM	Sb PPM
R2 580805		764	0.7	769	53	139	6	7	9	0.6	<5	16	<5

[illegible]

Intertek Testing Services
Bondar Clegg

CLIENT: ALMADEN RESOURCES CORPORATION — PROJECT: NONE GIVEN

REPORT: V98-01336.0 (COMPLETE) — DATE RECEIVED: 31-JUL-98 — DATE PRINTED: 6-AUG-98 — PAGE 1B(2/ 3)

SAMPLE NUMBER	ELEMENT UNITS	Fe PCT	Mn PPM	Te PPM	Ba PPM	Cr PPM	V PPM	Sn PPM	W PPM	La PPM	Al PCT	Mg PCT	Ca PCT
R2 580805		4.00	320	<10	87	134	42	<20	<20	23	0.65	0.31	0.40

ITS Intertek Testing Services
Bondar Clegg

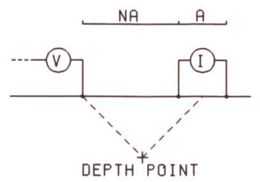
CLIENT: ALMADEN RESOURCES CORPORATION PROJECT: NONE GIVEN
REPORT: V98-01336.0 (COMPLETE) DATE RECEIVED: 31-JUL-98 DATE PRINTED: 6-AUG-98 PAGE 1C(3/ 3)

SAMPLE NUMBER	ELEMENT UNITS	Na PCT	K PCT	Sr PPM	Y PPM	Ga PPM	Li PPM	Nb PPM	Sc PPM	Ta PPM	Ti PCT	Zr PPM
R2 580805		0.09	0.29	29	11	<2	11	4	<5	<10	0.13	3

LINE : 10200 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x – Anomaly designation

TROYMIN RESOURCES LTD.

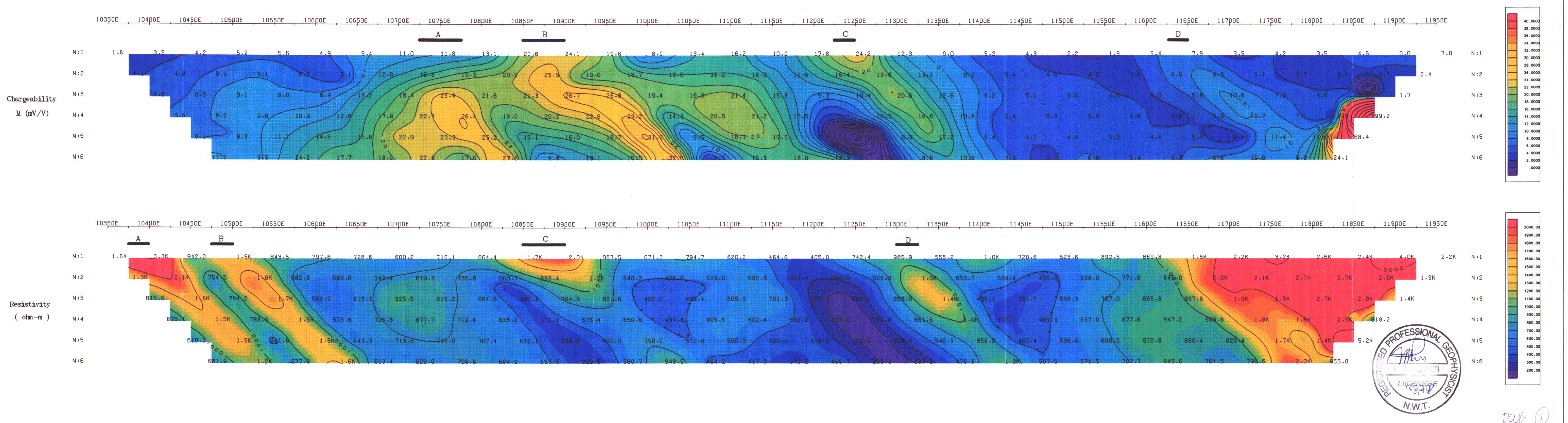
PROSPECTOR MOUNTAIN

LIGHTNING GRID

DATE : 17 JUL 98 REF : 98-15

SCALE = 1: 2500

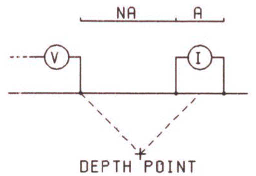
AMEROK GEOSCIENCES LTD.



LINE : 10400 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x - Anomaly designation

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

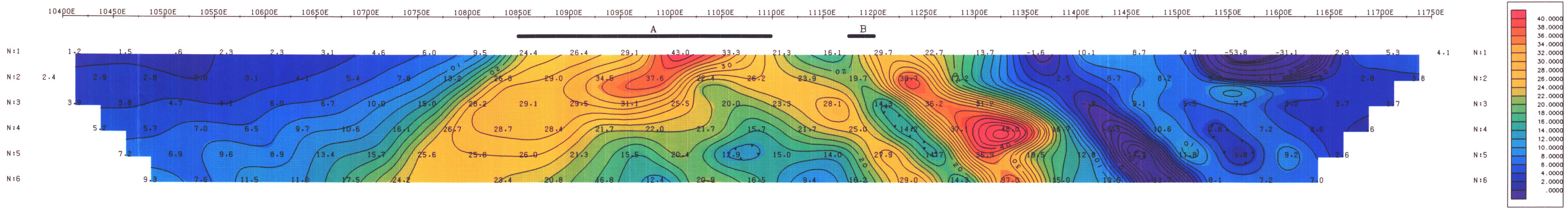
LIGHTNING GRID

DATE : 17 JUL 98	REF : 98-15

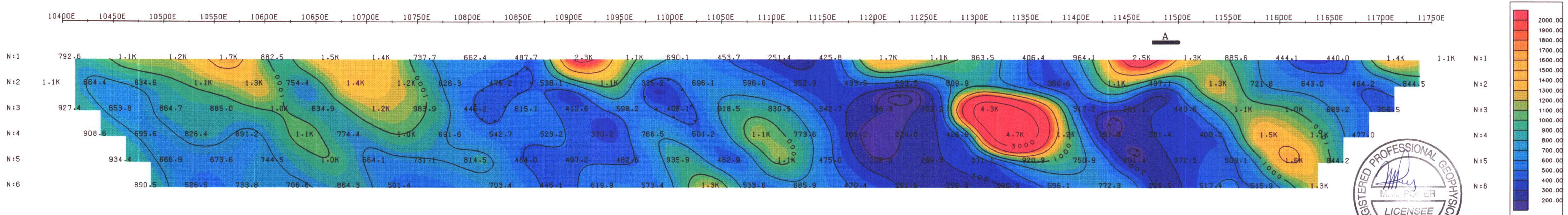
SCALE = 1: 2500

AMEROK GEOSCIENCES LTD.

Chargeability
M (mV/V)



Resistivity
(ohm-m)



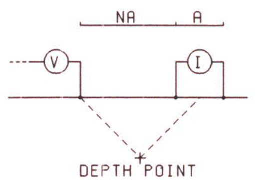
REGISTERED PROFESSIONAL GEOPHYSICIST
LICENSEE
N.W.T.

DWN(2)

LINE : 10600 N

INDUCED POLARIZATION
SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x – Anomaly designation

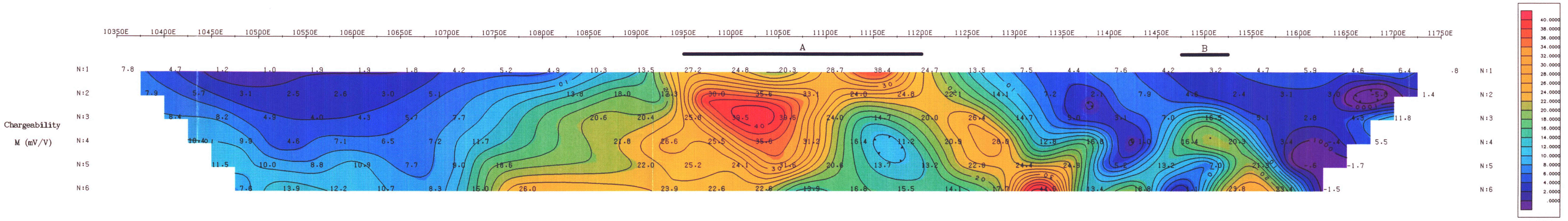
TROYMIN RESOURCES LTD.

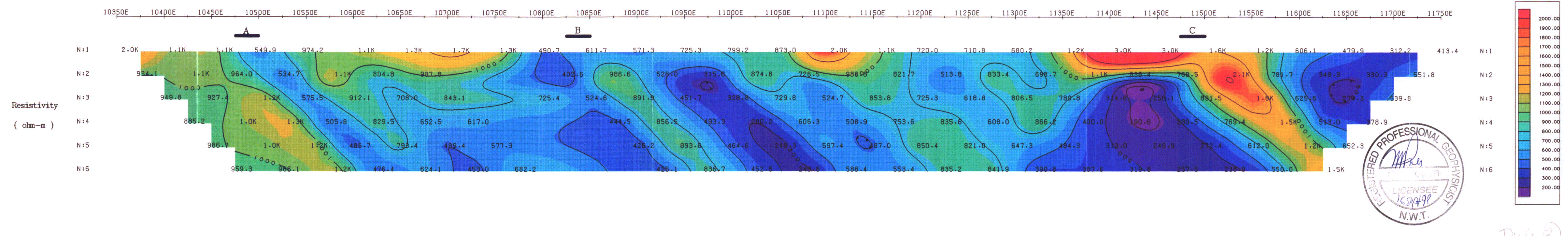
PROSPECTOR MOUNTAIN
LIGHTNING GRID

DATE : 17 JUL 98 | REF : 98-15

SCALE = 1: 2500

AMEROK GEOSCIENCES LTD.

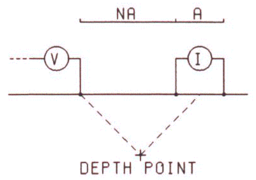




LINE : 10800 N

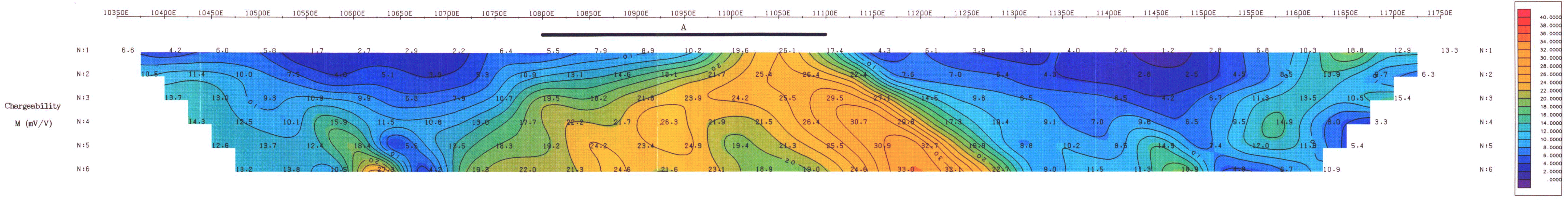
INDUCED POLARIZATION SURVEY

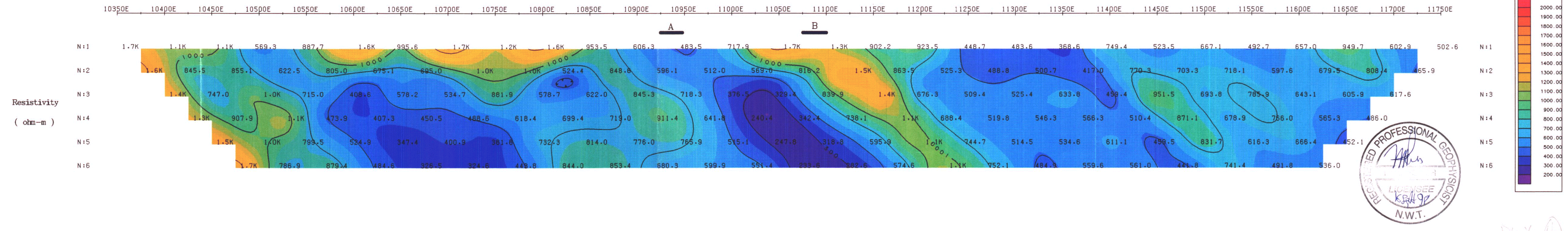
POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x – Anomaly designation





TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN
LIGHTNING GRID

DATE : 17 JUL 98 | REF : 98-15

SCALE = 1: 2500

AMEROK GEOSCIENCES LTD.

LINE : 11000 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY

NA A

DEPTH POINT

N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x — Anomaly designation

TROYMIN RESOURCES LTD.

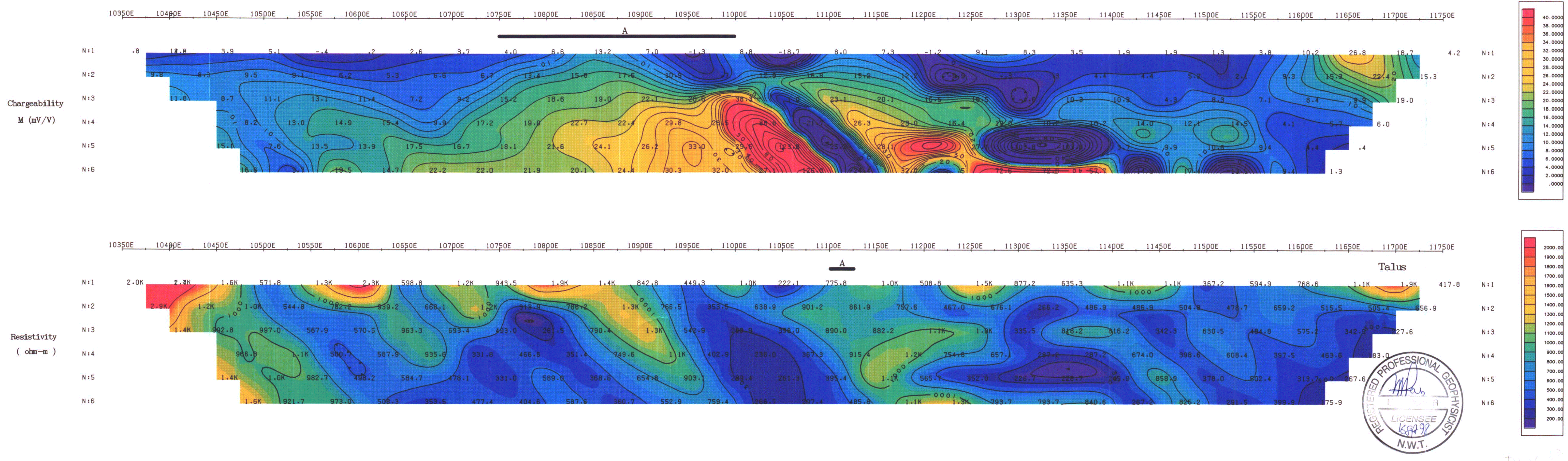
PROSPECTOR MOUNTAIN

LIGHTNING GRID

DATE : 17 JUL 98 REF : 98-15

SCALE = 1: 2500

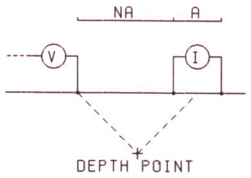
AMEROK GEOSCIENCES LTD.



BASELINE : 11000 E

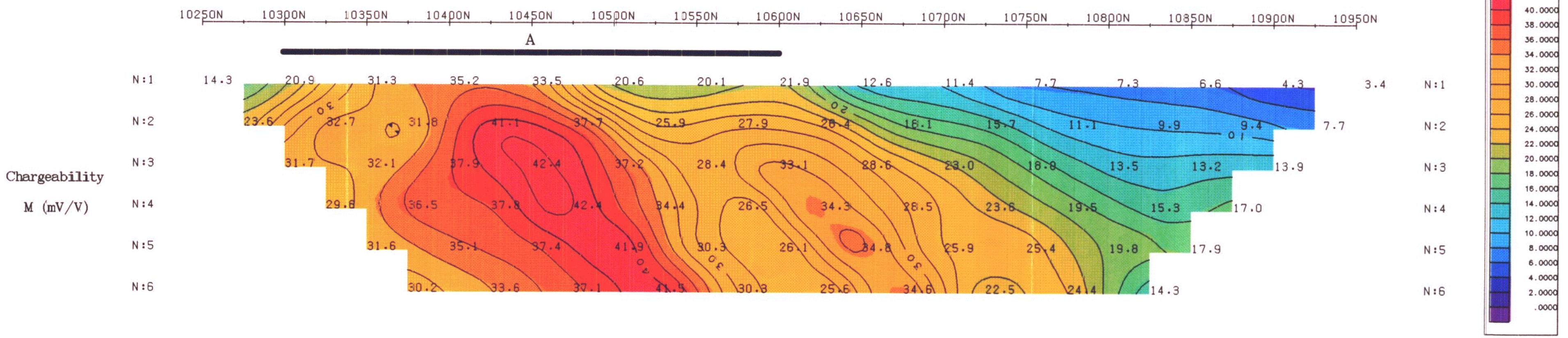
INDUCED POLARIZATION SURVEY

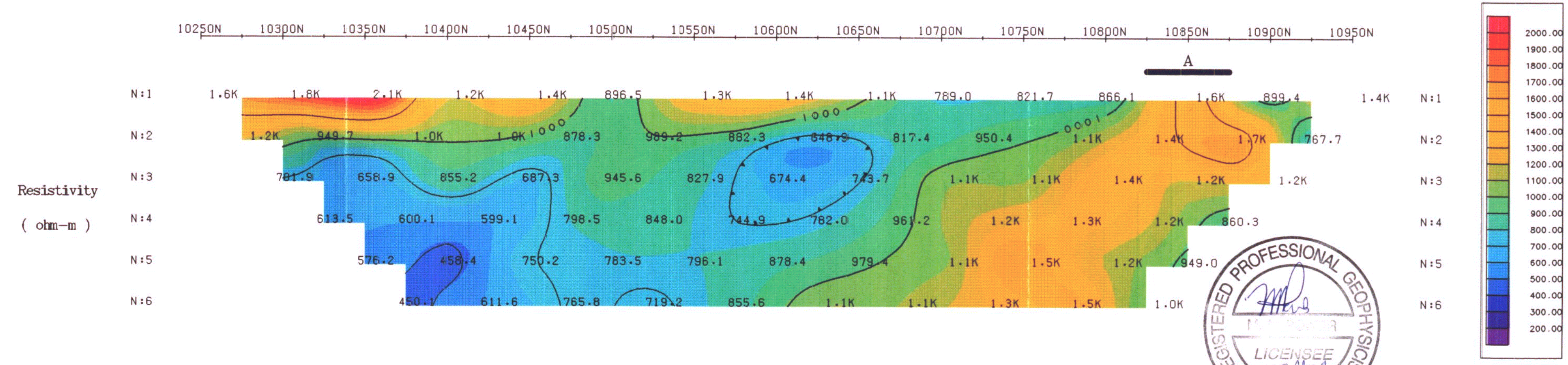
POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x – Anomaly designation





REGISTERED PROFESSIONAL GEOPHYSICIST
LICENSEE
N.W.T.

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN
LIGHTNING GRID

DATE : 18 JUL 98 | REF : 98-15

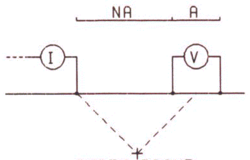
SCALE = 1: 2500

AMEROK GEOSCIENCES LTD.

LINE : 10000 N

INDUCED POLARIZATION SURVEY

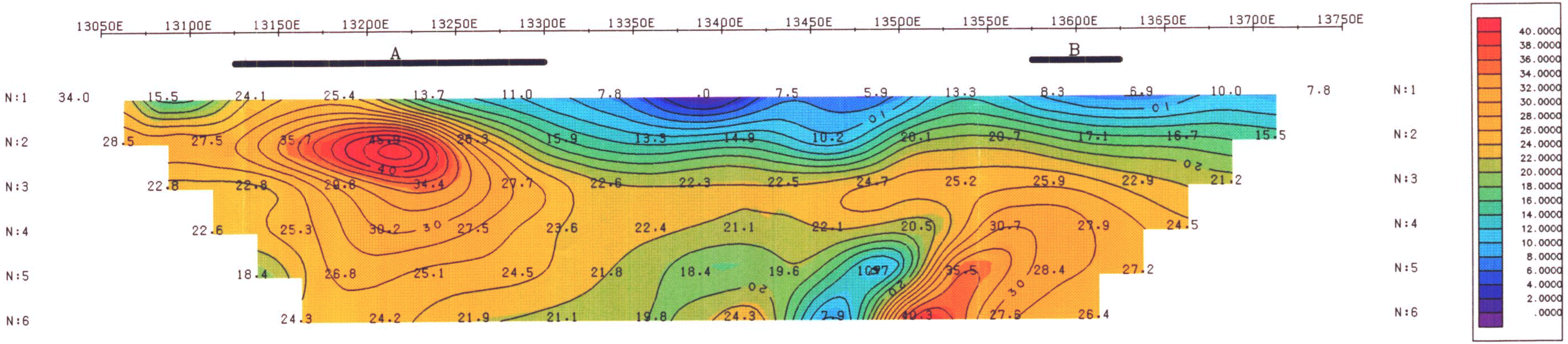
POLE-DIPOLE ARRAY



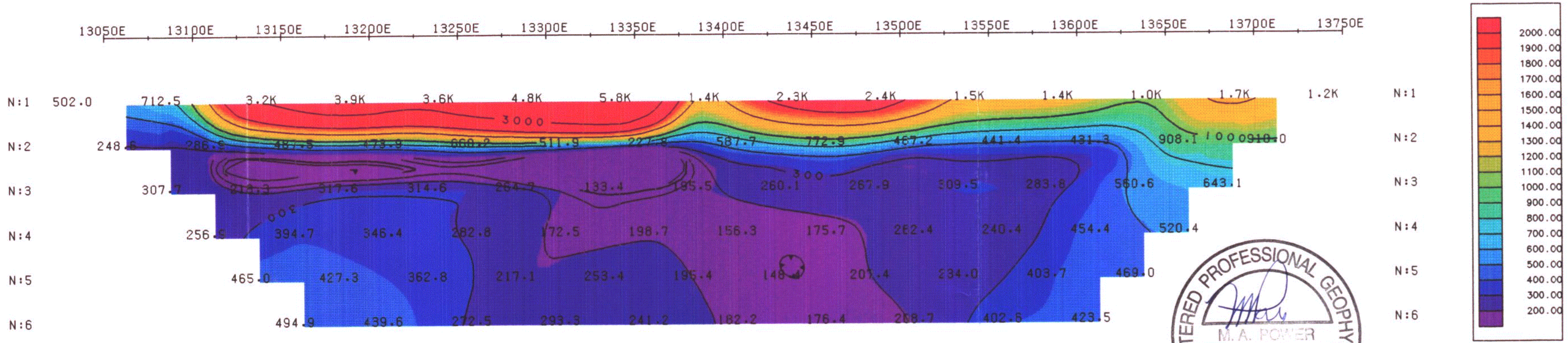
N = 1. 2. 3. 4. ...
"A" SPACING = 50.0 METRES

x = Anomaly Designation

Chargeability
M (mV/V)



Resistivity
(ohm-m)



TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN
NO SWEAT GRID

DATE : 17 JUL 98	REF : 98-15

SCALE = 1 : 2500

AMEROK GEOSCIENCES LTD

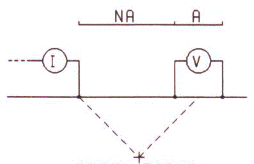
REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
N.W.T.

DWG 7

LINE : 10200 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x = Anomaly Designation

TROYMIN RESOURCES LTD.

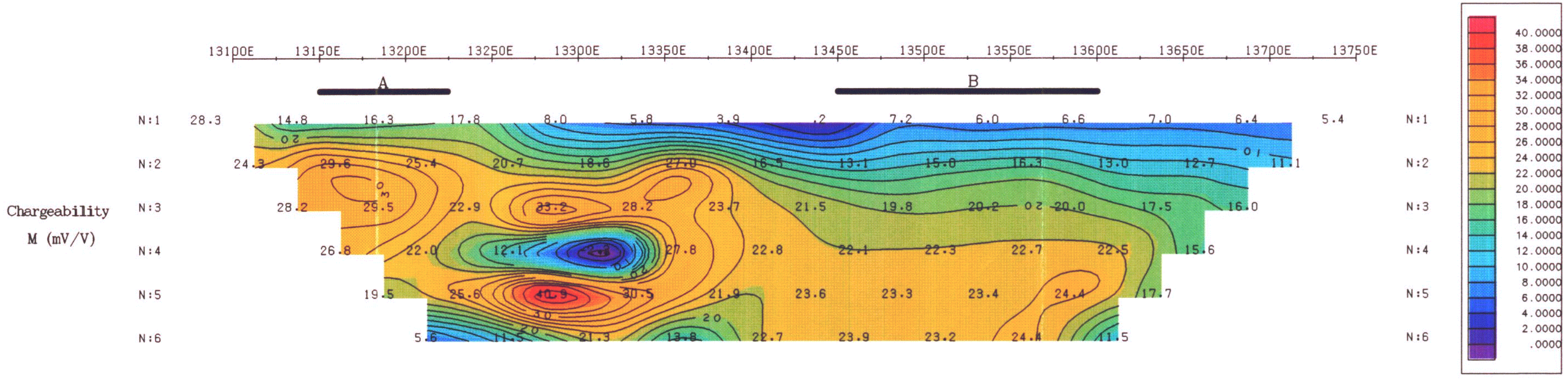
PROSPECTOR MOUNTAIN

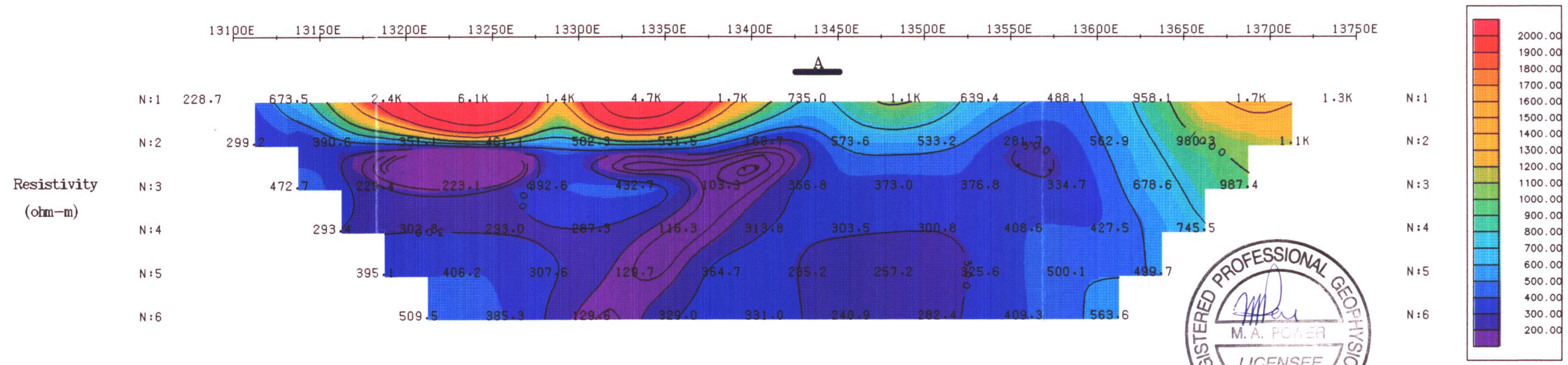
NO SWEAT GRID

DATE : 17 JUL 98	REF : 98-15

SCALE = 1 : 2500

AMEROK GEOSCIENCES LTD





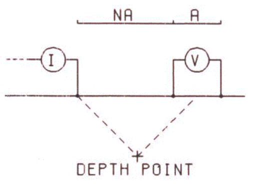
REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
N.W.T.

DWG 8

LINE : 10400 N

INDUCED POLARIZATION SURVEY

POLE-DIPOLE ARRAY



N = 1, 2, 3, 4, ...
"A" SPACING = 50.0 METRES

x = Anomaly Designation

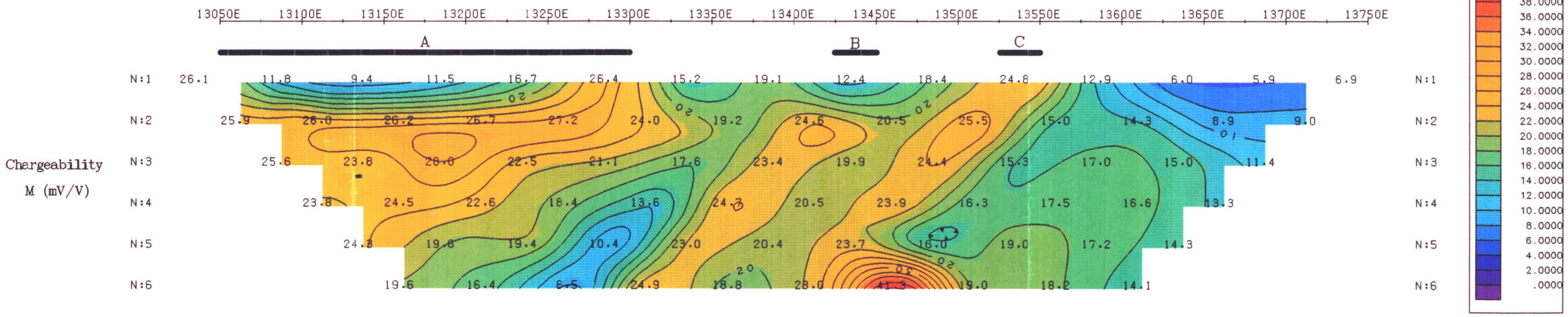
TROYMIN RESOURCES LTD.

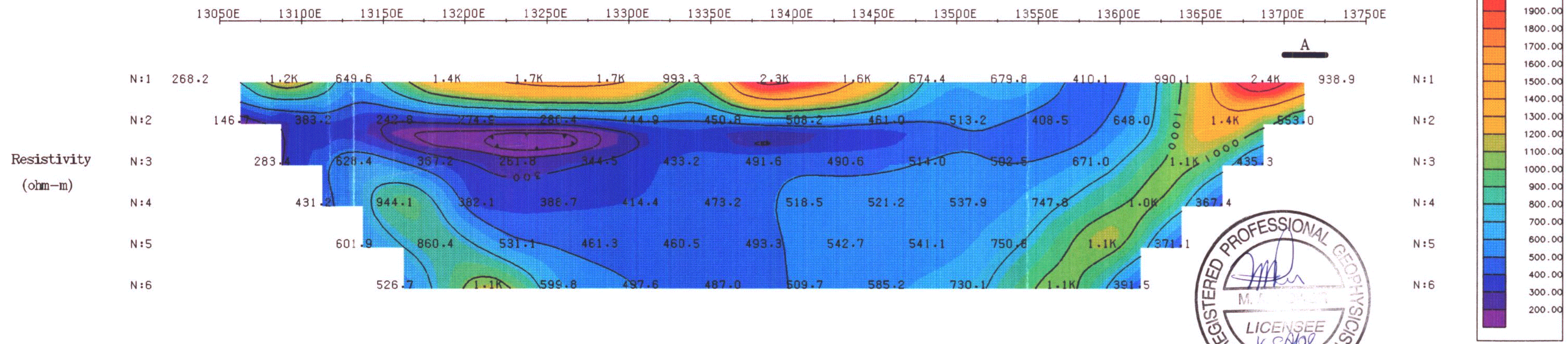
PROSPECTOR MOUNTAIN
NO SWEAT GRID

DATE : 21 JUL 98	REF : 98-15

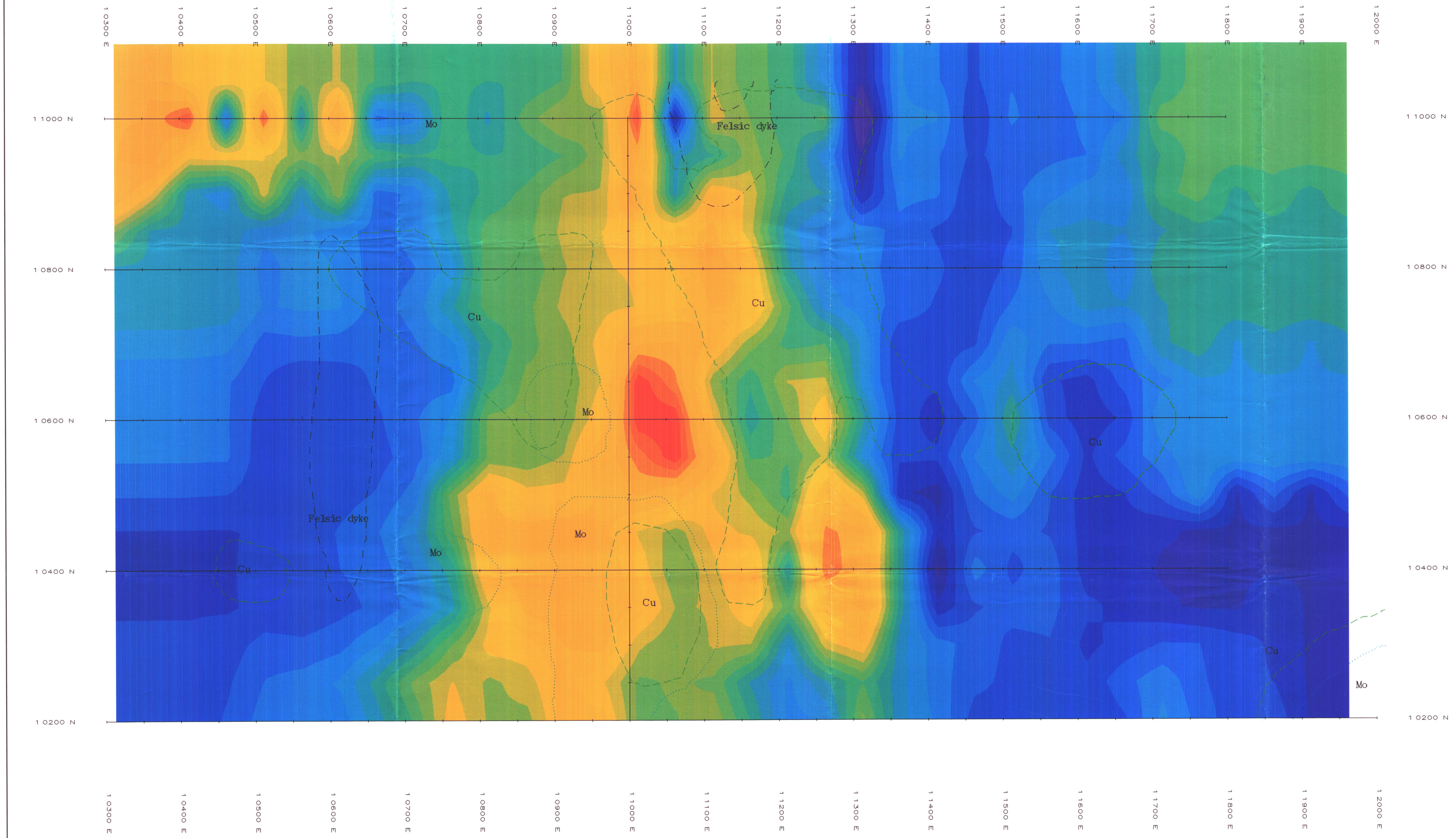
SCALE = 1 : 2500

AMEROK GEOSCIENCES LTD.





REGISTERED PROFESSIONAL GEOPHYSICIST
LICENSEE
N.W.T.



REGISTERED PROFESSIONAL GEOPHYSICIST
M. A. POWER
LICENSEE
16 Sept 98
N.W.T.

N

40.0000
38.0000
36.0000
34.0000
32.0000
30.0000
28.0000
26.0000
24.0000
22.0000
20.0000
18.0000
16.0000
14.0000
12.0000
10.0000
8.0000
6.0000
4.0000
2.0000
.0000

Chargeability (mV/V)

Felsic dyke

Mo soil anomaly

Cu soil anomaly

0 150

metres

Scale: 1:2,500

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

NTS 115 I/5

CHARGEABILITY

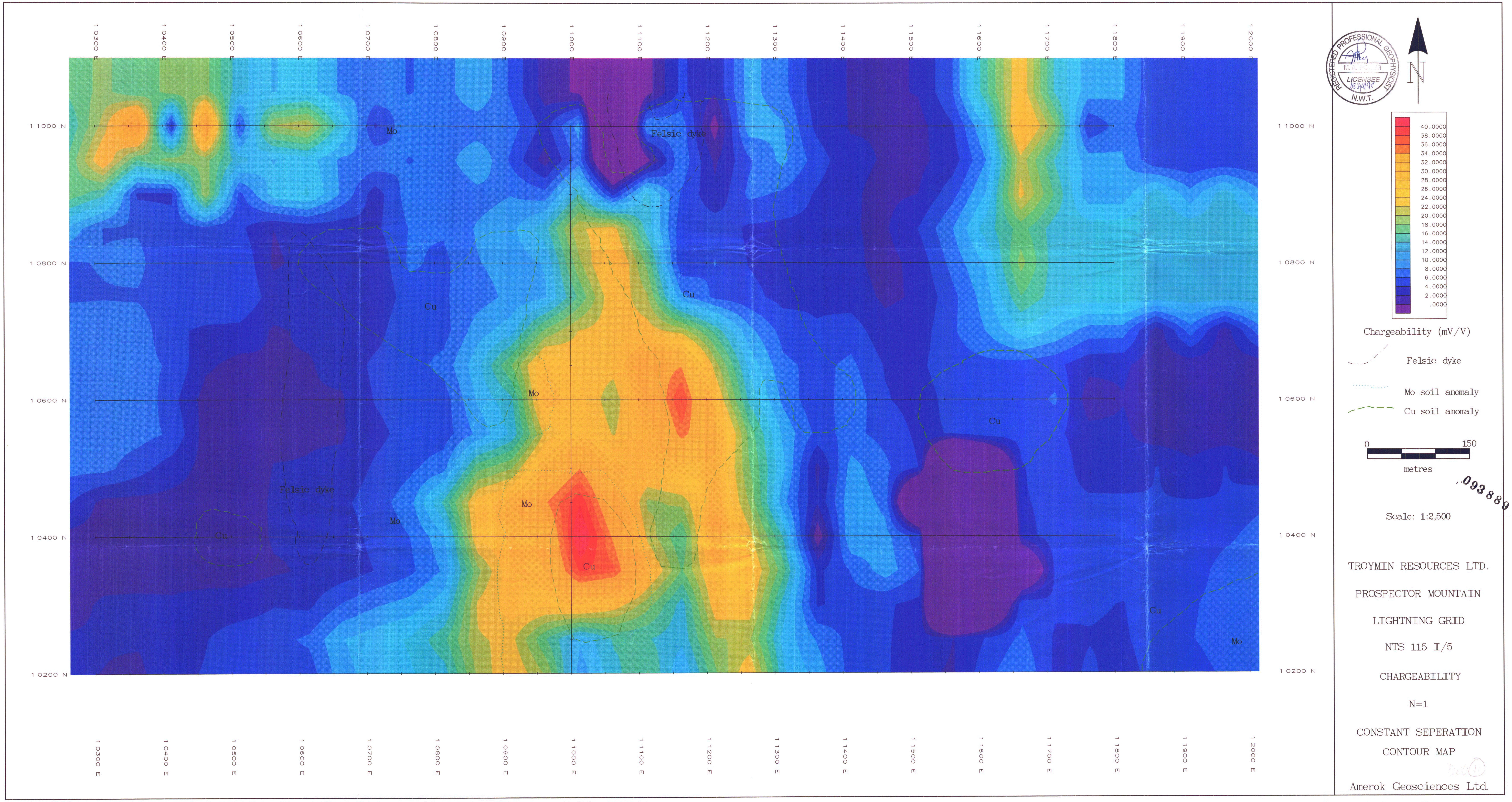
N=3

093889

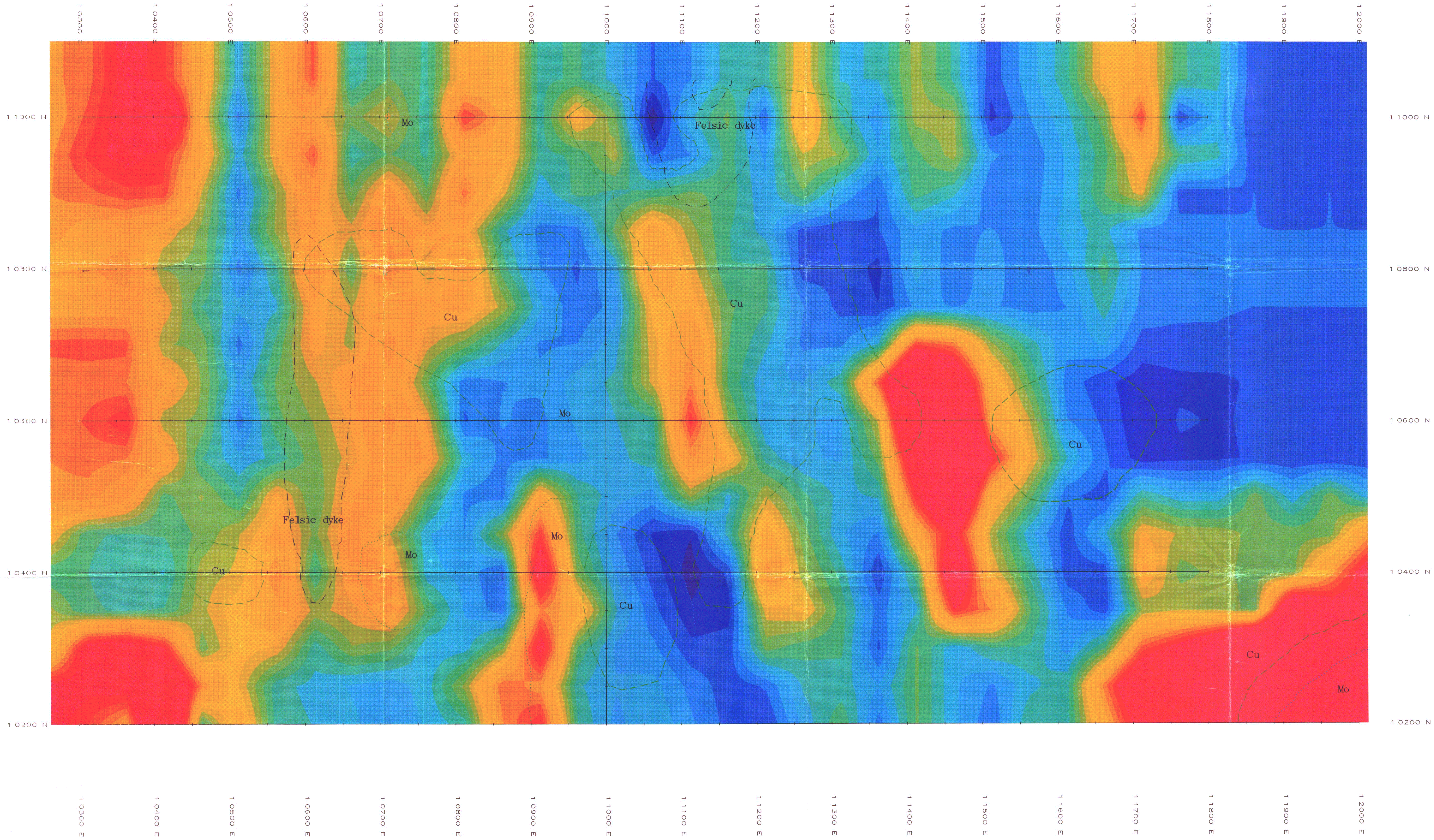
CONSTANT SEPERATION

CONTOUR MAP

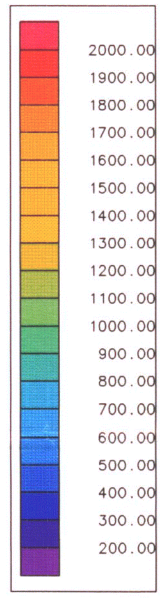
Amerok Geosciences Ltd.



TROYMIN RESOURCES LTD.
PROSPECTOR MOUNTAIN
LIGHTNING GRID
NTS 115 I/5
CHARGEABILITY
N=1
CONSTANT SEPERATION
CONTOUR MAP
Amerok Geosciences Ltd.
Scale: 1:2,500
0
150
metres
Chargeability (mV/V)
40.0000
38.0000
36.0000
34.0000
32.0000
30.0000
28.0000
26.0000
24.0000
22.0000
20.0000
18.0000
16.0000
14.0000
12.0000
10.0000
8.0000
6.0000
4.0000
2.0000
.0000
Felsic dyke
Mo soil anomaly
Cu soil anomaly
N
REGISTERED PROFESSIONAL GEOPHYSICIST
LICENSEE
N.W.T.
093889
10300 E
10400 E
10500 E
10600 E
10700 E
10800 E
10900 E
11000 E
11100 E
11200 E
11300 E
11400 E
11500 E
11600 E
11700 E
11800 E
11900 E
12000 E
11000 N
10800 N
10600 N
10400 N
10200 N
Felsic dyke
Mo
Cu
Mo
Mo
Mo
Cu
Felsic dyke
Cu
Cu
Cu
Cu
Mo



N



Resistivity (ohm-m)

Felsic dyke

Mo soil anomaly

Cu soil anomaly

0 150

metres

Scale: 1:2,500

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

NTS 115 I/5

093889

APPARENT

RESISTIVITY

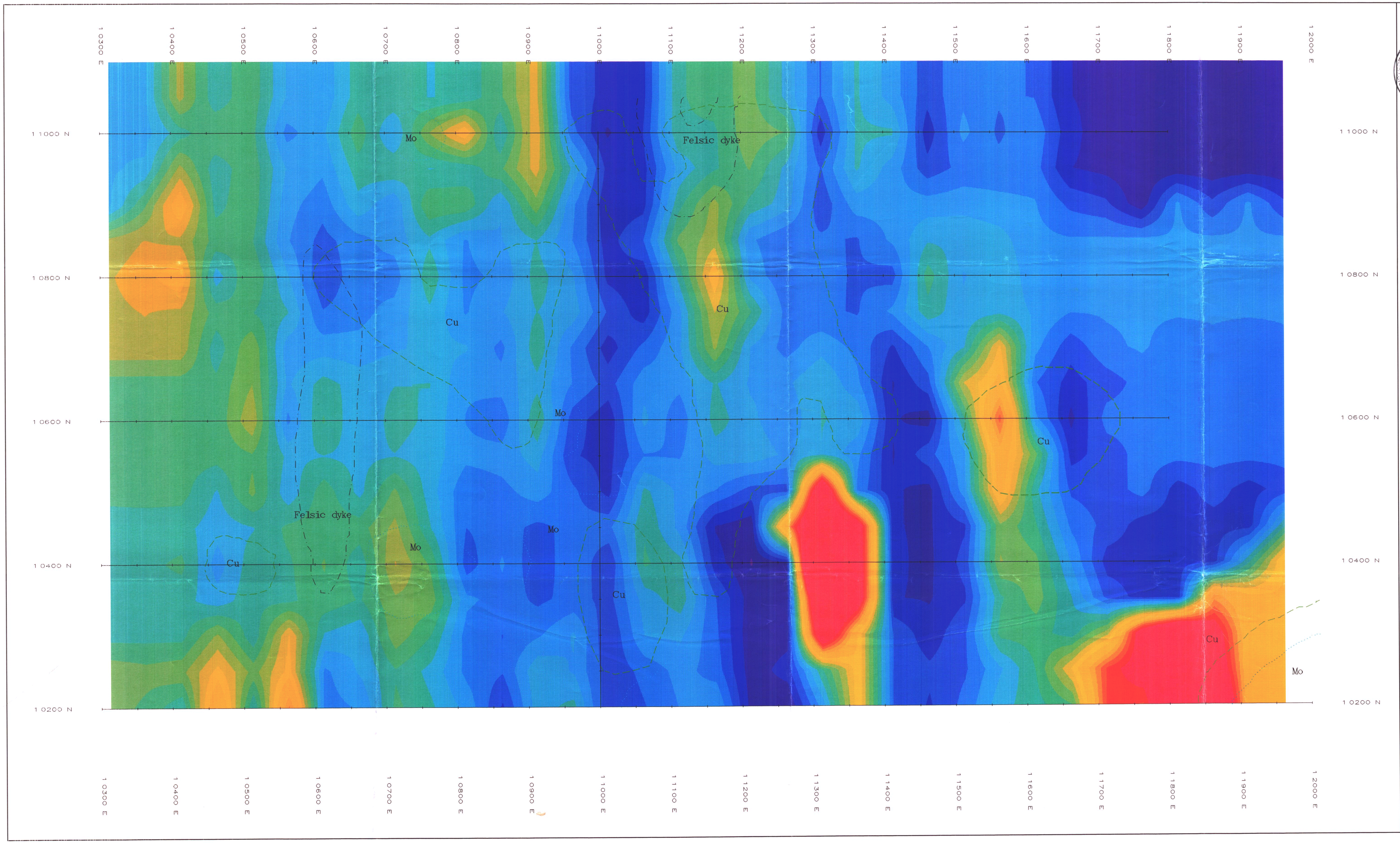
N=1

CONSTANT SEPERATION

CONTOUR MAP

Dwg (1)

Amerok Geosciences Ltd.



REGISTERED PROFESSIONAL GEOPHYSICIST LICENSEE N.W.T.

N

2000.00
1900.00
1800.00
1700.00
1600.00
1500.00
1400.00
1300.00
1200.00
1100.00
1000.00
900.00
800.00
700.00
600.00
500.00
400.00
300.00
200.00

Resistivity (ohm-m)

Felsic dyke

Mo soil anomaly

Cu soil anomaly

0 150

metres

Scale: 1:2,500

093889

TROYMIN RESOURCES LTD.

PROSPECTOR MOUNTAIN

LIGHTNING GRID

NTS 115 I/5

APPARENT

RESISTIVITY

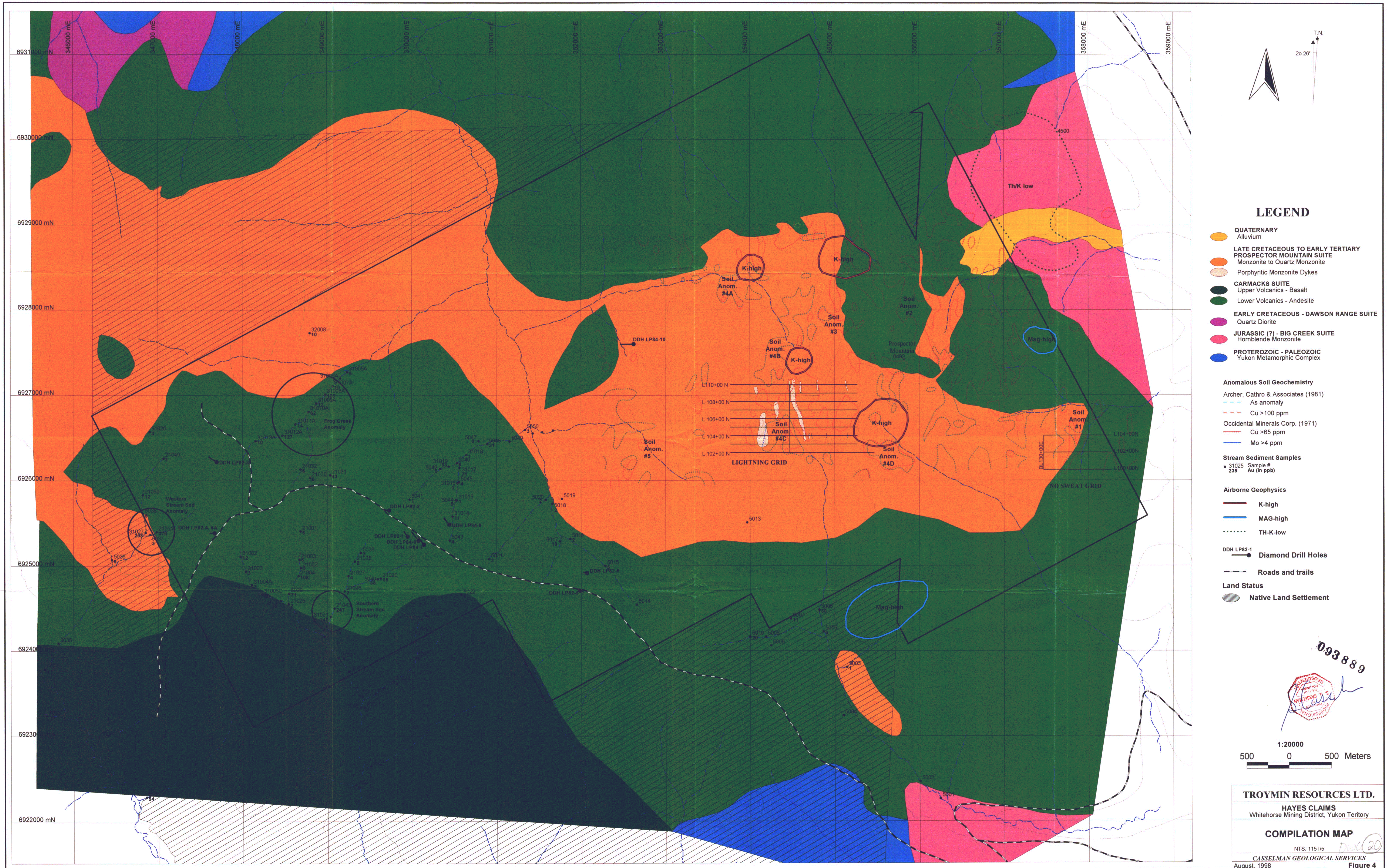
N=3

CONSTANT SEPERATION

CONTOUR MAP

DWG 13

Amerok Geosciences Ltd.



T.N.
2o 26'
LEGEND
QUATERNARY
Alluvium
LATE CRETACEOUS TO EARLY TERTIARY
PROSPECTOR MOUNTAIN SUITE
Monzonite to Quartz Monzonite
Porphyritic Monzonite Dykes
CARMACKS SUITE
Upper Volcanics - Basalt
Lower Volcanics - Andesite
EARLY CRETACEOUS - DAWSON RANGE SUITE
Quartz Diorite
JURASSIC (?) - BIG CREEK SUITE
Hornblende Monzonite
PROTEROZOIC - PALEOZOIC
Yukon Metamorphic Complex
Anomalous Soil Geochemistry
Archer, Cathro & Associates (1981)
As anomaly
Cu >100 ppm
Occidental Minerals Corp. (1971)
Cu >65 ppm
Mo >4 ppm
Stream Sediment Samples
31025 Sample #
235 Au (in ppb)
Airborne Geophysics
K-high
MAG-high
TH-K-low
DDH LP82-1
Diamond Drill Holes
Roads and trails
Land Status
Native Land Settlement
093889
S. G. CASSELMAN
BRITISH COLUMBIA
PROVINCE
PROFESSIONAL
1:20000
500 0 500 Meters
TROYMIN RESOURCES LTD.
HAYES CLAIMS
Whitehorse Mining District, Yukon Teritory
COMPILATION MAP
NTS: 115 I/5
Dwg 20
CASSELMAN GEOLOGICAL SERVICES
August, 1998
Figure 4
LIGHTNING GRID
NO SWEAT GRID
Th/K low
Prospector Mountain