A-789

REPORT ON AN

AIRBORNE MAGNETIC AND VLF-EM SURVEY

BURWASH CREEK AREA, YUKON

for

NATHAN MINERALS INC.

by: ***TERRAQUEST LTD.***
Toronto, Canada
September 13, 1988

EIP 89-053

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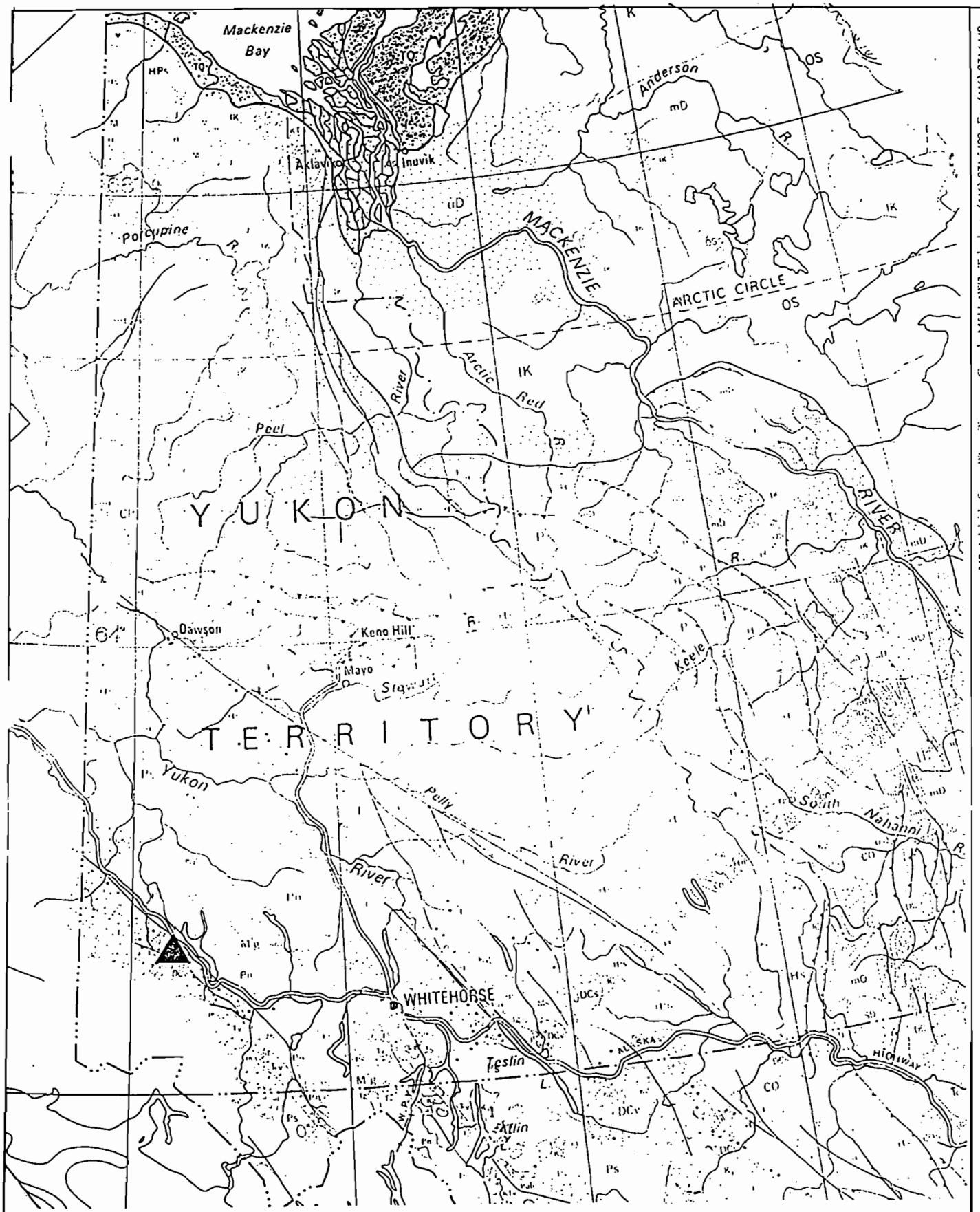

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240 Adelaide Street West, Toronto, Canada M5H 1W7. Telephone (416) 971-5400, Fax (416) 971-6449

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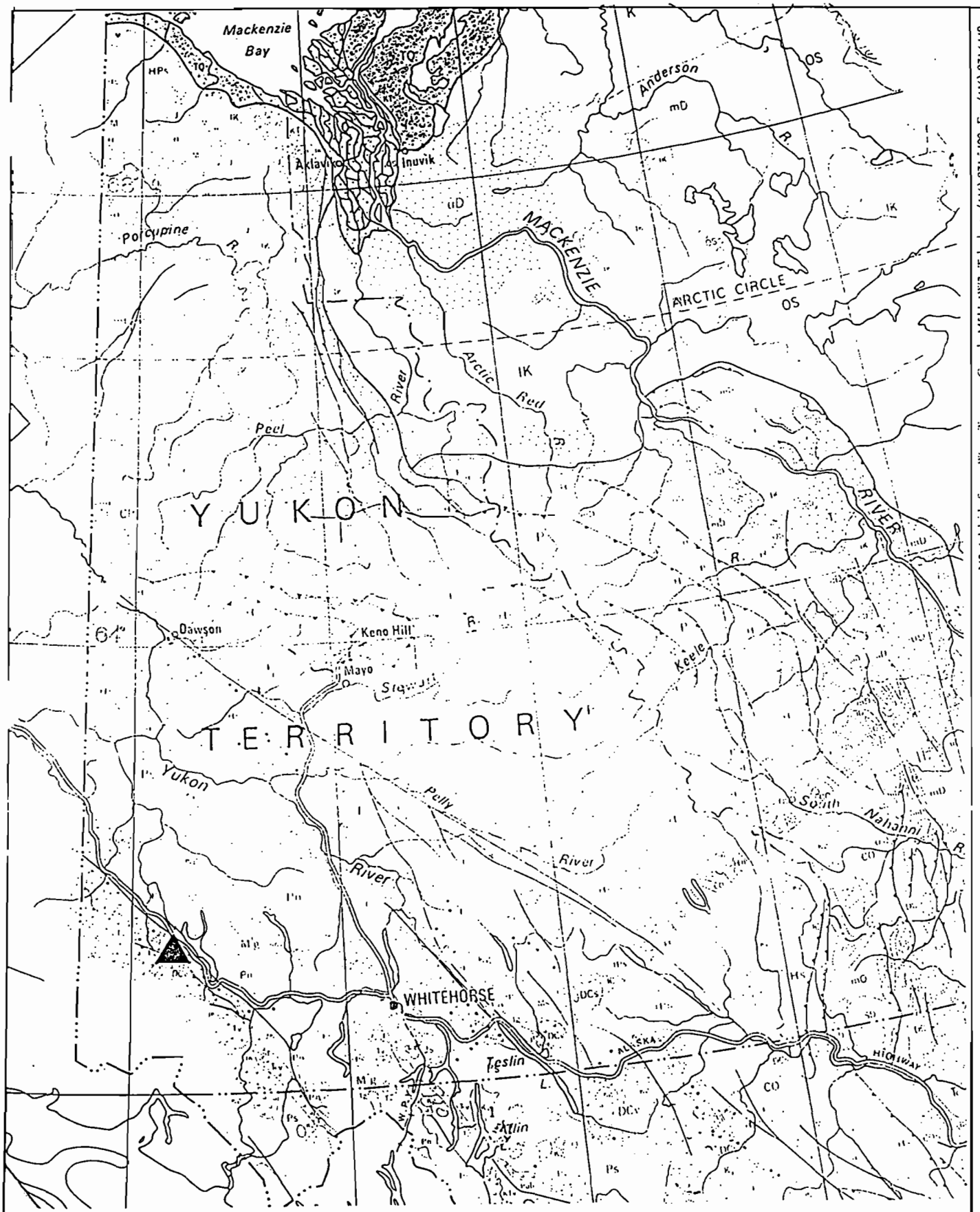

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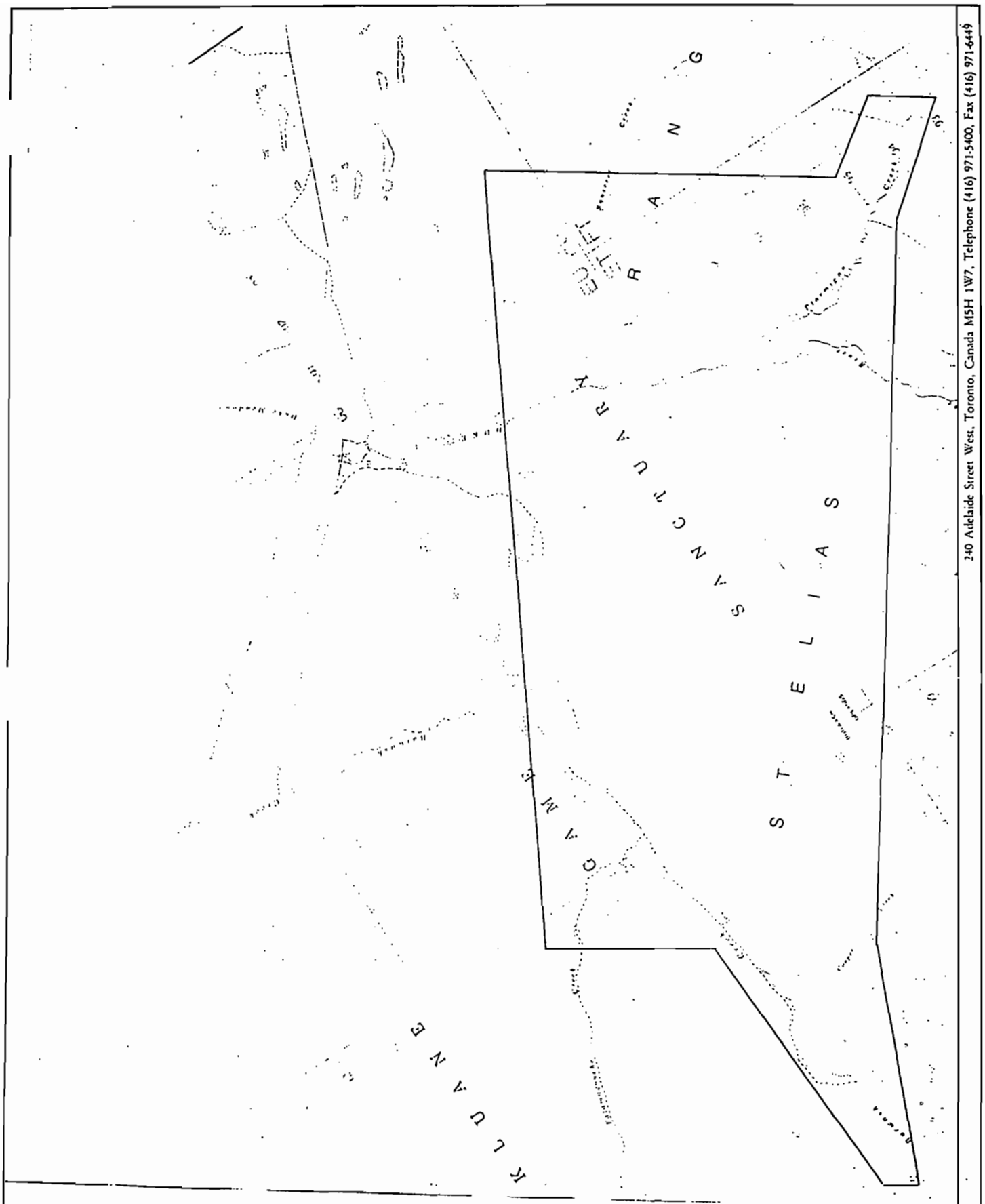

FIGURE 2. Survey Area Location

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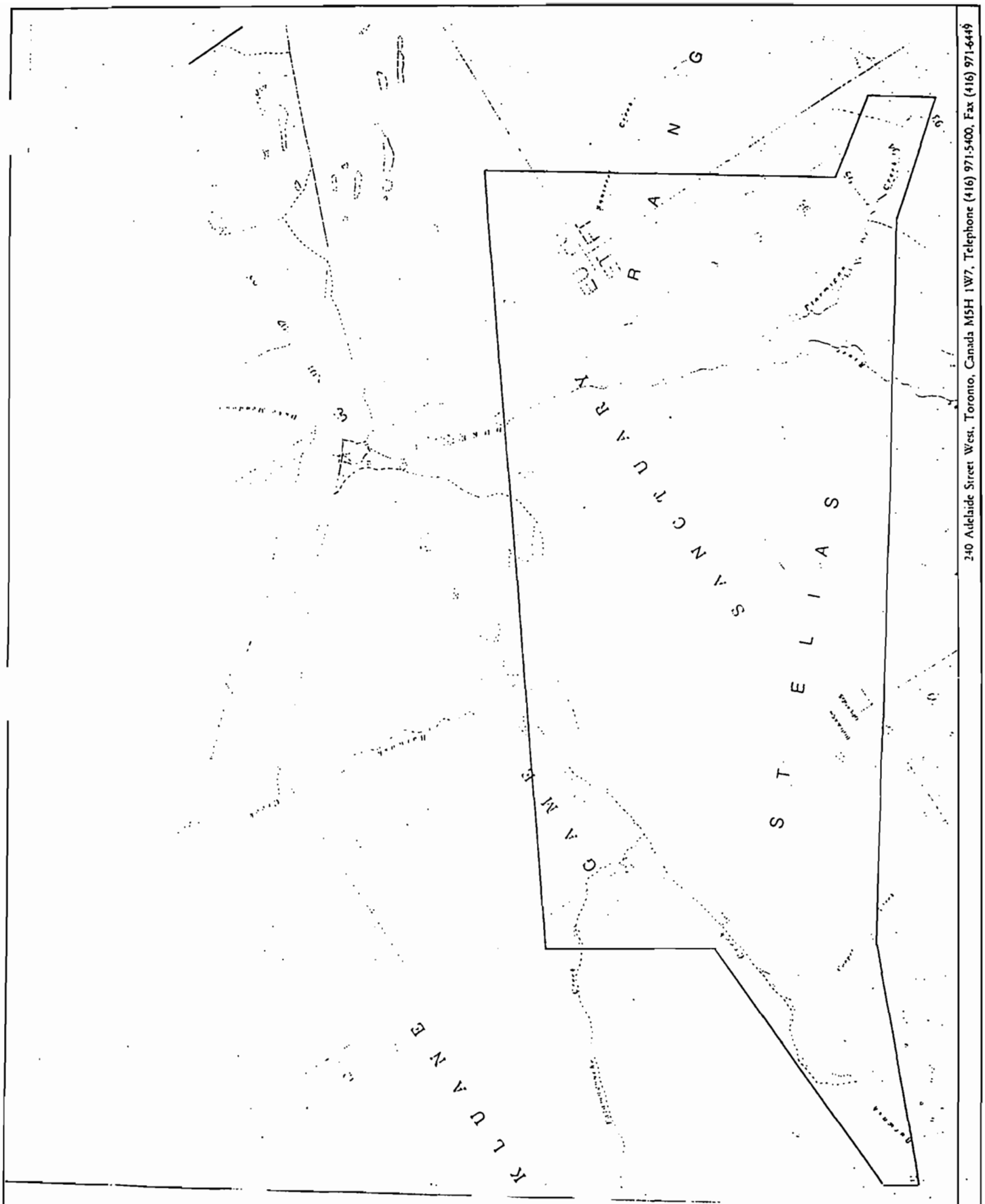

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1. Introduction

This report describes the specifications and results of a geophysical survey carried out for Nathan Minerals Inc. of 18-10509-81 Ave., Edmonton, Alberta, T6E 1X7 by Terraquest Ltd., 240 Adelaide Street West, Toronto, Canada. The field work was performed between June 17 and 21, 1988 and the data processing, interpretation and reporting from June 22 to September 13, 1988.

The purpose of a survey of this type is two-fold. First to prospect directly for anomalously conductive and magnetic areas in the earth's crust which may be caused by, or at least related to, mineral deposits. A second is to use the magnetic and conductivity patterns derived from the survey results to assist in mapping geology, and to indicate the presence of faults, shear zones, folding, alteration zones and other structures potentially favourable to the presence of gold and base-metal concentration.

To achieve this purpose the survey area was systematically traversed by an aircraft carrying geophysical instruments along parallel flight lines spaced at even intervals, 100 metres above the terrain surface, and aligned so as to intersect the regional geology in a way to provide the optimum contour patterns of geophysical data.

2. The Property

The survey area is located approximately 6 kilometres west of the northern end of Kluane Lake and Burwash Landing, approximately 265 kilometres northwest of Whitehorse. The claims lie within the Burwash uplands within the Kluane Range and can be accessed by bush roads from the Alaska Highway.

The latitude and longitude are 61 degrees 20 minutes, and 139 degrees 15 minutes respectively, and the N.T.S. reference is 115G/6.

The survey area is shown in figure 2.

3. Geology

Map References

1. Open File 829:
   Geology, Southwest Kluane Lake
   Map Area (115G and F)
   Scale 1:125,000
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Most of the Burwash Uplands are covered with Quaternary glacial and alluvial deposits, however it is possible to interpolate the bedrock geology from the highlands to the northwest and southeast. Generally the rocks strike to the northwest with moderate to shallow dips to the southwest. These are paralleled by high angled faults.

The Hasen Creek Formation and the Station Creek Formation belong to the Latest Pennsylvanian to Lower Permian age and occur in the central part of the property. The Station Creek Formation rocks are island arc volcanics, predominantly pyroclastics including breccia and agglomerate with minor tuff, argillite and basic flows. The Hasen Creek Formation rocks are primarily thin bedded argillite, siltstone, minor greywacke and conglomerate with local thin basaltic flows and peridotite.

The Chitistone and Nizina limestones and the Nikolai Greenstone are Triassic in age and occur along the northeastern edge of the survey block. The Chitistone and Nizina limestones are shallow marine limestones that occur along very thin horizons. The Nikolai Greenstone consists of amygdaloidal basalt and andesite flows locally interbedded with tuff, breccia, shales and limestone. Upper Triassic to Lower Cretaceous phyllite, greywacke and conglomerate occur in a wide unit southwest of the Nikolai Greenstone.

These rocks have been intruded by massive biotite hornblende granodiorite of Cretaceous age and occur along the southwestern boundary. A narrow intrusive of quartz latite porphyry of Oligocene age occurs along the southern edge of the Burwash Creek.

4. Survey Specifications

4.1 Instruments

The survey was carried out using a Cessna 182 aircraft, registration C-FAKK, which carries a magnetometer and a VLF electromagnetic detector.

The magnetometer is a proton precession type based on the Overhauser effect. The Overhauser effect allows for polarization of a proton rich liquid of the sensor by adding a "free radical" to it and irradiating it by RF magnetic field.

Strong precession signals are generated with modest RF power. The sensor element is mounted

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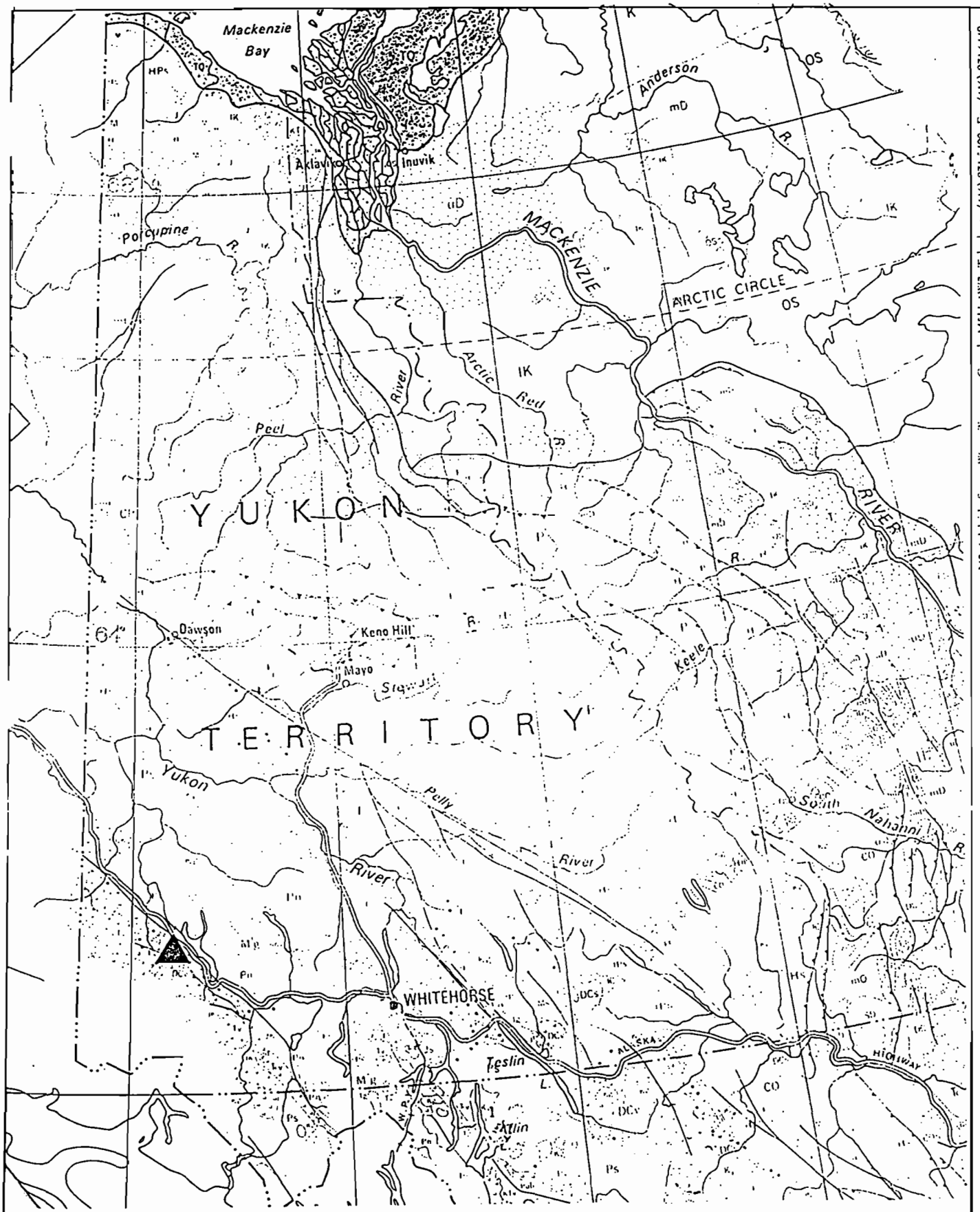

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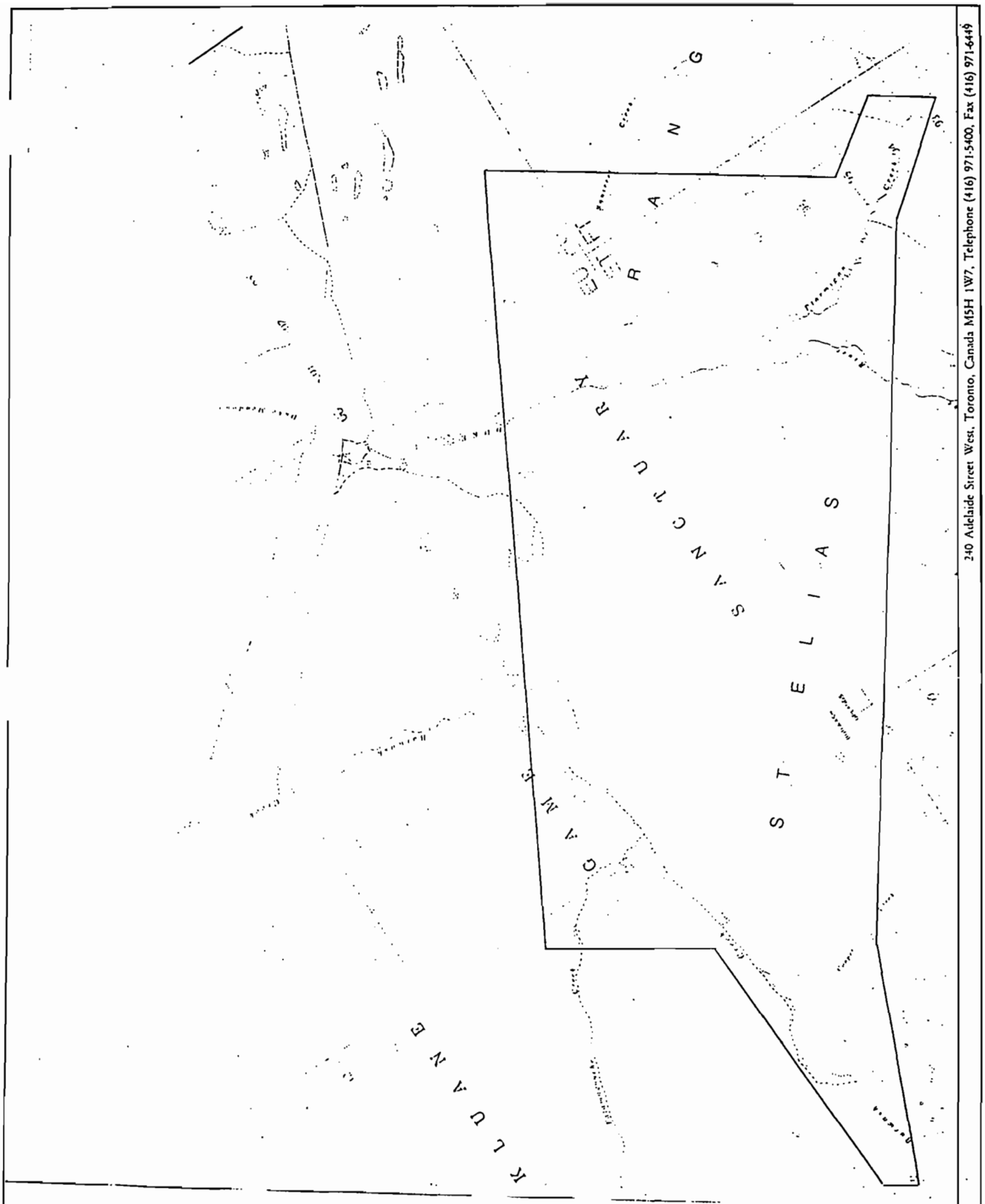

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Strong precession signals are generated with modest RF power. The sensor element is mounted

in an extension of the right wing tip. It's specifications are as follows:

Model:	GSM-9BA
Manufacturer:	GEM Systems Inc, 105 Scarsdale Road, Don Mills, Ontario
Resolution:	0.5 gamma
Accuracy:	0.5 gamma
Cycle time:	0.5 second
Range:	20,000-100,000 gammas in 23 overlapping steps
Gradient tolerance:	Up to 5,000 gammas/m

The VLF-EM unit uses three orthogonal detector coils to measure (a) the total field strength of the time-varying EM field and (b) the phase between the vertical coil and both the "along line" coil (LINE) and the "cross-line" coil (ORTHO). The LINE coil is tuned to a transmitter station (Channel 1) that is ideally positioned at right angles to the flight lines, while the ORTHO coil transmitter (Channel 2) should be in line with the flight lines. It's specifications are:

Model:	TOTEM 2A
Manufacturer:	Herz Industries, Toronto, Canada
Accuracy:	1%
Reading interval:	0.5 second

The VLF sensor is mounted in the left wing tip extension.

Other instruments are:

- King KRA-10A radar altimeter
- PDAS-1100 data acquisition system with two 3.5" floppy disk drives manufactured by Picodas Group Inc., Richmond Hill, Ontario
- Geocam video camera and recorder for flight path recovery, manufactured by Geotech Ltd., Markham, Ontario.
- PBAS-9000 portable field base station with a 3.5" floppy disk drive and an analog print out manufactured by Picodas Group Inc., Richmond Hill, Ontario, coupled with a GSM-8 proton magnetometer manufactured by Gem Systems Inc., Toronto, Ontario.

4.2 Lines and Data

Line spacing:	100 metres
Line direction:	040 degrees
Terrain clearance:	100 m
Average ground speed:	156 km/hr
Data point interval:	
Magnetic:	27 metres
VLF-EM:	27 metres
Tie Line interval:	2 km
Channel 1 (LINE):	NLK Seattle, 24.8 kHz
Channel 2 (ORTHO):	NLK Seattle, 24.8 kHz
Line km over survey area:	1;201 line km

4.3 Tolerances

Line spacing: Any gaps wider than twice the line spacing and longer than 10 times the line spacing were filled in by a new line.

Terrain clearance: Portions of line which were flown above 125 metres for more than one km were reflown if safety considerations were acceptable.

Diurnal magnetic variation: Less than twenty gammas deviation from a smooth background over a period of two minutes or less as seen on the base station analogue record.

Manoeuvre noise: Approximately +/- 5 gammas.

4.4 Photomosaics

For navigating the aircraft and recovering the flight path, semi-controlled mosaics of aerial photographs were made from existing air photos. Each photograph forming the mosaic was adjusted to conform to the NTS map system before the mosaic was assembled.

5. Data Processing

Flight path recovery was carried out in the field using a video tape viewer to observe the flight path as recorded by the Geocam video camera system. The flight path recovery was completed daily to enable reflights to be selected where needed for the following day.

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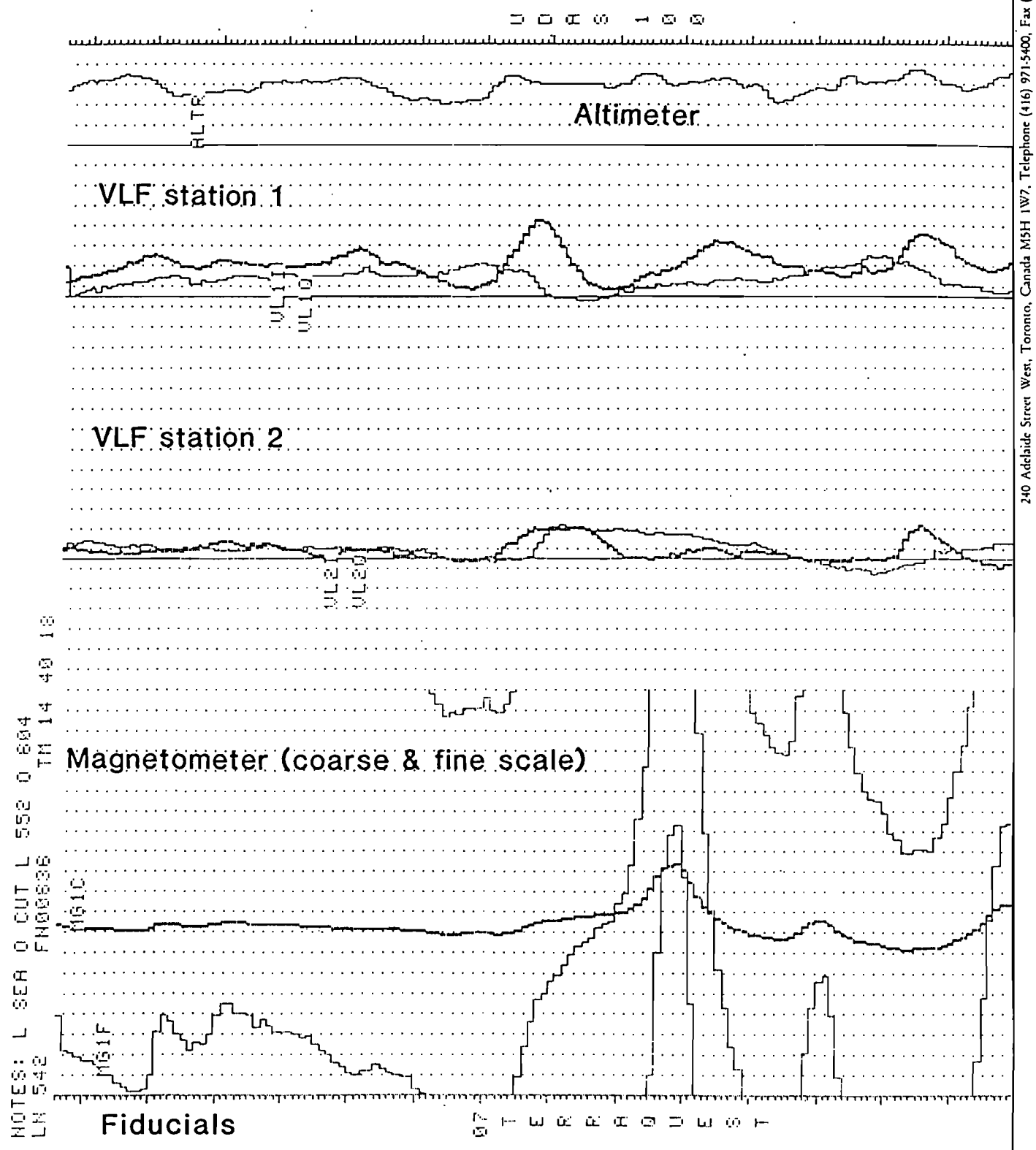

FIGURE 3. Sample of analogue data

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The magnetic data was levelled in the standard manner by tying survey lines to the tie lines. The IGRF has not been removed. The total field was contoured by computer using a program provided by Dataplotting Services Inc. To do this the final levelled data set is gridded at a grid cell spacing of 1/10th of an inch at map scale.

The vertical magnetic gradient is computed from the total field data using a method of transforming the data set into the frequency domain, applying a transfer function to calculate the gradient, and then transforming back into the spatial domain. The method is described by a number of authors including Grant, 1972 and Spector, 1968. The computer program for this purpose is provided by Paterson, Grant and Watson Ltd. of Toronto.

The VLF data was treated automatically so as to normalize the non conductive background areas to 100 (total field strength) and zero (quadrature). The algorithms to do this were developed by Terraquest and will be provided to anyone interested by application to the company.

All of these dataprocessing calculations and map contouring were carried out by Dataplotting Services Inc. of Toronto.

Grant, F.S. and Spector A., 1970: Statistical Models for Interpreting Aeromagnetic Data; Geophysics, Vol 35

Grant, F.S., 1972: Review of Data Processing and Interpretation Methods in Gravity and Magnetics; Geophysics Vol 37-4

Spector, A., 1968: Spectral Analysis of Aeromagnetic maps; unpublished thesis; University of Toronto.

6. Interpretation

6.1 General Approach

To satisfy the purpose of the survey as stated in the introduction, the interpretation procedure was carried out on both the magnetic and VLF data. On a local scale the magnetic gradient contour patterns were used to outline geological units which have different magnetic intensity and patterns or "signatures".

Where possible these are related to existing geology to provide a geological identity to the units. On a regional scale the total field contour patterns were used in the same way.

Faults and shear zones are interpreted mainly from lateral displacements of otherwise linear magnetic anomalies but also from long narrow "lows". The direction of regional faulting in the general area is taken into account when selecting faults. Folding is usually seen as curved regional patterns. Alteration zones can show up as anomalously quiet areas, often adjacent to strong, circular anomalies that represent intrusives. Magnetic anomalies that are caused by iron deposits of ore quality are usually obvious owing to their high amplitude, often in tens of thousands of gammas.

VLF anomalies are categorized according to whether the phase response is normal, reverse, or no phase at all. The significance of the differing phase responses is not completely understood although in general reverse phase indicates either overburden as the source or a conductor with considerable depth extent, or both. Normal phase response is theoretically caused by surface conductors with limited depth extent. In some cases, a change in the orientation of the conductor appears to affect the sense of the phase response.

Areas showing a smooth VLF-EM response somewhat above background (ie. 110 or so) are likely caused by overburden which is thick enough and conductive enough to saturate at these frequencies. In this case no response from bedrock is seen.

The VLF-EM conductor axes have been identified and evaluated according to the Terraquest classification system (Figure 4). This system correlates the nature and orientation of the conductor axes with stratigraphic, structural and topographic features to obtain an association from which one or more origins may be selected. Alternate associations are indicated in parentheses.

6.2 Interpretation

The magnetic and VLF-EM data are shown in contoured format on maps at a scale of 1:10,000 in the back pocket. An interpretation map is also provided. The following notes are intended to supplement these maps.

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FIGURE 4

TERRAQUEST CLASSIFICATION OF VLF-EM CONDUCTOR AXES

SYMBOL	CORRELATION	ASSOCIATION: Possible Origins
a , A	Coincident with magnetic stratigraphy	Bedrock magnetic horizons: stratabound mineralogic origin or shear zone
b , B	Parallel to magnetic stratigraphy	Bedrock non-magnetic horizons: stratabound mineralogic origin or shear zone
c , C	No correlation with magnetic stratigraphy	Association not known: possible small scale stratabound mineralogic origin, fault or shear zone, overburden
d , D	Coincident with magnetic dyke	Dyke or possible fault: mineralogic or electrolytic
f , F	Coincident with topographic lineament or parallel to fault system	Fault zone: mineralogic or electrolytic
ob , OB	Contours of total field response conform to topographic depression	Most likely overburden: clayey sediments, swampy mud
cul , CUL	Coincident with cultural sources	Electrical, pipe or railway lines

NOTES

1 - Upper case symbols denote a relatively strong total field strength

2 - Underlined symbols denote a relatively strong quadrature response

3 - Mineralogic origins include sulphides, graphite, and in fault zones, gouge

4 - Electrolytic origins imply conductivity related to porosity or high moisture content

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The total magnetic field is very active with a relief of over 4,600 gammas and is consistent with the general trend of the lithologies. The strongest responses occur along the southern half of the survey area. The vertical magnetic gradient improves the resolution of the magnetic units and has been used to delineate the stratigraphy and structure.

The strongest magnetic responses occur along strike between exposures of the Hasen Creek Formation at both ends of the survey area. These responses are probably derived from basalts and peridotite (Unit 5m) belonging to the Hasen Creek Formation. The moderate to low magnetic responses immediately adjacent to the 5m units are probably associated with the clastic metasediments (Unit 5) of the Hasen Creek Formation. These responses are generally dominated and overwhelmed by those from the peridotites.

Moderate to strong magnetic responses correlate with exposures of the Cretaceous biotite-hornblende-granodiorite (Unit 10). The more magnetic phases within this intrusive are indicated on the interpretation map as Unit 10m. This magnetic variability may be related to (a) magnetic phases within the intrusive, (b) differential crystallization related to the physio-chemical parameters of the environment, or (c) zenoliths of peridotite caught up in the intrusive. The magnetic signatures of the granodiorite and the peridotite plus metasediments are similar and it is difficult to identify their contact. The contact on the interpretation map is based on the assumption that the 10m unit is slightly weaker than the peridotite and that unit 10 is slightly stronger than the clastic metasediments (Unit 5) of the Hasen Creek Formation.

Exposures of the Nikolai Greenstone correlate with moderate magnetic responses, typical for intermediate to mafic compositions. The responses to the southeast are slightly greater than those along the northern boundary. These higher responses may originate from more mafic compositions or possibly increased concentrations of more magnetic minerals such as pyrrhotite or magnetite. Note that the greenstones along the northern edge of the survey swing southwards east of Duke River, which has been mapped as phyllite. It is suspected that the greenstone extends beneath the phyllite at this location.

The weakest magnetic responses correlate with the pyroclastics of the Station Creek Formation (Unit 3) and the Upper Triassic phyllite (Unit 9). Horizons with increased magnetic activity in these areas are indicated on the interpretation map as 3m and are probably derived from more mafic compositions, magnetite or pyrrhotite. Note that increasing amounts of flows and lesser amounts of pyroclastics have been mapped toward the southern part of the survey area. This correlates well with the 3m horizon which cuts across Ptarmigan Creek.

The Tertiary latite porphyry (Unit 12) correlates with weak to moderate magnetic responses which contrast well with the very low responses from the adjacent Station Creek Formation. It would be difficult to identify this rock type if it occurred within other lithologies. If it occurred within the Hasen Creek Formation it would probably be identifiable as a magnetic low. The magnetic signatures of the latite porphyry and the Nikolai Greenstones appear to be of the same magnitude and therefore it would be very difficult to distinguish the porphyry as a separate unit.

Numerous magnetically interpreted faults trend to the east and a few to the northwest. Northwest trending faults are difficult to identify because they are parallel to the magnetic stratigraphy. The east trending faults appear to be truncated by the northwest trending faults.

The VLF-EM survey has identified numerous weak to moderate strength conductor axes and a few strong conductors. Almost of them are associated with structural sources, some coinciding and corroborating east trending magnetically interpreted structures. Some are parallel to stratigraphy suggesting a higher frequency of northwest trending faults or shear zones than shown on the map. This type of conductivity may originate from (a) minerals such as sulphides, graphite or gouge along faults or shear zones, or (b) ionic effects created by water or porosity within the structure or to conductive overburden in an overlying topographic depression. Structures identified by either magnetic or VLF-EM techniques possess potential for epithermal type mineralization.

A few conductors coincide with magnetic stratigraphy, suggesting a stratabound bedrock origin. These may be related to sulphides or graphite and should be followed up on the ground using EM or IP methods.

7. Summary

An airborne combined magnetic and VLF-EM survey has been done on the property at line intervals of 100 metres. The total field and vertical gradient magnetic data, VLF-EM data and interpretation maps are produced at a scale of 1:10,000.

The magnetic data has been used to interpolate the geology between the mountains and has shown a number of new contacts and faults. Numerous VLF-EM conductor axes have been identified most of which are associated with structural origins. A few coincide with magnetic stratigraphy and bear potential for sulphide origins and have been recommended for additional investigation.

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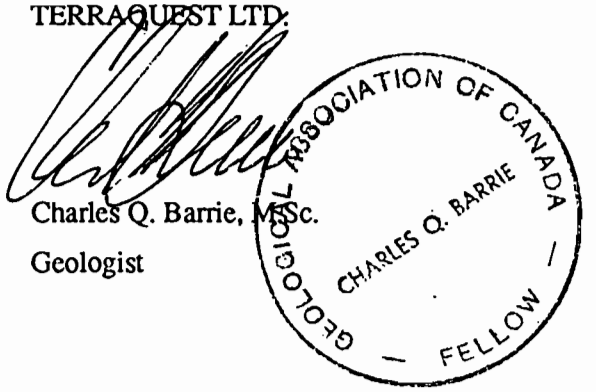


Charles Q. Barrie, MSc.

Geologist

THIS AGREEMENT made as of the 15th day of September, 1987.

BETWEEN:

NATHAN MINERALS INC., a corporation duly incorporated under the laws of the Province of Alberta,

(hereinafter called "Nathan")

- and -

PERREX RESOURCES INC., a corporation duly incorporated under the laws of the Province of Ontario and extra-provincially registered in the Province of Alberta,

(hereinafter called "Perrex")

WHEREAS Nathan acquired a one hundred percent (100%) undivided interest in three hundred twelve (312) contiguous mineral claims in the Whitehorse Mining District, Yukon Territory (hereinafter referred to as the "Burwash Creek Quartz Claims"), pursuant to an agreement dated April 21, 1987 between Tatam Resources Ltd. and Nathan Minerals Inc., which claims are more particularly described in Schedule "A" attached hereto;

AND WHEREAS Nathan also acquired a one hundred percent (100%) undivided interest in nine (9) contiguous mineral claims located between Prosperous and Walsh Lakes and extending south to include parts of the Yellowknife River and Bay and adjoining ground in the MacKenzie Mining District in the Northwest Territories (hereinafter referred to as the "Pro Claims"), pursuant to an agreement dated April 21, 1987, among the members of the Prosperous Syndicate and Nathan Minerals Inc., which claims are more particularly described in Schedule "B" attached hereto;

AND WHEREAS Nathan holds its interests in the Burwash Creek Quartz Claims and Pro Claims free and clear of all encumbrances and all of the mineral claims are in good standing;

AND WHEREAS the Parties hereto wish to associate and participate with each other in mineral exploration and, if warranted, development and production within the mineral claims;

AND WHEREAS Nathan has agreed to grant to Perrex an exclusive right and option to acquire an undivided twenty percent (20%) interest in and to the mineral claims so as to facilitate the further exploration and, if warranted, the development of and production from the mineral claims;

NOW THEREFORE THIS AGREEMENT WITNESSETH that in consideration of the premises, the mutual covenants and agreements herein contained, the Parties hereto have agreed and do hereby agree as follows:

SECTION 1
DEFINITIONS

1.1 In this Agreement, the following words or expressions shall have the meanings assigned to them below:

(a) "Claims" shall mean the Burwash Creek Quartz Claims and the Pro Claims described in the recitals hereof and further described in Schedules "A" and "B" hereto.

(b) "Direct Project Costs" means all charges or expenditures (other than the charge with respect to the establishment and maintenance of an appropriate field office and the provisions of general administrative services directly related to the Joint Venture) and all capital charges, expenditures or costs incurred by the Operator on or in connection with the Claims and shall, without limiting the generality of the foregoing, include the cost of all work actually carried out by, or on behalf of the Operator in connection with the Claims, (including preproduction work, surface and underground exploration and development work, driving adits and shaft sinking) as well as the cost of metallurgical and/or engineering work required to ensure adequate recoveries of metals contained in the minerals, ores and concentrates produced or derived from the Claims. In addition, Direct Project Costs shall include the costs of all of the Operator's technical personnel who may, from time to time, provide services with respect to the Claims. Such costs shall be charged out at rates normal to the industry and on the basis of the time actually spent by such personnel on projects related to the Claims.

(c) "Expenditures" means all direct or indirect charges, expenses or costs of or incidental to Operations. The certificate of the Controller or other financial officer of the Operator shall be prima facie evidence of such Expenditures. The Operator shall be entitled to claim as Expenditures on the Claims all its costs thereof, including a charge with respect to the establishment and maintenance of an appropriate field office, and the provision of general administrative services directly related to the Joint Venture equal to ten percent (10%) of Direct Project Costs.

(d) "Joint Venture" means the arrangement provided for hereby between the Parties for the conduct of Operations on the Claims. Such term shall not be construed as creating a mining, commercial or other partnership relationship.

(e) "Net Profit" as defined in Schedule "C" attached hereto.

(f) "Operations" means every kind of work done on or in respect of the Claims or the products derived therefrom by or under the direction of the Operator and without limiting the generality of the foregoing, includes the work of assessment, geophysical, geochemical and geological surveys, studies and mapping, investigating, drilling, designing, examining, equipping, improving, surveying, shaft-sinking,

raising, crosscutting and drifting, searching for, digging, trucking, sampling, working and procuring minerals, ores and concentrates, in surveying and bringing any mining claims to lease, in doing all other work usually considered to be prospecting, exploration, development and mining work; in paying wages and salaries of persons engaged in such work; and in supplying food, lodging, transportation and other reasonable needs of such persons; in paying assessments or premiums for workers' compensation insurance, contributions for unemployment insurance or other pay allowances or benefits customarily paid in the district to such persons; in paying rentals, licence renewal fees, taxes and other governmental charges required to keep the Claims in good standing; in purchasing or renting plant, buildings, machinery, tools, appliances, equipment or supplies and in installing, erecting, detaching and removing the same or any of them; in the management of any work which may be done on the Claims or in any other respects necessary in the opinion of the Operator for the due carrying out of the said prospecting, exploration and development work.

(g) "Party" or "Parties" means the Parties to this Agreement and their respective successors and permitted assigns which become Parties pursuant to this Agreement.

(h) "Production" means mining, extracting, processing and handling the ores or minerals or concentrates derived therefrom which are discovered and developed on the Claims and all other work related thereto as may be incidental or reasonably required.

(i) "Programme" means a written document prepared by the Operator setting out in reasonable detail:

(i) an outline of the Operations proposed to be undertaken and conducted on all or part of the Claims specifically stating the period of time during which Operations are to be done and performed;

(ii) the estimated costs of such Operations including preparation of a monthly budget giving reasonable details;

(iii) the amount of the contribution, if any, which each Party is to make to finance such estimated costs; and

(iv) the date(s) on which each pro rata installment on account or in full of such contribution is required to be made.

SECTION 2
OPTION

2.1 Nathan hereby grants to Perrex the exclusive option to acquire a 20% undivided interest in and to the Claims by the expenditure of an aggregate of $1,000,000 in Expenditures as follows:

(a) Prior to June 30, 1988, Perrex agrees to spend, through Nathan as its operator, an aggregate of FIVE HUNDRED THOUSAND ($500,000.00) DOLLARS of Expenditures on the Claims in accordance with a plan to be determined by Nathan and Perrex. The foregoing Expenditures shall be referred to as the First Phase. Upon such Expenditures, Perrex shall acquire an undivided ten percent (10%) interest in the Claims.

(b) On or before March 1, 1989, Perrex agrees to spend, through Nathan as its operator, an additional FIVE HUNDRED THOUSAND ($500,000.00) DOLLARS on the Claims in accordance with a plan to be determined by Nathan and Perrex. The foregoing Expenditures shall be referred to as the Second Phase. Upon such further Expenditures, Perrex shall acquire a further undivided ten percent (10%) interest in the Claims. In the event that Perrex fails to make the required Expenditures in the Second Phase, Perrex shall lose its ten percent (10%) undivided interest in the Claims earned in the First Phase.

(c) Notwithstanding the foregoing, in the event that Perrex is unable to spend the amounts specified in paragraphs 2.1(a) and (b) hereof within the times specified therein for reasons beyond its reasonable control, including, without limiting the generality of the foregoing, conduct of Nathan, then in such event, Perrex's option to acquire its respective interests in the Claims shall be extended for such period of time.

2.2 It is further agreed that the work to be done during the First and Second Phases will be carried out by Nathan pursuant to programs established by Nathan, in co-operation with Perrex, but under the supervision of Nathan, and all funds expended on behalf of Perrex will qualify as Canadian Exploration Expenses as that term is defined in paragraph 66.1(6)(a) of the Income Tax Act (Canada) as from time to time amended. Nathan shall not have the right or obligation to contribute to the First Phase or the Second Phase.

2.3 All payments and funds expended by Perrex pursuant to this Agreement shall be for the sole account of Perrex and Perrex shall be entitled to claim all benefits, write-offs and deductions with respect thereto.

2.4 Following completion of the First and Second Phases, the Parties agree that all further Expenditures on the Claims will be made pursuant to Section 6 hereof.

2.5 Perrex will have exercised the options granted herein and thereby have acquired its undivided twenty percent (20%) interest in and to the Claims on completion of the First and Second Phases.

2.6 Upon exercise by Perrex of the option granted herein by Nathan, Nathan shall execute and deliver to Perrex recordable Bills of Sale or other applicable conveyancing documentation sufficient to effect the transfer of Perrex's twenty percent (20%) undivided interest in and to the Claims.

2.7 The Board of Directors of Nathan agrees to appoint John E. Perron to the Board of Directors of Nathan.

SECTION 3
ISSUANCE OF SHARES

3.1 Perrex agrees to issue to Nathan a total of ONE HUNDRED THOUSAND (100,000) fully paid and non-assessable common shares in the capital stock of Perrex and Nathan agrees to issue to Perrex a total of TWO HUNDRED THOUSAND (200,000) fully paid and non-assessable common shares in the capital stock of Nathan.

3.2 The issue of the said common shares are subject to such requirements as may be imposed by such regulatory authorities having jurisdiction and subject to the prior approval of the Alberta Stock Exchange.

3.3 In the event any regulatory authority or the Alberta Stock Exchange should not approve the issuance of the common shares as provided for herein, the remaining provisions of this Agreement shall be deemed severable from paragraph 3.1 and shall remain in full force and effect.

SECTION 4
JOINT VENTURE

4.1 Following completion of the Second Phase, the Parties hereto agree to associate together, provide contributions to the expenses to be incurred hereunder and participate in the establishment of a Joint Venture for the purpose of carrying out Operations on the Claims and if deemed warranted, developing the Claims and bringing them or a portion thereof into commercial production.

4.2 The ownership interests of the Parties shall be as tenants in common and not as joint tenants, and the liability of the Parties to this Agreement shall be several or separate and not joint or collective. It is not the purpose or the intention of this Agreement to create, and shall never be construed as creating a mining partnership, a commercial partnership or any other partnership relationship. Each of the Parties shall be responsible only for their respective obligations and entitled only to their respective rights as expressly set forth in this Agreement.

4.3 The Parties acknowledge that the relationship hereby created and the Joint Venture arising as a result hereof cannot be operated successfully unless each of the Parties exercises the utmost good faith in its dealings with the other Party hereto and both fully co-operate to ensure that a reasonable approach is taken to the exercise of the respective duties, rights, obligations and remedies of the Parties under this Agreement. In addition, the Parties hereby covenant and agree to fully co-operate to ensure the success of the Joint Venture and to keep each other fully informed on the status of all operations hereunder from time to time.

SECTION 5
PROGRAMMES

5.1 Each of the Parties hereby agree to participate jointly in Operations on the Claims to the extent and on the terms and conditions as set out herein.

5.2 The activities of the Joint Venture shall be carried out under Programmes prepared and submitted by the Operator (as defined in Section 9 hereof). The Parties shall make contributions to the Programmes in accordance with Section 6 hereof.

5.3 The Joint Venture shall, in proportion to the respective interests of the Parties, comply with the obligations set forth in any permits, licences, leases and claims held under the provisions of this Agreement.

SECTION 6
PARTICIPATING INTEREST AND CONTRIBUTIONS TO PROGRAMMES

6.1 For the purpose of determining the contributions to Joint Venture Programmes herein and the allocation of Expenditures required of the Parties in order to participate in further Operations, following the contribution of Perrex during the First and Second Phases, the respective undivided interests of Nathan and Perrex in the Joint Venture shall initially be as follows:

Nathan	80%
Perrex	20%.

6.2 The Operator shall, before further Operations are conducted on the Claims, submit to the Non-Operator on or before January 25 of each year during the currency of this Agreement a Programme which it, as the Operator, proposes to carry out on the Claims, for consideration, and if appropriate, approval thereof, and:

(a) Each Party hereto shall have a period of six (6) weeks from the delivery to it of a Programme within which to notify the Operator whether it elects to maintain or reduce its undivided percentage interest in the Joint Venture by participating in such Programme and to commit itself to contribute its proportionate share (but not more or less) of such Expenditures in accordance with the formula hereinafter defined and in the amount and on the payment terms set out in the said Programme.

(b) If either Party elects not to participate in any such Programme or fails to notify the Operator of its election not to participate in a Programme within the six (6) week period (in which event the non-electing or defaulting Party shall be deemed to have elected not to participate), then its undivided interest in the Claims shall abate in favour of the other participating Party in the ratio that each Party's contributed Expenditures to the Joint Venture is of the total contributed Expenditures, provided that if either Party's interest is ten percent (10%) or less, that Party shall hereby automatically forfeit its right and interest to contribute or own a portion of the Joint Venture and shall be deemed to have quit-claimed the interest that it may have had in the Claims to the other Party, subject to a royalty interest equal to five percent (5%) of the Net Profit as defined in Schedule "C" attached hereto, and the other Party shall be deemed to have purchased that interest for an amount equal to ONE ($1.00) DOLLAR and on payment of the ONE ($1.00) DOLLAR the

withdrawing Party shall thereafter have only a five percent (5%) net profit royalty interest in the Joint Venture. For the purposes hereof, no amount of the net profit royalty shall be payable until the remaining Party shall have recovered all its Direct Project Costs of placing a mine or mines on the Claims into commercial production.

6.3 For greater certainty, each Party's interest in the Joint Venture from time to time shall be determined by reference to each Party's actual contributions to expenses to be incurred on the Claims in accordance with the following formula:

$$\text{Party's Percentage Interest} = \frac{\text{Actual contributions of a Party}}{\text{Total contributions by both Parties}}$$

6.4 If a Party hereto elects to contribute to a Programme and fails to make its contribution as required on the due date thereof, and such default continues for a period of thirty (30) days after receipt by the defaulting Party of notice from the Operator of such default, such payment shall be deemed to be delinquent, and the other Party shall have the right, but not the obligation, to terminate the Programme in which such delinquency occurred, or to elect to proceed with such Programme without waiver of any rights hereunder. Notwithstanding recovery or otherwise by the Operator of the delinquent payment, the delinquent Party's interest shall be reduced and diluted according to the formula set out in paragraph 6.3 hereof and shall be fixed at that level until the next calculation and the balance of the interest shall be attributed to the contributing Party.

6.5 If the Operator fails to submit a Programme to the Non-Operator by January 25 in each succeeding year, the Non-Operator thereafter shall have the right to submit a Programme to the other participating Party for its consideration by March 25 following for that year's activities.

SECTION 7
MANAGEMENT COMMITTEE

7.1 A Management Committee of two members is hereby created with each Party appointing one member. The members of the Management Committee may be changed from time to time by the Party having so appointed them. Each member of the Management Committee may have a substitute to act in his place and stead, at a meeting of the Management Committee. Such substitute shall be deemed to be a member of the Management Committee when he acts in this capacity. Any appointment or replacement of a member of the Management Committee, or his substitute, shall be effective upon prior written notice thereof being given to the other Party and to the Operator.

7.2 At the first meeting of the Management Committee, a Secretary shall be designated by the Operator. This Secretary shall keep copies of all correspondence and of documents sent out or received by the Management Committee, which documents must be available to each Party, and will keep a

record of the decisions adopted at each meeting of the Management Committee, or adopted according to the provisions hereof. A summary of these decisions will be distributed to each Party and to the Operator as soon as possible after each meeting. The Secretary shall be responsible in accordance with the instructions of the Management Committee for the day-to-day dealings of the Management Committee with the Operator.

7.3 Any decision within the competence of the Management Committee passed outside of a meeting of the Management Committee and attested to in writing by all of the members of the Management Committee, will have the same effect and will bind the Parties as if it had been taken at a meeting of the Management Committee, and shall be entered in the minute book.

7.4 Meetings of the Management Committee will take place every three (3) months on dates fixed in advance by the Management Committee or as otherwise decided by the Management Committee. Further, either of the Parties to this Agreement or the Operator may demand that a meeting be called at any time he judges appropriate; such a request must include a list of the subjects to be presented at the meeting. Meetings of the Management Committee will be held at a place appointed by the Management Committee from time to time, and shall be indicated in the notice of the meeting.

7.5 A prior fifteen-(15)-day notice of each meeting of the Management Committee shall be given by the Secretary to all the members of the Management Committee and to the Operator and shall be accompanied by the agenda and by any other additional information which the Operator, or one of the Parties, considers advisable and of which the Secretary has been previously notified. However, such agenda or additional information may be transmitted by telex, telecopier or telegram at least ten (10) days before the date of the meeting. Unless there is a unanimous vote by the members present representing all Parties, a matter not appearing on the agenda of the meeting cannot be dealt with at that meeting. A notice of a meeting is not necessary if all the members of the Management Committee representing all the Parties are present at the meeting and agree unanimously on the holding and the agenda of the meeting.

7.6 The Operator may attend all meetings of the Management Committee, unless the Management Committee decides otherwise.

7.7 No business shall be conducted at a meeting of the Management Committee unless parties representing at least 70% of the Parties' interest in the Claims are present. Any meeting of the Management Committee may be postponed once upon written request of one of the Parties to the other given at least three (3) working days prior to the date of such meeting or adjourned by reason of lack of quorum for approximately seven (7) days or to such a date as the Parties agree upon. When a meeting is so postponed or adjourned, the Secretary of the Management Committee shall give notice of the date of the resumption of the meeting in the manner provided in Section 7.5. Notwithstanding the provisions herein, the members present at an adjourned meeting shall constitute a quorum to deal with and decide upon the matters for which such meeting was initially called.

7.8 Unless otherwise provided herein, decisions of the Management Committee will be made by a simple majority vote, each member present having

the right to that number of votes which is equal to its Party's interest in the Claims, and in the event of a tie vote, the Operator shall have the casting vote but subject in all cases to the provisions of Paragraph 7.10.

7.9 Unless otherwise provided, the Management Committee has full powers and is authorized to make decisions binding on the Parties, relating to the Joint Venture. At any meeting of the Management Committee, any member or his substitute will have full power and authority to represent, to bind and to vote on any relevant material of the Management Committee for the designated Party. The Parties will bear the expenses incurred by the members in participating in the Management Committee.

7.10 As long as any Party retains at least a twenty percent (20%) undivided interest in the Claims, all decisions on the following questions shall only be adopted upon unanimous vote of all the members of the Management Committee and may not, in any event, be delegated to the Operator:

(a) Any modifications to the plans and specifications of the Operations which involve an increase or decrease of ten percent (10%) of such costs, or the amount of ONE HUNDRED THOUSAND ($100,000.00) DOLLARS, the lowest of the two amounts.

(b) Any commitment requiring an expenditure over TWO HUNDRED FIFTY THOUSAND ($250,000.00) DOLLARS with respect to any addition or improvement within the framework of the Operations.

(c) Any stoppage, suspension, start-up or planned cut-back in the Operations.

(d) The abandonment, assignment, sale or other disposition of any asset or assets forming part of the Operations, or any mining rights of the Claims.

(e) The settlement of any judicial claim, action, or suit involving an amount in excess of ONE HUNDRED FIFTY THOUSAND ($150,000.00) DOLLARS.

(f) Any decision to act or not, which may breach any agreement conferring any right whatsoever, whether to mining rights or to the Operations.

(g) Any agreement, undertaking or contract, whether or not in the normal course of the business, relating to this Agreement, between the Operator and a Party hereto, or an affiliated person to the Operator, or any other person, company or undertaking in which the Party or the Operator or any of their affiliated persons has an interest.

SECTION 8
OPERATOR: APPOINTMENT

8.1 The Parties agree that Nathan shall be the Operator of the Joint Venture. In the event that Nathan's interest is diluted below a fifty percent (50%) interest, as set out herein, then the Parties agree that the Party having the largest interest in the Claims may, at its option, become the Operator.

SECTION 9
DUTIES OF OPERATOR

9.1 The Operator shall perform its duties hereunder in accordance with the directions of the Management Committee of the Joint Venture and shall manage and carry out Programmes as it may direct and in connection therewith shall, with respect to the Claims, have the following powers, duties and obligations:

(a) To prepare or cause to be prepared all Programmes respecting the Claims and submit such Programme to the Non-Operator, in accordance with the provisions of Section 5 hereof, and carry out and supervise or cause to be carried out and supervised all Operations contemplated in all Programmes hereunder. Provided however, that in carrying out all Operations the Operator shall use its best efforts to curtail any projected overrun of Expenditures until the overrun has been authorized or a Programme modified by the Parties;

(b) To report to the Non-Operator on any proposed abandonment of any part of the Claims that it may suggest;

(c) To conduct all Operations performed under any Programme in a good and workmanlike manner in accordance with good engineering and mining practice and to comply or cause to be complied with all relevant laws, rules and regulations relating thereto and do all acts and things and pay all monies as are necessary to maintain the Claims in good standing;

(d) To keep good and complete records of all Operations performed hereunder. The Non-Operator hereto shall have the right, at all reasonable times during business hours, to have access to and inspect the records relating to any Operations in which the Non-Operator has an interest including all data, results, programmes, expenditures, costs, budgets, assays, maps, projections, drawings, analysis and other pertinent information. In the event that the Operator employs non-arm's length operators or contractors, the Non-Operator shall have the right to audit the project records at its sole expense upon reasonable notice to the Operator during normal business hours;

(e) To provide the Non-Operator with quarterly progress reports on all Operations in which the Non-Operator participates and shall provide the Non-Operator with copies of all technical and other reports relating to such Operations within a reasonable time after the end of each calendar quarter during which such Operations were performed. The Operator further agrees to notify the Non-Operator promptly of all relevant developments with respect to exploration and development work done on or in connection with the Claims;

(f) To advise the Non-Operator of any significant or important exploration results without undue delay;

(g) At the end of each calendar year deliver to the Non-Operator a statement of Expenditures relating to Operations carried out during such year and to provide for the division of any profits accruing to the Joint Venture after making a reasonable allowance for working capital for the following year;

(h) Obtain and maintain such insurance coverage relating to its duties hereunder and/or any work performed hereunder as the Joint Venture may require;

(i) Not enter into any agreement which would obligate the Parties or the Operator to expend monies in excess of monies available to the Operator for any Programme; provided that the Operator may act in emergencies to preserve life and assets in such reasonable manner as it deems necessary at the time at which time both Parties agree to be jointly liable for any additional expenses incurred as result; and

(j) Permit any duly authorized representative of the other Party to have access at reasonable times and at reasonable intervals to the Claims for the purpose of examining the work carried on thereon, provided that such representative shall not interfere with or obstruct the Operations. Such representatives shall enter upon the Claims at his own risk and the other Party shall indemnify and save harmless the Operator from any and all loss, cost, damage and expense of every nature or kind with respect to the entry, presence or activities on the Claims of such representative (including without limitation bodily injury or death), except as to the Operator's gross negligence.

SECTION 10
DISTRIBUTION IN KIND

10.1 The entire production of the Claims will be in all circumstances the undivided property of the Parties and the metals or metal concentrates shall be distributed to the Parties to this Agreement subject to the specific provisions of this section, and each Party may dispose of its share of metals or metal concentrates, according to its wish. The distribution will be proportionate to the undivided interest of each Party at the moment of such distribution, and the Operator shall be responsible for such distribution. The Management Committee shall advise the Operator of any change in the undivided interests of the Parties.

10.2(a) Unless there is an arrangement between the Parties, or one of the Parties and the Operator, the metals or metal concentrates shall be delivered F.O.B. at the mine, and it is incumbent on each Party to construct and maintain at its own cost the facilities required in order to take delivery of the metals or metal concentrates, to dispose of same and to supply at its own costs the necessary personnel;

(b) The Operator will remit to the Parties before the tenth (10th) working day of each calendar month a statement indicating the production of metals and metal concentrates during the course of the preceding month and the quantities to be delivered to each Party;

(c) All handling costs incurred in the course of delivery by the Operator on behalf of one of the Parties, including the costs incurred by it for the storage of the metals or metal concentrates, will be invoiced to the Party on behalf of whom the costs were incurred and will be payable by such Party on receipt of invoice;

(d) On providing sufficient notice, a Party may require the Operator to sell its share of production, in which case the Operator as the authorized agent of the Party making such a request may, in its entire discretion, contract with third parties for the sale of that part of production, as long as any contracts entered into do not exceed a term of twelve (12) months. Subject to any contract which might still be in force, the Party who has thus given a mandate to the Operator, may revoke it at any time;

Furthermore, if one of the Parties refuses to or neglects to take delivery of its share of production on a monthly basis, and if to do so would not create delays or inconveniences for the Operator, the Operator may without request by the neglectful Party constitute itself an authorized agent for the neglectful Party for the sale of its share of the production on the same basis and subject to the same conditions as if it had received an express mandate by formal request as in the first case;

(e) In each of these cases, the sale by the Operator must not be at a price less than the current market price in the region, taking into account the requirements as to the grade, quality and quantity of metals or metal concentrates that a buyer could demand and taking into account the terms and conditions of any contract with the buyer.

10.3 It is understood that each delivery will be subjected to sampling and inspection procedures and may entail adjustments.

10.4 If at any time, one of the Parties to this Agreement should be in default of the terms of this Agreement, its right to take delivery of its share of production will be suspended for the period of the default.

SECTION 11
FORCE MAJEURE

11.1 Time shall be of the essence of this Agreement, provided however, that notwithstanding anything to the contrary contained herein, it is agreed that if either Party should at any time or times during the currency of this Agreement, be delayed in or prevented from doing any act pursuant to this Agreement in such a manner as it desires, which delays or preventions are caused by any cause beyond the reasonable control of either Party (including without limiting the generality of the foregoing, acts of God, strikes, lockouts or other labour or industrial disturbances, arrests and restraints from rulers and people, interruptions by government or court orders, future orders of any regulatory body having jurisdiction, acts of the public enemy, wars, riots, sabotage, blockades, embargoes, insurrections, failure or inability to secure fuel, power, materials, contractors or labour, epidemics, snowslides, landslides, lightning, weather conditions materially preventing or impairing work, earthquakes, fires, storms, floods, washouts or explosions), the period of all such delays resulting from such causes or any of them shall be excluded in computing and shall extend the time within which such Party may exercise its right(s) and/or perform its obligations hereunder. Provided that the Operator and either Party shall take all actions reasonably possible and necessary to

eliminate or resolve such causes or any one of them and further provided that the Operator and either Party shall promptly advise the Parties in writing of the occurrence and cessation of such cause.

SECTION 12
ASSIGNMENT

12.1 Subject to the provisions of Section 13, neither Party hereto may assign, pledge, mortgage, hypothecate or otherwise encumber any of its respective rights hereunder without the prior written consent of the other Party, provided that such consent shall not be unreasonably withheld, save that either Party may at any time, in its sole discretion and without the prior approval of the other Party, assign and transfer, subject to all the terms of this Agreement, its rights and interest under this Agreement or any part thereof to any parent or subsidiary or associated corporation, provided that such assignee or transferee agrees to be subject to and bound by the terms and conditions of this Agreement and provided that the Party hereto is satisfied such an assignee is financially able to meet the commitments hereunder. Any sale, assignment or transfer by a Party of all or any part of its respective rights hereunder except as otherwise herein provided, shall include a provision whereby the purchaser, successor or assignee, as the case may be, shall agree to assume the rights and be subject to all the liabilities and obligations of the assigning Party under this Agreement theretofore or thereafter accruing or becoming due, including the obligation by such Party in respect of all debts or liabilities incurred by it pursuant to its obligations hereunder, and shall execute such agreements as may be required in this connection by the other Party.

12.2 Each assignee or transferee of such rights hereunder shall by written agreement with and for the benefit of the other Party assume and agree to pay and perform such liabilities and obligations. Such sale, assignment or transfer shall not be or become effective until an executed counterpart of such assumption agreement has been delivered to the other Party. Such assumption shall not serve to release or discharge the Party transferring or assigning its interest or any part thereof, from any of said liabilities or obligations set forth under this Agreement.

SECTION 13
RIGHT OF FIRST REFUSAL

13.1 Subject to the provisions of Section 12 hereof, either Party hereto shall, from time to time, have the right of first refusal to purchase any or all of the other Party's interest in the Joint Venture. Before making an offer or arrangements to sell or upon receiving any bona fide offer to purchase any such interest, which such Party is prepared to accept, the Party wishing to sell (the "Offering Party") shall give written notice to the other Party herein (the "Receiving Party"). The Receiving Party shall have a period of sixty (60) days from the date of receipt by it from the Offering Party of such notice within which to purchase such interest upon terms no less favourable to the Receiving Party than offered to or by the Offering Party under any bona fide arrangement with any third party. The Offering Party shall not sell any of

such interest upon terms more favourable to any bona fide third party purchaser than were available to the Receiving Party. If the Receiving Party does not so purchase such interest covered by such notice, then the Offering Party shall have the right to sell such interest to the said bona fide third party within sixty (60) days next following the aforesaid period of sixty (60) days. If the Offering Party does not so sell such interest within such last mentioned sixty (60) days, then the Receiving Party shall continue to have the right of first refusal to purchase any or all such interest not sold by the Offering Party. In the event there are more than two Parties, then this paragraph 13.1 shall be read with all necessary changes in number being made and each Receiving Party shall be entitled to acquire the Other Party's interest in proportion to its respective interest in the Claims.

SECTION 14
OTHER OPPORTUNITIES

14.1 Except as expressly provided in this Agreement, each Party shall have the free and unrestricted right independently to engage in and receive the full benefits of any and all business endeavours of any sort whatsoever whether or not competitive with the endeavours contemplated herein without consulting the other or inviting or allowing the other to participate therein. No Party shall be under any fiduciary or other duty to the other which will prevent it from engaging in or enjoying the benefits of competing endeavours within the general scope of the endeavours contemplated by this Agreement. The legal doctrines of "corporate opportunity" sometimes applied to persons engaged in a joint venture or having fiduciary status shall not apply in the case of any Party. In particular, without limiting the foregoing, no Party shall have any obligation to any other Party as to:

(a) any opportunity to acquire, explore and develop any mining property, interest or right presently owned by it or offered to it outside the Claims at any time, and

(b) the erection of any mining plant, mill, smelter or refinery whether or not such mining plan, mill, smelter or refinery treats ores or concentrates produced from the Claims.

14.2 Notwithstanding the provisions of paragraph 14.1 above, if either Party stakes or otherwise acquires any lode or quartz mineral claims within two (2) kilometres of the outside boundary of the Claims as comprised at the date of this Agreement (hereinafter called the "Area of Interest"), then such mineral claims shall forthwith become part of the Claims and be subject to the terms of this Agreement. The cost of such acquisitions or other acquisitions will initially be borne by the Parties on an 80/20 basis and the cost of acquiring any subsequent claims in proportion to their respective interests in the Claims at the time of the acquisition.

SECTION 15
TERMINATION OF AGREEMENT

15.1 The rights of the Parties hereto regarding all assets of the Joint Venture shall continue to be governed by this Agreement until the last to occur of:

(a) the completion of all Programmes agreed upon by the Parties pursuant hereto or in progress at the time of said termination;

(b) the disposition of the last of the Claims;

(c) the disposition of the last of the other assets of the Joint Venture;

(d) the distribution, if any, to the Parties of the last of the monies of the Joint Venture whether contributed or earned; or

(e) the participating interest of all but one Party hereto is reduced to a five percent (5%) Net Profit interest or less pursuant to the dilution provisions of Section 6 hereof;

and until the last to occur of the above, and subject to all other provisions of this Agreement, the Parties agree to share, in the proportion of their respective participating interests, the Expenditures necessary for the upkeep and maintenance of the assets of the Joint Venture.

SECTION 16
REPRESENTATIONS AND WARRANTIES

16.1 Perrex represents and warrants to Nathan that:

(a) it has full corporate power and authority to enter into this Agreement and the entering into of this Agreement does not conflict with any applicable law or with its charter documents, nor does it conflict with, or result in a breach of, or accelerate the performance required by any contract or other commitment to which it is party or by which it is bound;

(b) the execution of this Agreement and the performance of its terms have been duly authorized by all necessary corporate actions; and

(c) it is a corporation in good standing pursuant to the laws of Ontario and Alberta.

16.2 The representations and warranties hereinbefore set out are conditions upon which Nathan has relied in entering into this Agreement and shall survive the acquisition of an interest in the Claims by Perrex, and Perrex hereby indemnifies and saves Nathan harmless from all loss, damages, costs (including, without limitation, legal fees on a solicitor-client basis and disbursements), actions and suits arising out of or in connection with any breach of any representation or warranty made by it and contained in this Agreement.

16.3 Nathan represents and warrants to Perrex that:

(a) it has full corporate power and authority to enter into this Agreement and the entering into of this Agreement does not conflict with any applicable laws or with its charter documents nor does it conflict with, or result in a breach of, or accelerate the performance required by any contract or other commitment to which it is party or by which it is bound;

(b) it is a corporation in good standing pursuant to the laws of Alberta;

(c) it is registered extra-territorially in both the Yukon and the Northwest Territories, so that it is eligible to acquire and hold

mining claims in both the Yukon and Northwest Territories; and

(d) it owns all legal and beneficial right, title and interests in and to the Claims free and clear of any lien, mortgage, agreement or encumbrance (including, without limitation, any order or judgment relating to the Claims or any legal proceedings which may result in any such judgment or order); it has the exclusive right to deal with the Claims as herein contemplated; all taxes, assessments, rentals, levies or other payments relating to the Claims and required to be made to any federal, provincial, territorial or municipal governmental instrumentality have been made and the Claims are each in good standing until at least April 16, 1988.

16.4 The representations and warranties hereinbefore set out are conditions upon which Perrex has relied in entering into this Agreement and shall survive the acquisition of an interest in the Claims by Perrex, and Nathan hereby indemnifies and saves Perrex harmless from all loss, damage, costs (including, without limitation, legal fees on a solicitor-client basis and disbursements), actions and suits arising out of or in connection with any breach of any representation or warranty made by it and contained in this Agreement.

SECTION 17
ENTIRE AGREEMENT

17.1 All the terms, covenants and conditions respecting the Joint Venture are embodied herein, and all rights and liabilities arising by virtue of any and all statements or agreements (whether oral or written) heretofore made or entered into between the Parties hereto with respect to the matters dealt with in this Agreement are superseded by this Agreement.

SECTION 18
NOTICES

18.1 Unless otherwise provided herein, any notice or communication to any Party under this Agreement may be given by delivering the same by hand to a representative of such Party or by mailing the same by prepaid, registered mail to such Party, addressed as follows:

Perrex Resources Inc.
800 Royal Trust Tower
Edmonton Centre
Edmonton, Alberta T5J 2Z2

With a copy to:
Perrex Resources Inc.
103 Government Road East
Kirkland Lake, Ontario P2N 1A9

Nathan Minerals Inc.
18 - 10509 - 81 Avenue
Edmonton, Alberta T6E 1X7

or to such other address as a Party hereto may designate for itself and such notice so mailed shall be deemed to have been received at the latest on the fifth (5th) business day next following the mailing thereof.

SECTION 19
NOT A PARTNERSHIP

19.1 It is not the intention of the Parties to create a mining, commercial

or other partnership or an agency relationship between them and this Agreement shall not be construed so as to render the Parties liable as partners or so as to create a mining, commercial or other partnership.

SECTION 20
DISPUTES

20.1 In case of disputes or differences arising under this Agreement, which are not settled amicably within a reasonable time and not exceeding three (3) months, the Parties shall refer such disputes and differences to arbitration as if they were references under the Arbitration Act of Alberta.

20.2 Each Party waives the right to partition the real or personal property which is subject to this Agreement.

SECTION 21
RECITALS AND SCHEDULES

21.1 The recitals and schedules to this Agreement shall form part of this Agreement.

SECTION 22
JURISDICTION

22.1 This Agreement is governed by and shall be interpreted in accordance with the laws of Alberta and each Party hereby submits unconditionally to the jurisdiction of the courts of Alberta and any courts competent to hear appeals therefrom.

SECTION 23
CONFIDENTIALITY

23.1 All information in respect of this Agreement shall be the exclusive property of the Parties hereto and shall not be disclosed by either Party to others without the written consent of the other Party received at least forty-eight (48) hours prior to release or disclosure (such consent not to be unreasonably withheld) unless such information is lawfully demanded by a lawful authority having jurisdiction, but in any case no information shall be released by either Party without forty-eight (48) hours prior disclosure to the other.

SECTION 24
GENERAL PROVISIONS

24.1 The headings used in this Agreement are for convenience only and shall

be disregarded in construing this Agreement.

24.2 This Agreement shall enure to the benefit of and be binding upon the Parties hereto and their respective successors and permitted assigns.

24.3 All references to dollar amounts in this Agreement are references to Canadian currency.

IN WITNESS WHEREOF the Parties hereto have duly executed this Agreement as of the date first above written.

NATHAN MINERALS CORPORATION

Per: .....

Per: .....

PERREX RESOURCES INC.

Per: .....

Per: .....

SCHEDULE "A"

BURWASH CREEK QUARTZ CLAIMS

CLAIM	GRANT NUMBERS
EL 1-9	YA 23529-36, YA 73861
EL 11-28	YA 75205-22
EL 29-84	YA 75409-56, YA 81412-19
Jo 1-10	YA 23537-44, YA 75189-90
Sue 1-11	YA 23545-52, YA 59001-02, YA 75195
Kat 1-46	YA 23553-60, YA 51141-56, YA 75167-88
Nan 1-8	YA 23561-68
Jan 1-8	YA 23569-76
Jan 19-30	YA 75233-44
Jan 43-56	YA 75257-62, YA 75385-88, YA 78505-08
Jan 59-72	YA 75389-96, YA 78509-10, YA 75397-400
Jan 77-80	YA 75405-08
Den 1-10	YA 23577-84, YA 75193-94
Wen 1-10	YA 23585-92, YA 75191-92
And 1-12	YA 23593-600, YA 52595-98
Jy 1-28	YA 23601-08, YA 51125-40, YA 52563-66
Jy 29-36	YA 93853-54, YA 52569-72, YA 93857-58
Jy 37-52	YA 52575-78, YA 93861-62, YA 52581-90
Jy 53-70	YA 93855-56, YA 93859-60, YA 75153-66

SCHEDULE "B"

PRO CLAIMS

CLAIM NAME	TAG NUMBER
Pro 3	F 10228
Pro 4	F 10230
Pro 5	F 10240
Pro 6	F 10239
Pro 7	F 10238
Pro 8	F 12535
Pro 9	F 13314
Pro 10	F 13315
Pro 11	F 13580

SCHEDULE "C"

DEFINITION OF NET PROFIT

"Net Profit" is the gross revenue received by the Joint Venture from the sale of ore, concentrates or minerals derived from a mine on the Claims, less:

(a) all Preproduction Expenses to the extent that such Preproduction Expenses have not previously been deducted in computing Net Profit hereunder;

(b) all Postproduction Capital Expenses to the extent that such Postproduction Capital Expenses have actually been paid and have not previously been deducted in computing Net Profit hereunder; and

(c) all Operating Expenses to the extent that such Operating Expenses have not previously been deducted in computing Net Profit hereunder.

For the purposes of the definition of "Net Profit", the following terms are defined as follows:

(i) "Operating Expenses" shall mean all costs, expenses, obligations, liabilities and charges of whatsoever kind or nature incurred or chargeable, directly or indirectly, by the Joint Venture in connection with production from a mine on the Claims in accordance with generally accepted accounting principles, consistently applied, including without limiting the generality of the foregoing, those in connection with mining, handling, processing, refining, transporting and marketing of any ore, concentrates, metals or other minerals produced, and shall also include adequate working capital for the efficient operation of a mine, all taxes (other than income taxes) borne by the Joint Venture and royalties to third parties payable by the Joint Venture in respect of the operation and production of a mine on the Claims, and the sale of any ore, concentrates, metals or other minerals produced therefrom;

(ii) "Postproduction Capital Expenses" shall mean all costs incurred or chargeable, directly or indirectly, by the Joint Venture after commencement of production of nature and type similar to Preproduction Expenses;

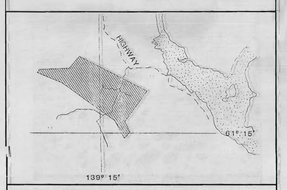
(iii) "Preproduction Expenses" shall mean all exploration and development expenditures and all other costs, expenses, obligations and liabilities of whatsoever kind or nature including those of a capital nature, incurred or chargeable, directly or indirectly, by the Joint Venture with respect to the exploration and development of the Claims and bringing a mine into production, and adequate working capital to finance production for the first six (6) months of such production. Preproduction Expenses shall also include any actual interest charged by the chartered bank to the Joint Venture.

If, in any fiscal year, the expenses referred to above exceed the said gross revenue for any such year, the excess shall be carried forward and be deducted as an expense from the gross revenue of the subsequent year or years, as the case may be.

LEGEND

Terrain Clearance ..... 100 metres
Line Spacing ..... 100 metres
Property Boundary

TOTAL MAGNETIC FIELD
1000 gammas
250 gammas
50 gammas
10 gammas



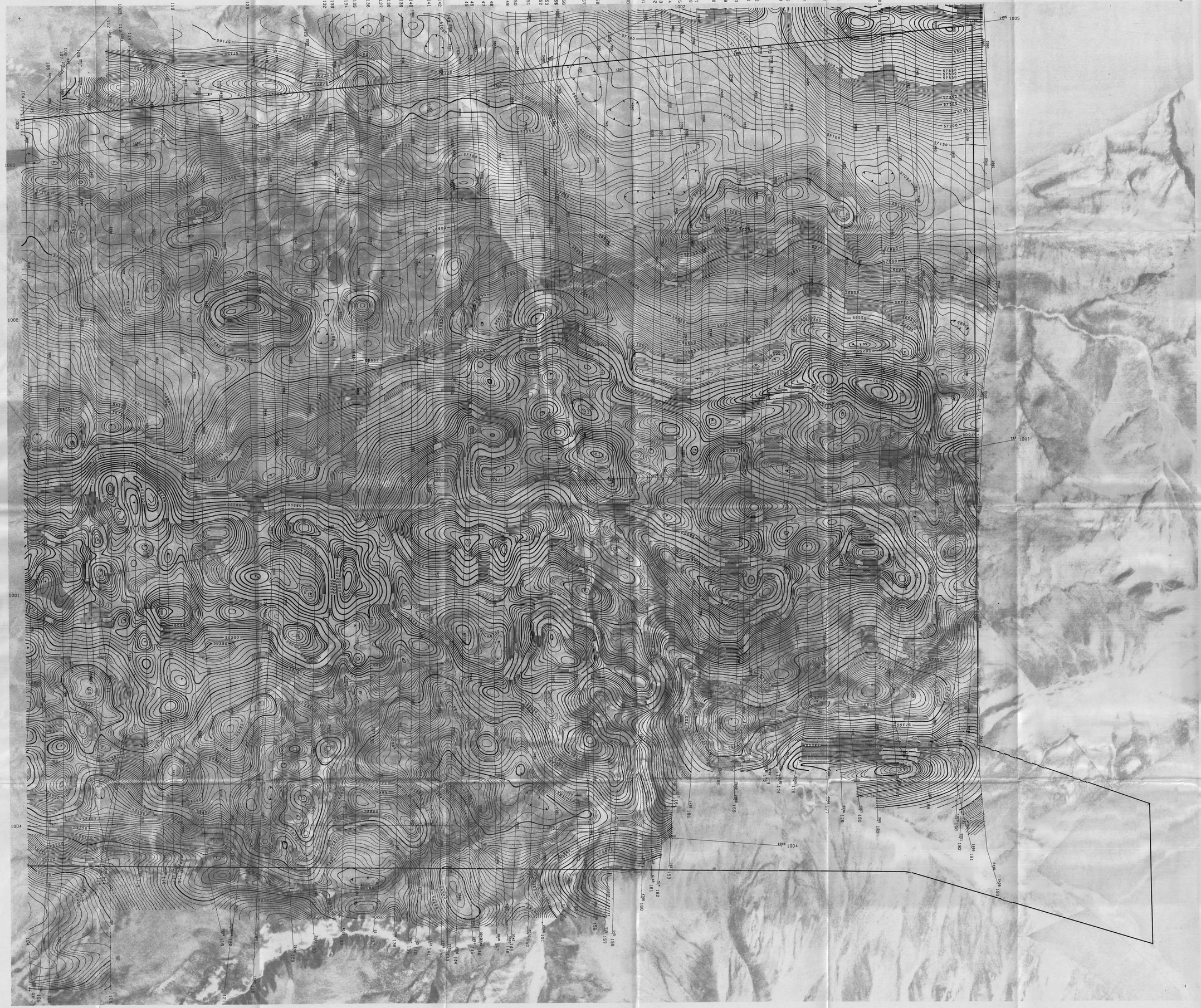
NATHAN MINERALS INC.

AIRBORNE MAGNETIC SURVEY
TOTAL MAGNETIC FIELD

BURWASH CREEK AREA, YUKON

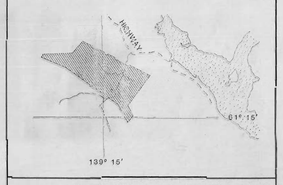
N.T.S. NO.	115G/6	DRAWING NO.	A-789W-1
SCALE:	1:10,000	DATE:	September 1988

TERRAQUEST LTD.
TORONTO, CANADA



LEGEND

Terrain Clearance	100 metres
Line Spacing	100 metres
Property Boundary	
TOTAL MAGNETIC FIELD	
1000 gammas	
250 gammas	
50 gammas	
10 gammas	



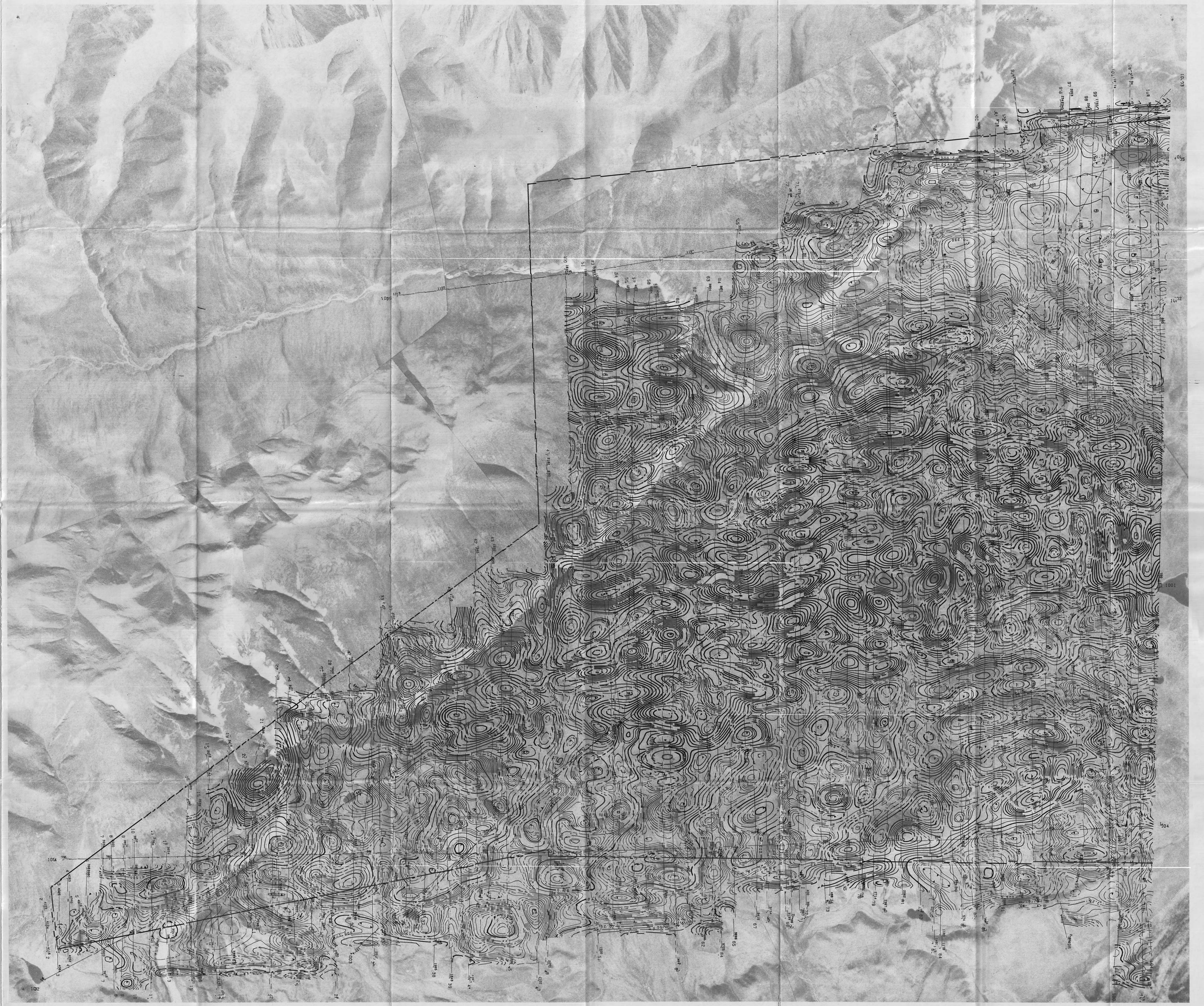
NATHAN MINERALS INC.

AIRBORNE MAGNETIC SURVEY
TOTAL MAGNETIC FIELD

BURWASH CREEK AREA, YUKON

N.T.S. NO. 115G/6	DRAWING NO. A-789E-1
SCALE: 1:10,000	DATE: September 1988

TERRAQUEST LTD.
TORONTO, CANADA

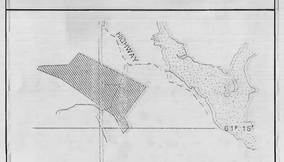


LEGEND

Terrain Clearance ..... 100 metres
Line Spacing ..... 100 metres
Property Boundary

VERTICAL MAGNETIC GRADIENT

5.00 gammas/metre
1.00 gammas/metre
0.25 gammas/metre
0.05 gammas/metre



NATHAN MINERALS INC.

AIRBORNE MAGNETIC SURVEY

VERTICAL MAGNETIC GRADIENT
Calculated From Total Field

BURWASH CREEK AREA, YUKON

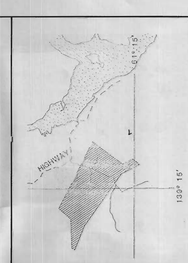
N.T.S. NO. 115G/6	DRAWING NO. A-789W-2
SCALE: 1:10,000	DATE: September 1988

TERRAQUEST LTD.
TORONTO, CANADA

LEGEND

Terrain Clearance ..... 160 metres
Line Spacing ..... 100 metres
Property Boundary

VERTICAL MAGNETIC GRADIENT
Contour Interval
5.00 gammas/metre
0.25 gammas/metre
0.05 gammas/metre



NATHAN MINERALS INC.

AIRBORNE MAGNETIC SURVEY
VERTICAL MAGNETIC GRADIENT
CALCULATED FROM DUAL FREQUENCY

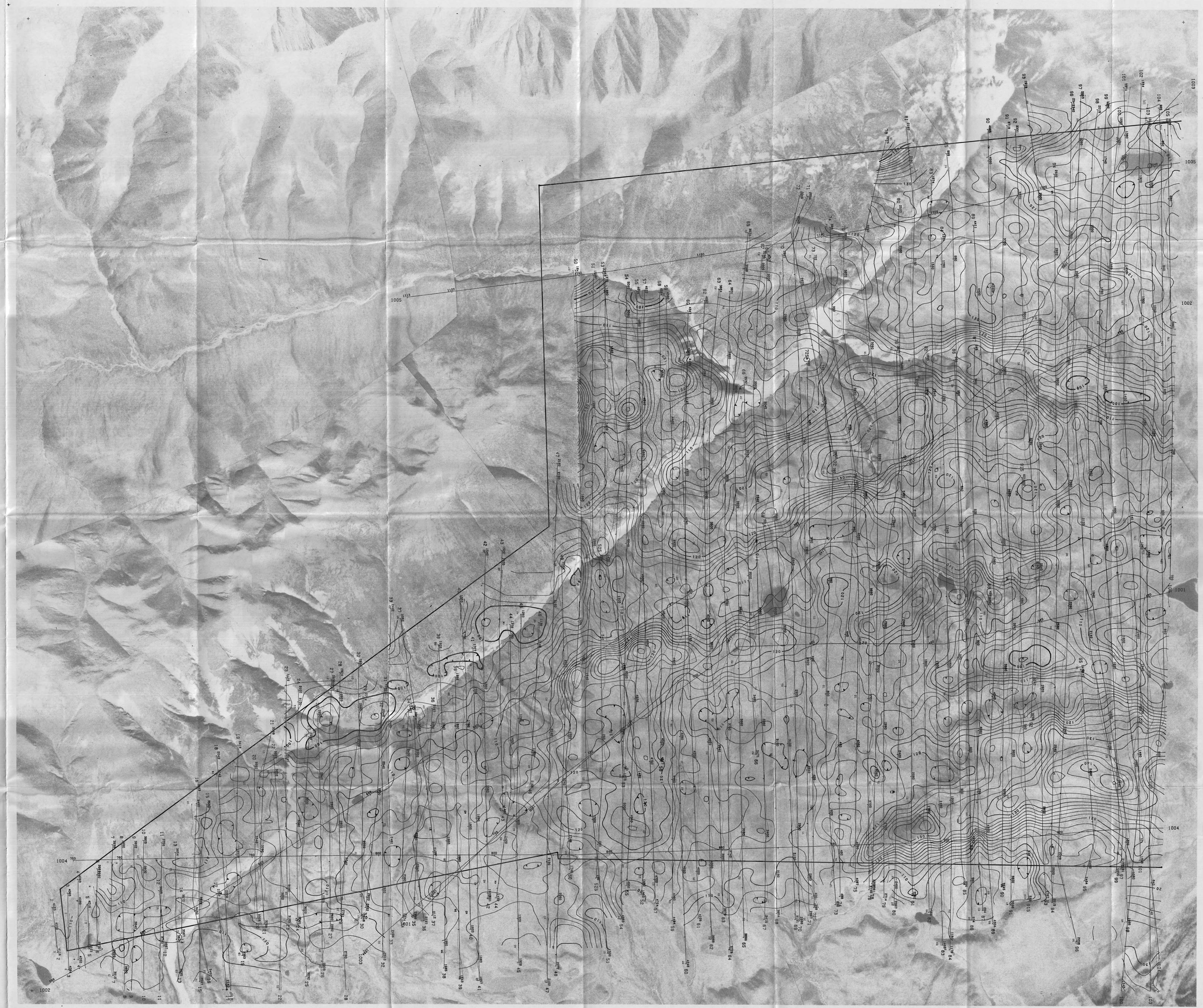
BURWASH CREEK AREA, YUKON

N.T.S. NO.	115G/6	DRAWING NO.	A-788E-2
SCALE:	1:10,000	DATE:	September 1988

TERRAQUEST LTD.
TORONTO CANADA

TERRA
MAP 100

MAPNO=0



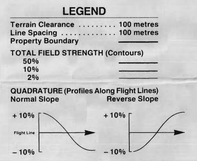
VLF Transmitter
NLK Seattle, 24.8 kHz
Azimuth 135

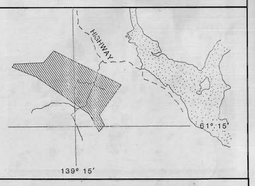
LEGEND

Terrain Clearance ..... 100 metres
Line Spacing ..... 100 metres
Property Boundary

TOTAL FIELD STRENGTH (Contours)
50%
10%
2%

QUADRATURE (Profiles Along Flight Lines)
Normal Slope
Reverse Slope





NATHAN MINERALS INC.

AIRBORNE VLF-EM SURVEY
CONTOURS OF TOTAL FIELD STRENGTH
PROFILES OF QUADRATURE

BURWASH CREEK AREA, YUKON

N.T.S. NO. 115G/6	DRAWING NO. A-789W-3
SCALE: 1:10,000	DATE: September 1988

TERRAQUEST LTD.
TORONTO, CANADA

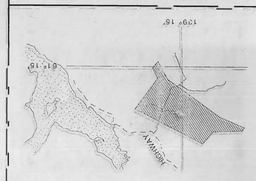
AIRBORNE VLF-EM SURVEY
CONTOURS OF TOTAL FIELD STRENGTH
PROFILES OF QUADRATURE

BURWASH CREEK AREA, YUKON

NATHAN MINERALS INC.

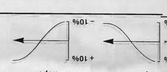
N.T.S. NO	115G/6	DRAWING NO	A-7696E-3
SCALE	1:10,000	DATE	September 1988

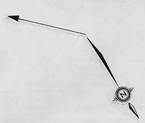
TERRAQUEST LTD.
TORONTO CANADA



LEGEND

Terrain Clearance ..... 100 metres
Line Spacing ..... 100 metres
Property Boundary
TOTAL FIELD STRENGTH (Contours)
50%
100%
200%
CHARACTER OF PROFILES (Profiles Along Flight Lines)
Normal Slope Reverse Slope





LITHOLOGY

TERTIARY

12 Latite Porphyry

11 Amphitheatre Formation: sandstone

CRETACEOUS

10m Magnetic Unit Within 10

10 Biotite Hornblende Granodiorite

UPPER TRIASSIC TO LOWER CRETACEOUS

9 Phyllite

UPPER TRIASSIC

7 Nikolai Greenstone:basalt,andesite

LATEST PENNSYLVANIAN TO LOWER PERMIAN

5m Magnetic Unit Within 5

5 Hasen Creek Formation:argillite,siltstone,greywacke, basalt

3m Magnetic Unit Within 3

3 Station Creek Formation:pyroclastic,breccia, agglomerate

VLF Transmitter
NLK Seattle, 24.8 kHz
Azimuth 135

LEGEND

Terrain Clearance ..... 100 metres
Line Spacing ..... 100 metres
Property Boundary

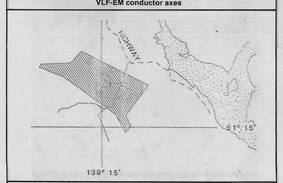
INTERPRETATION

Contact
Fault

VLF-EM Conductor Axes

Normal Quadrature
Reverse Quadrature
Total Field Only

See text for classification of VLF-EM conductor axes



NATHAN MINERALS INC.

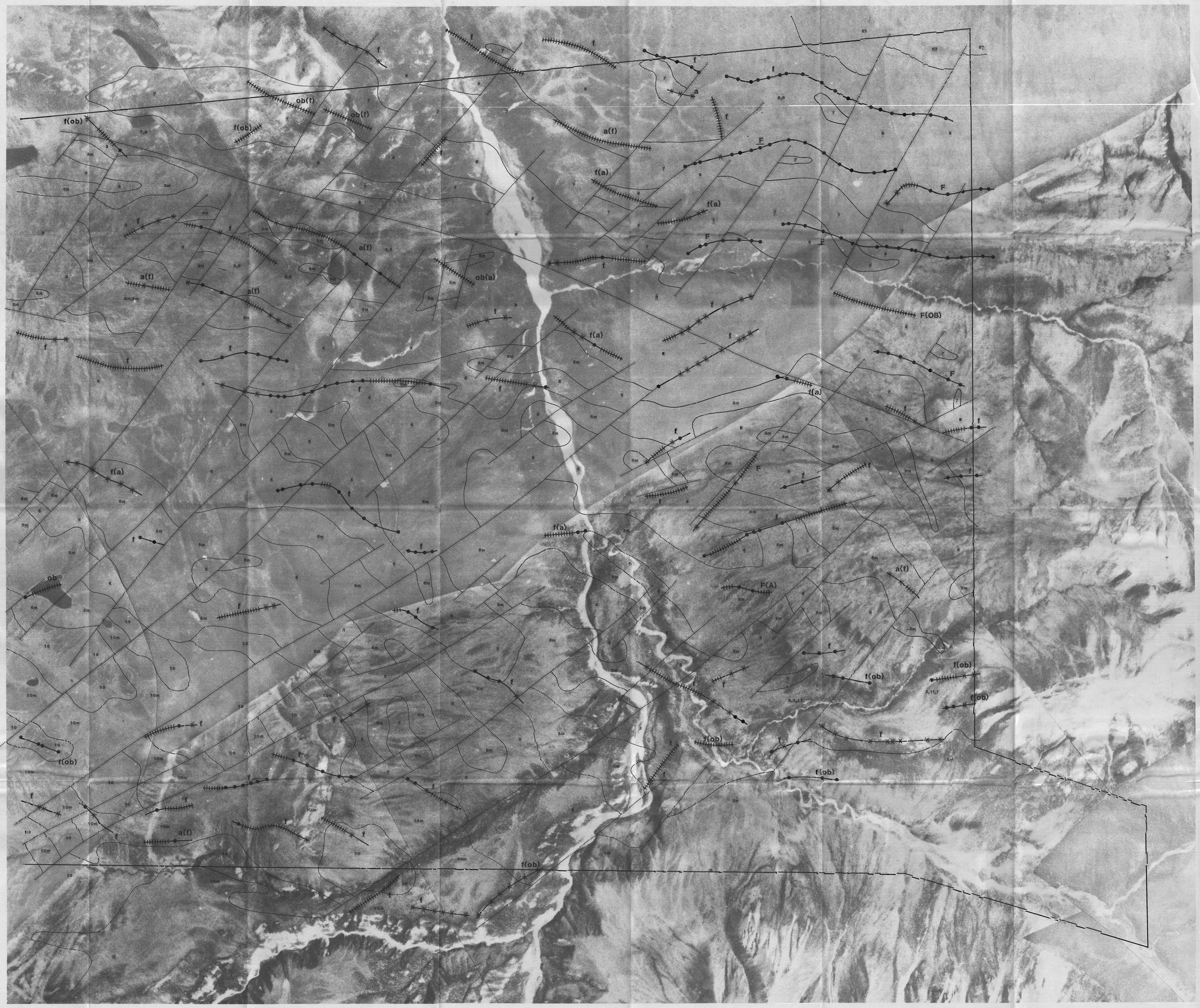
INTERPRETATION

BURWASH CREEK AREA, YUKON

N.T.S. NO. 115G/6 | DRAWING NO. A-789W-4

SCALE: 1:10,000 | DATE: September 1988

TERRAQUEST LTD.
TORONTO, CANADA



LITHOLOGY

TERTIARY

- 12 Latite Porphyry
- 11 Amphitheatre Formation: sandstone

CRETACEOUS

- 10m Magnetic Unit Within 10
- 10 Biotite Hornblende Granodiorite

UPPER TRIASSIC TO LOWER CRETACEOUS

- 9 Phyllite

UPPER TRIASSIC

- 7 Nikolai Greenstone:basalt,andesite

LATEST PENNSYLVANIAN TO LOWER PERMIAN

- 5m Magnetic Unit Within 5
- 5 Hasen Creek Formation:argillite,siltstone,greywacke, basalt
- 3m Magnetic Unit Within 3
- 3 Station Creek Formation:pyroclastic,breccia, agglomerate

VLF Transmitter
NLK Seattle, 24.8 kHz
Azimuth 136

LEGEND

Terrain Clearance ..... 100 metres
Line Spacing ..... 100 metres
Property Boundary

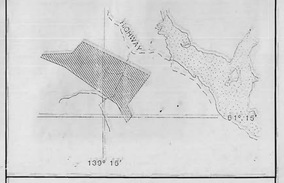
INTERPRETATION

Contact
Fault

VLF-EM Conductor Axes

Normal Quadrature
Reverse Quadrature
Total Field Only

See text for classification of VLF-EM conductor axes



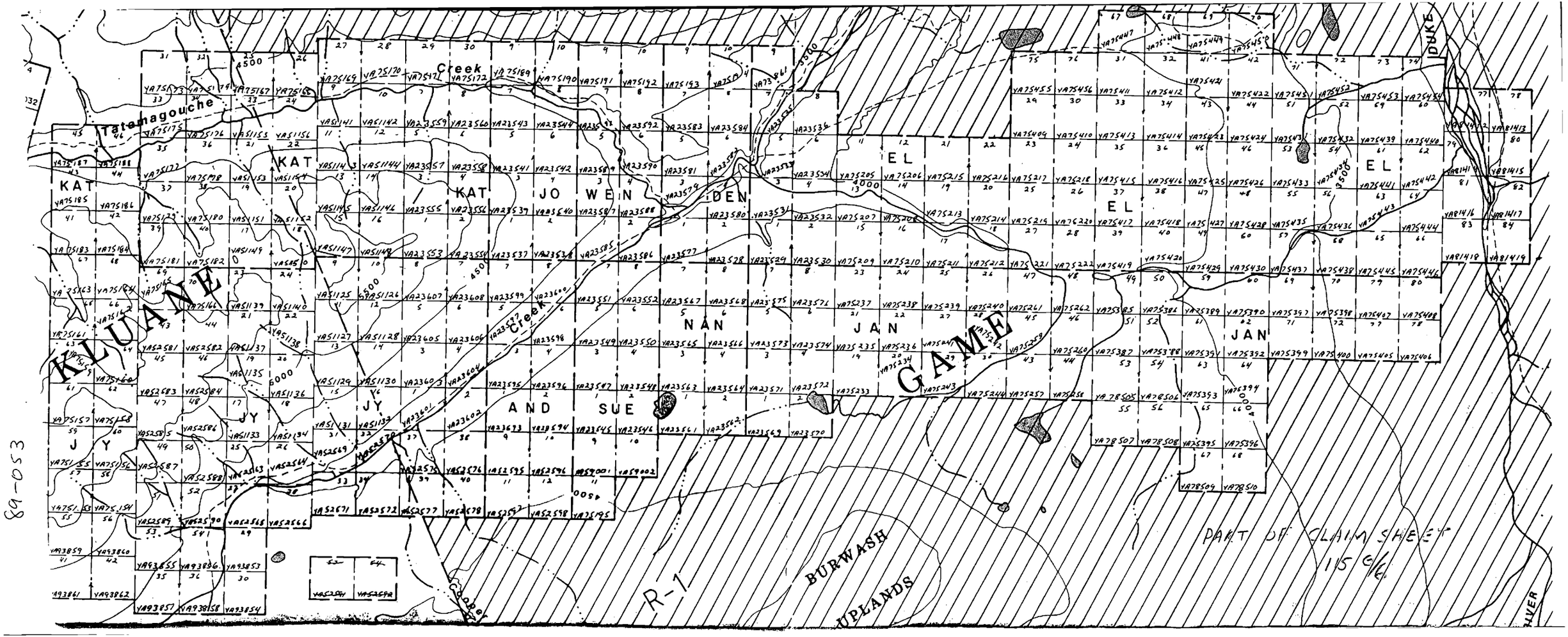
NATHAN MINERALS INC.

INTERPRETATION

BURWASH CREEK AREA, YUKON

N.T.S. NO. 115G/6	DRAWING NO. A-789E-4
SCALE: 1:10,000	DATE: September 1988

TERRAQUEST LTD.
TORONTO, CANADA


Tatahagouche
Creek
KAT
KAT
KAT
JO
WEN
DEN
EL
EL
EL
KLUANE
NAN
JAN
JAN
GAME
JY
JY
JY
AND
SUE
Creek
Creek
R-1
BURWASH
UPLANDS
PART OF CLAIM SHEET
115 G/6
DUKE
89-053

Yukon Energy, Mines and Resources Designation Number EIP 89053

NATHAN MINERALS INC.

1989 DIAMOND DRILLING AND ACCESS TRAIL ON QUARTZ CLAIMS NEAR BURWASH CREEK, YUKON

Work on Claims

EL 36, 37, 39, 40, 42, 44, 46-48, 71, 105; JAN 4-6, 19, 20, 29 30, 43, 44, 49, 51, 89-90; NAN 3, 5, 6; SUE 2

Whitehorse Mining District

Geographic Coordinates (Centre of Property)

61° 22'N
139° 18'W

NTS Sheet 115 G/6

by

L.B. Halferdahl, Ph.D., P.Eng.

1990 02 23

Work done from 1989 07 05 to 1989 11 29

Halferdahl & Associates Ltd.
18, 10509 - 81 Avenue
Edmonton, Alberta
T6E 1X7

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF APPENDICES

1.0 INTRODUCTION

Exploration of the quartz claims extending from Tatamagouche and Burwash Creeks to beyond Duke River in southwestern Yukon continued during the 1989 exploration season. It consisted of line cutting for geophysical surveys, GENIE and magnetometer surveys, minor geological mapping, construction of and improvements to access trails, and 730.45 m of diamond drilling in 10 holes. Originally only very limited drilling was planned, but with the ease of exploring on mineral claims in Yukon compared with extreme difficulties with Land Use in the Northwest Territories, drilling that had been planned for NWT was diverted to Yukon late in the season. This report describes the drilling of nine holes and the construction of access trails to them.

As information on the geographic and geological settings, and references have been detailed in assessment reports filed with Indian and Northern Affairs Canada, sections dealing with these topics have been omitted. The property has recently been nearly doubled in size to 607 claims but details on the new claims are still awaited from the Mining Recorder (Appendix 2).

2.0 SUMMARY

Parts of an access trail, totalling about 9.8 km, to drillsites were improved and other parts newly constructed by means of a D8 bulldozer, a JCB hoe and loader, and a 6-yard Ford dump truck.

Core recovery was very low because of thick overburden or the blocky and cleaved nature of the very hard bedrock or both in holes 89-2 to 89-8. Some were abandoned short of their planned depths because of drilling difficulties. Caving overburden containing abundant serpentine forced abandoning hole 89-9 at a depth of 72½ m while still in overburden.

The most prominent GENIE anomaly, termed anomaly M, is caused by a layer of graphite in intermediate to basic volcanics.

Another GENIE anomaly may be caused by sulfides in a thick unit of mostly black tuff, here termed the Gopher Member. Up to four layers or zones with anomalously high concentrations of gold are present in the Gopher Member. In most drillholes gold does not appear to be correlatable with copper, lead, zinc, or molybdenum, but anomalously high concentrations of these metals are present in some holes. In drillholes at increasing distances westerly from the Golden Gopher Slope, anomalous

concentrations of zinc and molybdenum are present in 89-6, roughly coincident anomalously high concentrations of gold, silver, lead, zinc, and molybdenum in 89-8, and roughly coincident anomalously high concentrations of gold, silver, zinc, and molybdenum in 89-7. The highest concentration of gold in all core samples is 1072 ppb from drillhole 89-7. The Gopher Member warrants further investigation.

3.0 ACCESS TRAIL

During 1989 parts of the previous access trail were improved by building and widening grades, excavating ditches, and minor gravelling. Part of the previous access trail (a winter road) was rerouted to dryer ground. Two log culverts were constructed, and cast-iron pipes installed at appropriate places for cross drains. Additional culverts and drains are needed. In general, the trail is 4 to 5 m wide; depending on topography and soil conditions it includes sidehill cuts, cut and bladed gravel ridges, and lengthy stretches of material pushed up from one or both sides with later flattening and smoothing to make a grade passable for 4-wheel-drive vehicles, particularly when frozen. The equipment used for this work included a D8 bulldozer, a JCB hoe and loader, and a 6-yd Ford dump truck.

Work was done on the part of the access trail from where it branches off the road up Bea Creek to near Lake One on the Burwash Uplands (Fig. 3.1 and 3.2), and minor work on the crossings of 101 and 105 Pups west of Fig. 3.2, on the part of the trail constructed in 1987. The crossing of 105 Pup is in the valley of Burwash Creek.

A brief account of the work follows. In it distances from the Bea Creek road to Frying Pan Creek were measured by means of a topofil. Beyond Frying Pan Creek they have been scaled from Fig. 3.1 and 3.2.

Metrage	Description
0	start of trail to Burwash Uplands at its intersection with road up Bea Creek
0-39	previous trail regraded and gravelled
39	log culvert across Bea Creek installed, and covered with fill and gravel
39-348	newly graded and ditched by pushing material up
348	intersection with old trail
348-411	old trail regraded and ditched
411	cross drain installed

Metrage	Description
411-588	old trail regraded and ditched
588-634	old trail regraded
625	intersection of old high trail
634	cross drain installed
634-763	old trail regraded
763-897	old trail regraded and ditched
897-930	old trail regraded
930-995	old trail regraded and ditched
995	cross drain installed
995-1228	old trail regraded
1228	previous log culvert on Martin Creek
1228-1381	old trail regraded
1381-1511	old trail regraded and ditched
1511	West Bea Creek (ford at present; culvert probably needed); original course of West Bea Creek diverted into ditch on west side of trail for about 90 m
1511-1561	old trail regraded
1561	low point (needs cross drain)
1561-1780	newly graded and ditched
1780	Gopher Creek (needs cross drain); location approximate
1780-1998	newly graded and ditched
1998-2607	old grade on sidehill (Golden Gopher Slope) widened and smoothed
2607-2655	old trail regraded and ditched
2655	low point (needs cross drain)
2655-2956	old trail regraded and ditched
2956-3184	constructed in 1988 by side cutting gravel ridge
3184	Frying Pan Creek just above confluence with Frying Pan Pup (ford at present: no plans to change because of gravelly bed and no water flowing even after heavy rains in 1988)
3184-3905	minor improvements of gradient mostly on gravel ridges
3905	intersection with old winter road
3905-4530	newly cut and bladed mostly along gravel ridge
4530-5625	newly graded by pushing material up and smoothing
5625	log culvert across Upper Frying Pan Creek installed, and covered with fill

Metrage	Description
5625-7345	newly graded mostly by pushing material up and smoothing, some sections bladed into gravel
7345	ford on 30 Pup: smooth gravel pavement about 10 m wide in creek bed
7345-7705	newly bladed to gravel
7705	intersection with old winter road
7705-8260	old trail recut to gravel mostly on ridge
8260-9800	newly graded by pushing material up and smoothing along route of old winter road
9800	beginning of grade constructed in 1987

4.0 DIAMOND DRILLING

Mobilization for the drilling program started on October 10, 1989 and ended with closing the camp on November 29, 1989. The drilling was to test and evaluate the GENIE anomalies discovered in the latter part of the 1988 season, and in the 1989 season. If time and other factors permitted one or more holes were to be drilled to test the anomalous concentrations of platinum near the SUE trench. Kluane Drilling Ltd. of Whitehorse was contracted for the diamond drilling with a skid-mounted Longyear 38 to be used. Nathan supplied a D8 bulldozer for moving the drill, preparing drillsites, and access thereto, and a camp for the crew.

Ten holes were drilled for a total of 730.45 m as follows:

Gold on or near Golden Gopher Slope				Platinum at SUE Trench	
89-1	131.67 m	89-5	88.39 m	89-9	72.54 m
89-2	44.20	89-6	66.14	89-10	79.25
89-3	46.33	89-7	71.93		
89-4	47.09	89-8	82.91		

Except for holes 89-1 and 89-10 core recovery was very unsatisfactory. A very hard siliceous tuff unit, either blocky or cleaved, caused most of the problems. Permafrost is present in the almost ubiquitous boulder tills but was generally not more than 15 m thick. Its temperature was close enough to freezing that no salt or other material was needed to lower the freezing temperature of the drilling water. In hole 89-6, water-bearing sand and gravel below the frozen till caused problems, as did the depth of overburden in some holes. Caving serpentine and copious serpentine in the overburden at the SUE trench forced abandoning both holes there before reaching their targeted

depths. Information from hole 89-10- is not yet complete so its log and analyses of samples from it are not included here. A cold snap in mid-November interrupted the drilling for almost one week.

The lithological logs of nine drillholes are in Appendix 1 along with tabulations of the analyses of samples. In some holes sludge samples were collected and analyzed, particularly when core recovery was low. All samples were analyzed by standard atomic absorption methods, with gold being preconcentrated by fire assay methods, at Northern Analytical Laboratories Ltd. in Whitehorse. Northern Analytical Labs advised that the digestion of molybdenum may not be complete. Further, in some of their analytical reports, concentrations for molybdenum and nickel appear to have been interchanged. Hence, appropriate changes for molybdenum and nickel have been made in the tabulations of analyses accompanying the drill logs, pending checking.

4.1 Drillhole 89-1

Drillhole 89-1 was drilled to 131.67 m to evaluate the eastern end of GENIE anomaly M. It intersected andesites, dacite, and andesitic dacite, graphite, diorite, and porphyritic diorite, with gabbro near its bottom. A graphite layer 1.53 m thick was intersected from 46.63 to 48.16 m which contained 46 ppb gold. It appears to be the cause of GENIE anomaly M there. A zone with 1 to 2 per cent disseminated pyrite was intersected from 48.16 to 61.26 m. The higher concentrations of gold in this interval are as follows:

48.16-49.39 m	dacite	135 ppb gold
50.75-52.27 m	andesite	345 ppb gold
55.47-56.39 m	andesite	346 ppb gold
57.30-57.76 m	andesite	1025 ppb gold

4.2 Drillhole 89-2

Hole 89-2 was drilled to 44.20 m to investigate the anomalous concentrations of gold and lead in soil samples on geochemical soil traverse line 50, run in 1987. Line 50 runs down the Golden Gopher Slope and crosses the main access trail to the Burwash Uplands a few metres south of the contact of a gabbro intrusive and the interbedded black tuffs and black vitreous tuffs of the Gopher Member, which also includes thin graphitic zones. Preparation of a drillsite at this location involved widening the access trail by cutting into the Gopher Member with the D8 bulldozer. The improved exposure of the Gopher Member resulting from this cutting revealed the

strike and dip of bedding as 135°/45°NE with cleavage perpendicular to bedding, and some orange-brown gossan. At the black tuff-gabbro contact is chloritic schist with pronounced schistosity with strike and dip of 135°/45°NE. Total field magnetic responses measured with a Scintrex MP-2 magnetometer show a slight rise across the Gopher Member.

In hole 89-2, less than 5 per cent of the core was recovered, due to the hardness and cleaved nature of the Gopher Member. The little core recovered indicated that this part of the Gopher Member consists of grey and black tuffs, black vitreous tuffs, and a thin interbed of limestone. Hole 89-2 had to be abandoned at 44.20 m due to very difficult downhole conditions when no further advance was possible.

4.3 Drillhole 89-3

Drillhole 89-3 was drilled vertically at the same site as drillhole 89-2 in hopes of improved core recovery. Sludge samples were collected. Core recovery improved to 23 per cent. A few anomalous gold concentrations were obtained as follows:

Metrage	Core	Sludge
28.04-29.57	93 ppb Au	44 ppb Au
29.57-31.09	81	97
31.09-32.61	76	73

4.4 Drillhole 89-4

Drillhole 89-4 was drilled to investigate GENIE anomaly L on line L. Anomaly L does not have a magnetic coincidence, but appears to lie at the southern edge of magnetic highs within the Gopher Member. Unit L within the Gopher Member is defined by twin magnetic highs. Anomaly L lies towards the southern edge of the southern high whereas drillhole 89-4 intersected dark-grey to black massive siliceous tuffs with 1 to 5 per cent pyrite as veins, disseminations, and blebs from 27.43 to 42.70 m and 1 to 2 per cent pyrite from 42.70 to 47.09 m on the southern flank of the northern high.

Some of the intersections with higher gold concentrations follow:

18.29-21.34 m 198 ppb Au (overburden sludge)
21.34-24.38 m 45 ppb Au (overburden sludge)
24.38-27.43 m 74 ppb Au (overburden sludge)

32.00-33.71 m 626 ppb Au (core)

Perhaps the peak of the northern magnetic high should be checked for economic concentrations of gold.

Hole 89-4 had to be abandoned at 47.09 m before it reached the expected position of anomaly L because the downhole conditions made further advance impossible.

4.5 Drillhole 89-5

When drillhole 89-4 had to be abandoned, the drill was moved to 0164N on line L, where drillhole 89-5 was collared. It intersected black tuff of the Gopher Member, minor limestone, and andesite at the bottom. Some of the higher gold concentrations in the core follow:

62.79-64.31 m	339 ppb Au
64.92-65.84 m	344 ppb Au
67.06-68.28 m	448 ppb Au

4.6 Drillhole 89-6

Drillhole 89-6 was drilled to test GENIE anomaly M near its western end. Anomaly M has a strike length of about 1½ km. Five layers or zones of graphite were intersected as follows:

30.78-37.49 m
41.76-42.67 m
43.28-51.82 m
52.43-54.56 m
61.42-62.18 m

The only anomalous concentration of gold is 188 ppb from 61.42 to 62.18 m. The graphite zones appear to be repeated by faulting as they are much brecciated and most are associated with zones of soft clayey alteration. Gabbros and gabbroic andesites are present towards the bottom of the hole.

4.7 Drillhole 89-7

Drillhole 89-7 was drilled to investigate a GENIE anomaly on strike with anomaly K on line K. It intersected graphite, andesites, and black tuffs similar to those in the Gopher Member. Overburden is very thick, perhaps downhole to 56.08 m. Virtually no core was recovered from 56.08 to 65.53 m, but this interval is surmised to be andesite from the few core fragments recovered, which also included some acidic to intermediate greyish-green welded tuffs. At the bottom of this hole from 68.58 to 71.93 m are vitreous black tuffs of the Gopher Member with minor disseminated pyrite. Some of the higher gold concentrations in the samples follow:

59.44-60.96 m	1081 ppb Au (sludge) in andesites, acidic to intermediate welded tuff
60.96-62.48 m	227 ppb Au (sludge) same as 59.44-60.96 m

65.53-67.06 m	102 ppb Au	(core) in vitreous black tuff
67.06-67.97 m	662 ppb Au	(core) in vitreous black tuff
68.58-69.79 m	270 ppb Au	(core) in vitreous black tuff
69.80-70.10 m	1072 ppb Au	(core) in vitreous black tuff
70.10-70.41 m	347 ppb Au	(core) in vitreous black tuff

Hole 89-7 had to be abandoned at 71.93 m due to sloughing and caving which prevented further advance.

4.8 Drillhole 89-8

Hole 89-8 was drilled to investigate a GENIE anomaly at 0625N on line 4000 W. This anomaly has a strike length of some 200 m. It intersected graphite with acidic interbeds, graphites, andesites, gabbro, a latite porphyry dyke(?), and a thin black calcareous interbed. Some of the higher gold concentrations in the samples follow:

34.44-35.36 m	161 ppb Au	(overburden sludge)
37.19-39.01 m	260 ppb Au	graphite-tuff interbeds (core)
39.01-40.23 m	203 ppb Au	graphite-tuff interbeds (core)
40.23-41.76 m	104 ppb Au	graphite-tuff interbeds (core)
43.89-44.81 m	131 ppb Au	graphite (core)
68.58-69.49 m	42 ppb Au	graphite (core)
69.19-70.71 m	244 ppb Au	black calcareous interbed (sludge)
70.10-71.63 m	48 ppb Au	black calcareous interbed (core)

4.9 Summary of Drilling Near and West of the Golden Gopher Slope

Except for drillhole 89-1, core recoveries were not satisfactory, with the difficulties arising from thick overburden, some with unconsolidated water-bearing sands below permanently frozen till, and the blocky and cleaved nature of much of the very hard bedrock. Enquiries are being made to learn if the use of more sophisticated drilling fluids will improve core recoveries in future drilling on the property.

GENIE anomoly M is caused by a layer of graphite within intermediate to basic volcanics.

GENIE anomaly L may be caused by sulfides within the Gopher Member, which is a thick layer of mostly black tuffs and seems to contain two to four intervals with anomalous gold concentrations. The Gopher Member warrants additional investigation. Detailed magnetometer surveys are expected to be useful in continuing to trace it beneath the thick overburden prior to drilling.

Casual inspection does not reveal obvious correlations between analyses of core and sludge samples for corresponding intervals, nor between concentrations of the various metals determined, except for analyses from drillhole 89-7, the most westerly. In it, concentrations of gold, silver, zinc, and molybdenum are probably correlated. They are more consistently higher than those of the other drillholes. Further investigation in this direction is warranted.

4.10 Drillhole 89-9

Hole 89-9 was spotted about 165 m south of the most southerly 1987 percussion hole with anomalous platinum concentrations in hopes of obtaining information on the stratigraphy of the ultramafic intrusion as well as on the platinum. After penetrating about 15 m of permanently frozen boulder till, it encountered what appeared to be unconsolidated unfrozen overburden which caved into the hole and made drilling very difficult. Although this unconsoldiated material is recorded as overburden, such material cannot be distinguished with certainty from caving serpentine within the ultramafic intrusion. Hole 89-9 was abandoned at 72.54 m where caving and sloughing overburden prevented attempting to drill deeper.

Hole 89-9 lies along a topographic low running westerly from Lake One and continuing beyond two small ponds. If it bottomed while still in overburden, the surface topography, subdued by glacial deposits, appears to coincide with a very deep preglacial channel, perhaps an indication of preglacial relief in the peridotite similar to the present relief in peridotite in Tatamagouche Canyon.

Respectfully submitted,

L.B. Halferdahl, Ph.D., P.Eng.

Edmonton, Alberta
1990 02 23

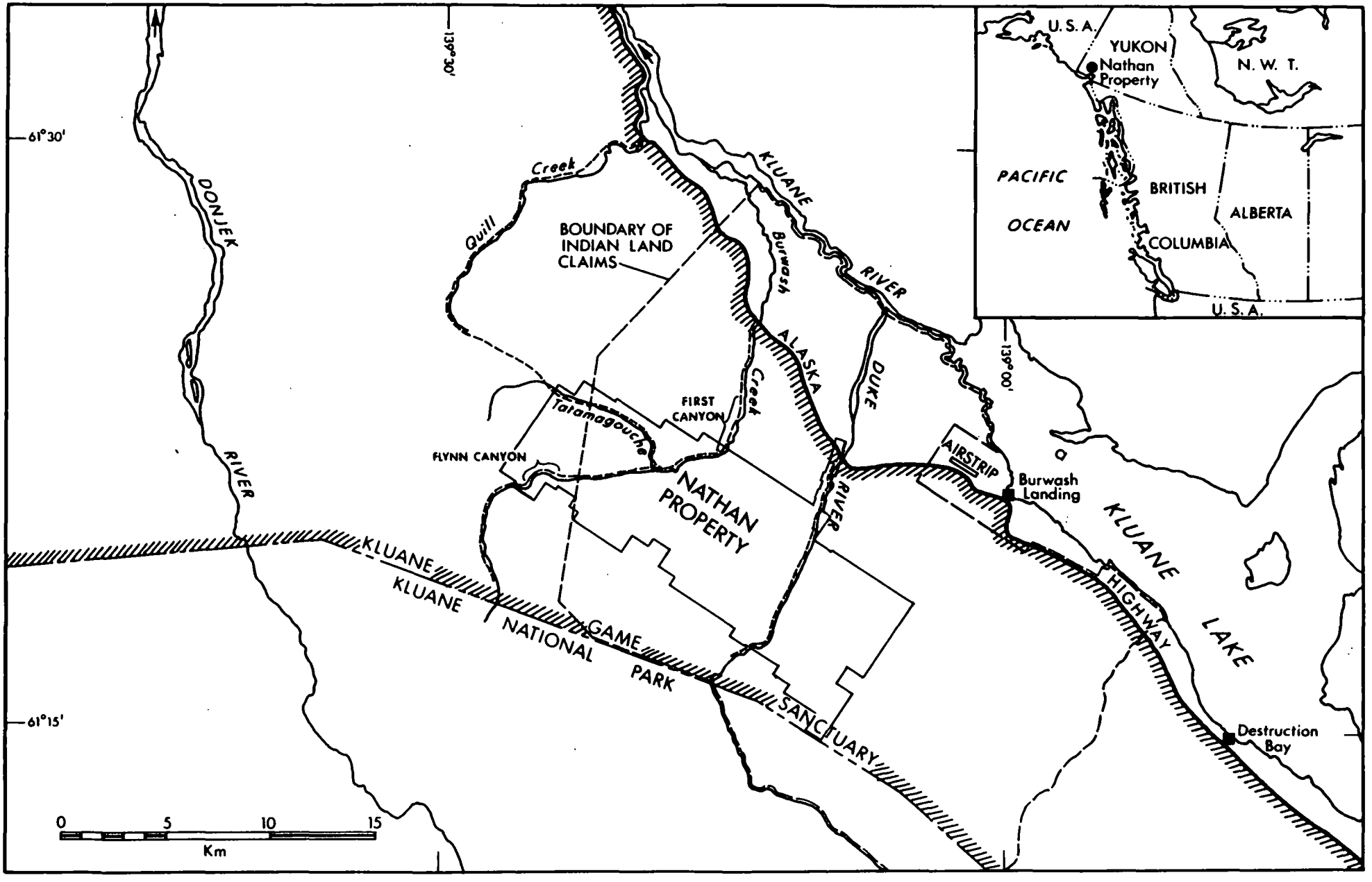


Fig. 1.1 Location and Index Map

APPENDIX 1: LITHOLOGICAL LOGS FOR DIAMOND DRILLHOLES AND ANALYSES OF SAMPLES

Company: Nathan Minerals Inc.
Drillhole: 89-1
Azimuth: 211°
Inclination: -55° at collar
Length: 131.67 m
Core recovered: 90.95 m, 78.9%
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: north of Golden Gopher Slope, claim EL 48
Coordinates: Gopher Grid: 0794N, 2880W
Elevation: 1085 m (from 1:5000 topo map)
Drilled: 1989 10 12 to 16
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To determine the cause of GENIE anomaly M. Hole 89-1 was spotted near the eastern end of anomaly M, just off the main access trail to the Burwash Uplands.

Note: Analyses of core samples from 46.63-61.26 m are tabulated at the end of this log.

Metrage	Interval	Description
0-16.46	16.46	Overburden to 15.85 m; cased to 16.46 m
16.46-18.39	1.93	Andesite Flow, brownish-green, weathered and oxidized
18.39-25.91	6.52	Andesite Tuff
		18.39-21.03 m greenish-grey, interbedded with thin flows, mafic clasts 1-5 mm, flow contact at 45°CA with zones of fine calcite veins
		18.39-18.54 m flow with calcite veins at 45°CA
		19.66-19.96 m flow contact at 50°CA
		19.96-21.03 m fractured
		21.03-25.91 m light-green-grey, subrounded and subangular mafic clasts 2-5 mm, few 15-20 mm
		21.09-21.33 m calcite vein parallel to bedding(?) at 30°CA, minor fine calcite veins throughout
25.91-46.63	20.72	Andesite Flows, greenish-green, minor tuffaceous interbeds, few fine calcite veins throughout
		27.14-27.43 m flow contact and calcite veins subparallel at 17°CA, banded
		27.43-32.92 m fractured, sheared, partly altered to greenish clay
		32.92-33.22 m quartz vein at 17°CA
		33.22-34.44 m clayey altered zones
		34.93-35.36 m quartz vein, upper contact 70°CA, lower 20°CA

Company: Nathan Minerals Inc. Property: Burwash Creek, Yukon
Drillhole: 89-1 Page: 2

Metrage	Interval	Description
		35.36-35.81 m and 35.96-36.88 m clayey alteration
		38.51-38.84 m bedded mafic tuff at 40°CA
		41.00-44.68 m calcite veins and blebs to 1-2 mm
46.63-48.16	1.53	Graphite, black, carbonaceous, soft, clayey, altered (?), bedded at 60°CA
48.16-48.87	0.71	Andesite Tuff, greenish-grey, bedded(?) at 50°CA
48.87-50.75	1.88	Dacitic and Andesitic Tuff
		48.87-49.17 m light-green-grey dacitic, altered clayey
		49.17-49.68 m medium-greenish-grey andesitic, bedded(?) at 60°-65°CA
		49.68-49.80 m dacitic as above
		49.80-50.65 m andesitic as above
		50.65-50.75 m dacitic as above
50.75-55.17	4.42	Andesite Flow, greyish-green, generally massive, minor bedded tuffs at 45°-50°CA
55.17-56.24	1.07	Andesite Tuff(?), green, chloritic, altered, soft, clayey, schistose, schistosity/bedding(?) at 30°CA
56.24-57.15	0.91	Andesite Flow, greenish-grey, massive, calcite veins subparallel to CA at contact
57.15-57.45	0.30	Andesite Tuff, bedding (?) at 55°CA
57.45-72.08	14.63	Andesite Flows
		57.45-61.57 m dark-greyish-green, minor tuff interbeds
		61.57-72.08 m dark- to medium-greyish-green, massive, minor calcite veins to 66.75 m and then increasing to 71.32 m at 45°-90°CA
72.08-81.08	9.00	Gabbro?, dark-greenish-green, massive, granular, partly altered and crumbly
		80.90-81.08 m chilled contact zone(?)
81.08-90.37	9.29	Dacite Tuff, light-greyish
		81.08-86.04 m clastic, cryptocrystalline greyish siliceous fragments and clasts 2-3 mm, few to 10-20 mm
		82.26 m mafic tuff interbed at 55°CA

Company: Nathan Minerals Inc. Property: Burwash Creek, Yukon
Drillhole: 89-1 Page: 3

Metrage	Interval	Description
		82.90 m brecciated graphitic banding at 65°CA
		86.47-90.37 m siliceous, cryptocrystalline
		88.24 m calcite veins at 25°CA
		90.00-90.37 m indurated contact zone
90.37-92.35	1.98	Porphyritic Dacite, fine-grained greenish-grey matrix with whitish to pinkish feldspar phenocrysts, chilled contacts at 65°CA
92.35-111.10	18.75	Andesite, greenish-grey agglomerates and minor tuff
111.10-113.39	2.29	Diorite(?), fine-grained, lower contact grading to tuff
113.39-122.83	10.56	Andesite Flow, greyish-green, massive, locally agglomeratic
122.83-126.47	3.66	Diorite(?), greyish, very fine to fine-grained, chilled(?) lower contact
		124.70-125.12 m quartz vein at 45°CA
126.47-131.06	4.59	Andesite Flow, greenish-grey, partly gabbroic(?)
131.06-131.67	0.61	Diorite(?), as 122.83-126.47 m
		130.15-130.67 m altered and brecciated
131.67	-	End of hole

CORE SAMPLES AND ANALYSES FROM DRILLHOLE 89-1

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
46.63-48.16	6451	46	0.8	44	7	64	21	42
48.16-49.38	7831	135	0.3	103	3	79	4	33
49.38-50.29	7908	34	0.5	93	8	46	4	19
50.29-50.75	7909	83	0.3	56	11	38	5	33
50.75-52.27	7832	345	0.4	63	1	35	3	72
52.27-52.73	7910	25	0.1	99	4	48	4	21
52.73-53.64	7911	27	<0.1	82	7	48	3	24
53.64-54.56	7912	35	<0.1	50	6	47	4	23
54.56-55.47	7913	34	0.3	58	8	41	3	25
55.47-56.39	7833	346	0.2	25	1	73	3	15
56.39-57.30	7914	28	0.2	48	6	57	4	20
57.30-57.76	7834	1025	0.4	75	2	51	3	67
57.76-58.52	7915	16	<0.1	190	5	36	4	24
58.52-59.44	7916	15	0.1	117	3	29	4	26
59.44-60.35	7917	58	0.1	159	2	41	2	21
60.35-61.26	7918	43	<0.1	132	4	58	4	37

CORE RECOVERY FOR DRILLHOLE 89-1

Interval (m)	Recovery (m)	Remarks	Interval (m)	Recovery (m)	Remarks
16.46-17.98	0.76	fractured, broken	80.47-81.08	0.55	massive
17.98-18.68	0.52	blocky	81.08-81.53	0.38	
18.68-19.51	0.41	fractured, broken	81.53-83.82	1.37	
19.51-19.81	0.24	blocky	83.82-84.73	0.82	broken
19.81-21.03	0.37	fractured, broken	84.73-86.87	1.50	fractured, blocky
21.03-25.76	4.26		86.87-87.02	0.07	
25.76-25.91	0.07	broken, fractured	87.02-88.09	0.75	blocky, fractured
25.91-26.62	0.57	blocky	88.09-89.92	0.91	fractured
26.62-27.04	0.25	broken, fractured	89.92-92.20	2.28	
27.04-27.39	0.31		92.20-92.96	0.46	broken, fractured
27.39-32.84	2.72	fractured	92.96-93.88	0.83	
32.84-33.22	0.38		93.88-94.18	0.15	broken, fractured
33.22-34.44	0.61	fractured, broken, clayey zones	94.18-95.01	0.70	broken
			95.01-98.76	2.25	broken, fractured
34.44-45.72	10.72		98.76-100.58	0.73	clayey
45.72-46.63	0.45	fractured	100.58-101.49	0.64	fractured, broken
46.63-48.16	1.22		101.49-102.71	0.61	fractured, broken
48.16-55.47	5.85	blocky, fractured at 50.9, 52.4, 55.47 m	102.71-103.32	0.24	clayey
			103.32-104.24	0.69	broken
55.47-57.30	1.65		104.24-115.82	11.58	
57.30-58.06	0.76		115.82-116.13	0.19	broken, fractured
58.06-61.57	2.46	blocky, broken	116.13-120.70	4.35	
61.57-69.80	6.58	blocky, fractured zone 63.70-64.46 m	120.70-121.00	0.18	broken, fractured
			121.00-123.13	2.02	
69.80-71.02	0.85	blocky	123.13-124.05	0.55	broken, fractured
71.02-72.09	0.97	blocky	124.05-124.97	0.87	
72.09-73.15	0.64	broken, fractured	124.97-125.88	0.73	broken
73.15-75.74	2.07	blocky	125.88-126.19	0.15	fractured, broken
75.74-77.72	1.39	blocky, fractured	126.19-129.24	3.05	
77.72-78.49	0.73	blocky	129.24-129.54	0.18	broken, fractured
78.49-79.25	0.53	blocky, fractured	129.54-130.45	0.82	
75.25-80.16	0.91		130.45-131.67	0.91	fractured at 131.37 m
80.16-80.47	0.19	blocky, fractured			
				90.95	

$$\text{Recovery} = \frac{90.95}{131.67-16.46} \times 100 = 78.9\%$$

Company: Nathan Minerals Inc.
Drillhole: 89-2
Azimuth: 225°
Inclination: -47° at collar
Length: 44.20 m
Core recovered: <2.10 m; <4.8%
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: on Golden Gopher Slope, claim EL 48
Coordinates: Gopher Grid: 0390N, 2930W
Elevation: 1109 m (from 1:5000 topo map)
Drilled: 1989 10 17 to 19
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To test the lead and gold anomalous concentrations in soils on geochemical soil traverse 50.

Note: Drillhole 89-2 was abandoned at 44.20 m when the drill could not advance because of sloughing and caving ground, accompanied by no core recovery.

Analyses of sludge samples from 41.15-44.20 m are tabulated at the end of this log.

Metrage	Interval	Description
0-10.06	10.06	Tuff, grey to dark-grey, very hard, siliceous, fragments only some abraded round, (rhyolite?)
10.06-10.67	0.61	Rhyolitic(?) Tuff, greyish, siliceous, cryptocrystalline, sheared and brecciated
10.67-11.89(?)	1.22	Black Tuff, vitreous, very hard, siliceous, glassy, cleaved fragments only
11.89(?)-12.19(?)	0.33	Limestone, grey, argillaceous, bedding contact at about 80°CA
12.19-42.37	30.18	Black Tuff, very hard, siliceous, glassy as 10.67-11.88 m, cleaved fragments only
42.37-44.20	1.83	Black Tuff? (no recovery)
44.20	-	End of hole

SLUDGE SAMPLES AND ANALYSES FROM DRILLHOLE 89-2

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
41.15-42.67	6452	34	0.1	72	14	33	3	25
42.67-44.20	6453	11	0.4	110	30	76	5	52

CORE RECOVERY FOR DRILLHOLE 89-2

Interval (m)	Recovery (m)	Interval (m)	Recovery (m)	Interval (m)	Recovery (m)
0 -10.06	<0.50	17.07-19.02	0	34.14-34.75	0.06
10.06-10.67	<0.15	19.02-20.12	<0.11	34.75-36.58	<0.09
10.67-12.19	0.15	20.12-26.21	0	36.58-41.15	0
12.19-13.41	<0.06	26.21-29.26	<0.15	41.15-42.37	0.24
13.41-14.46	0.05	29.26-32.31	0.15	42.37-42.67	0.21
14.46-16.46	0	32.31-32.92	0.12	42.67-43.38	0
16.46-17.07	0	32.92-34.14	0.06		
					<2.10

$$\text{Recovery} = \frac{<2.10}{44.20} \times 100 = <4.8\%$$

Company: Nathan Minerals Inc.
Drillhole: 89-3
Azimuth: n/a
Inclination: -90° at collar
Length: 46.33 m
Core recovered: <10.65 m; <23.0%
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: on Golden Gopher Slope claim EL 48
Coordinates: Gopher Grid: 0390N, 2930 W
Elevation 1109 m (from 1:5000 topo map)
Drilled: 1989 10 18 to 19
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To attempt to get better core recovery of the Gopher Member.

Note: Analyses of core samples from 22.56-46.33 m and of sludge samples from 0.46.33 m are tabulated at the end of this log.

Metrage	Interval	Description
0-9.75	9.75	Tuff, greyish, siliceous, very hard, brecciated and sheared
9.75-15.58	5.83	Black Tuff, dark-grey to black, very hard, siliceous, cleavage fragments and abraded and subrounded core fragments
15.58-17.37	1.79	Tuff, greyish, siliceous, very hard, brecciated and sheared
17.37-18.90	1.53	(no recovery)
18.90-24.84	5.94	Black Tuff, vitreous, glassy vitreous shards (slaty-carbonaceous?), very hard
24.84-25.15	0.31	Limestone, grey, argillaceous, bedding contacts at about 40°CA
25.15-41.67	16.52	Black Tuff, vitreous, as 18.90-24.84 m
41.67-46.33	4.66	Black Tuff, dark-grey to grey, slightly calcareous locally, very hard, abundant quartz veins, 1-2% disseminated pyrite throughout
46.44	-	End of hole

SAMPLES AND ANALYSES FROM DRILLHOLE 89-3

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Core								
22.56-23.47	6691	33	0.7	81	27	110	4	51
24.23-24.84	6692	39	0.8	80	9	29	4	84
24.84-25.15	6693	35	0.4	51	22	127	10	87
25.15-25.45	6694	16	0.2	48	6	31	5	44
28.04-29.57	6823	93	0.6	68	30	93	10	62
29.57-31.09	6824	81	0.5	43	11	75	4	43
31.09-32.61	6825	76	0.5	64	9	71	3	46
41.76-42.37	6695	11	0.3	53	6	17	3	73
42.37-44.81	6696	<10	0.7	65	6	30	2	105
44.81-46.33	6697	18	0.5	63	6	26	2	97
Sludge								
0 -6.71	6454	37	0.1	79	81	201	2	68
6.71- 8.23	6455	47	0.1	106	21	36	2	20
8.23- 9.75	6456	67	0.2	187	51	283	2	23
9.75-11.28	6457	44	0.3	97	12	31	3	23
11.28-12.80	6458	31	0.3	98	5	15	2	30
12.80-14.33	6459	54	0.1	46	7	82	3	69
14.33-15.85	6460	35	0.1	116	6	23	3	28
15.85-17.37	6461	50	0.2	48	5	64	3	33
17.37-18.90	6462	47	0.2	50	4	49	2	33
18.90-20.42	6463	52	0.3	48	5	38	2	56
20.42-21.95	6464	47	0.1	55	9	47	3	43
21.95-23.47	6465	15	0.2	37	7	47	1	36
23.47-24.99	6466	30	0.3	70	9	69	3	52
24.99-26.52	6467	27	0.7	65	6	45	1	95
26.52-28.04	6468	45	0.5	110	43	66	4	72
28.04-29.57	6469	44	0.5	35	7	44	3	45
29.57-31.09	6470	97	0.5	27	5	40	3	46
31.09-32.61	6471	73	0.2	63	11	52	3	47
32.61-34.14	6472	17	0.3	28	13	36	3	42
34.14-35.66	6473	29	0.4	55	6	46	4	73
35.66-37.19	6474	29	0.5	68	15	34	2	89
37.19-38.71	6475	21	0.4	49	5	59	2	40
38.71-40.23	6726	31	0.4	21	8	28	4	44
40.23-41.76	6727	24	0.4	28	12	40	2	47
41.76-43.28	6728	35	0.5	62	19	81	3	53
43.28-44.81	6729	32	0.1	24	6	33	3	42
44.18-46.33	6730	27	0.1	26	7	43	2	51

CORE RECOVERY FOR DRILLHOLE 89-3

Interval (m)	Recovery (m)	Interval (m)	Recovery (m)	Interval (m)	Recovery (m)
0 - 8.28	0.41	24.54-25.15	0.61	37.19-38.71	<0.30
8.28- 9.14	0.60	25.15-26.52	0.68	38.71-40.23	0.30
9.14- 9.75	0	26.52-28.04	0	40.23-41.76	<0.31
9.75-14.33	0.05	28.04-29.57	0.92	41.76-42.37	0.30
14.33-15.58	0.12	29.57-31.09	0.46	42.37-43.28	0.27
15.58-17.37	<0.09	31.09-32.61	0.61	43.28-44.81	<0.08
17.37-18.90	0	32.61-34.14	0.46	44.81-46.33	0.61
18.90-21.95	1.52	34.14-35.66	0.30		
21.95-24.54	1.04	35.66-37.19	0.61		
					<10.65

$$\text{Recovery} = \frac{<10.65}{46.33} \times 100 = <23.0\%$$

Company: Nathan Minerals Inc.
Drillhole: 89-4
Azimuth: 225°
Inclination: -48° at collar
Length: 47.09 m
Core recovered: estimated 5-40%
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: west of Golden Gopher Slope
Claim EL 47
Coordinates: 15 m E of Line L at 0207N
Elevation: 1152 m (from 1:5000 topo map)
Drilled: 1989 10 20 to 23
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To determine the cause of GENIE anomaly L on Line L. Drillhole 89-4 was abandoned at 47.09 m because of problems wtih overburden; casing came apart at 7.92 m and even with H casing over break, the bit kept hanging up at 7.92 m.

Note: Analyses of core samples from 27.43-47.09 m and of sludge samples from 6.10-27.43 m are tabulated at the end of this log.

Metrage	Interval	Description
0-27.43	27.43	Overburden, boulder till; casing to 18.59 m
27.43-47.09	19.66	Black Tuff, dark-grey to black, massive, very hard, siliceous, locally oxidized 27.43-42.70 m 1-5% pyrite in veins 42.70-47.09 m 1-2% finely disseminated pyrite with some in blebs to 3-4 mm
47.09	-	End of hole

SAMPLES AND ANALYSES FROM DRILLHOLE 89-4

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Sludge								
6.10- 7.62	6913	31	<0.1	425	22	76	5	98
7.62- 9.14	6914	32	0.1	46	7	56	4	48
9.14-10.67	6915	48	0.1	25	1	41	4	51
10.67-12.19	6916	37	0.1	27	7	42	3	42
12.19-13.72	6917	34	<0.1	48	3	45	5	64
18.29-21.34	6918	198	2.3	70	42	270	8	78
21.34-24.38	6919	45	1.5	46	5	48	3	59
24.38-27.43	6920	74	1.7	46	3	144	7	67

Internal (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Core								
27.43-28.65	6698	<10	0.7	40	6	47	1	32
28.65-29.87	6699	18	0.7	95	6	43	2	30
29.87-31.09	6700	<10	0.6	52	8	59	3	41
31.09-32.00	6898	<10	0.3	40	5	44	3	26
32.00-33.71	6899	626	0.8	41	6	42	5	27
33.71-35.36	6900	14	0.5	32	6	42	3	19
35.36-36.88	6731	<10	0.4	26	6	48	3	25
36.88-38.40	6732	<10	0.4	45	6	55	2	35
38.40-39.93	6733	10	0.6	54	6	71	3	46
39.93-41.45	6734	10	0.9	93	6	133	2	101
41.45-42.98	6735	13	0.7	52	7	192	15	182
42.98-44.50	6736	14	0.5	38	9	251	3	275
44.50-46.02	6737	10	0.6	40	8	233	4	281
46.02-47.09	6738	15	0.6	38	6	240	4	256

Company: Nathan Minerals Inc.
Drillhole: 89-5
Azimuth: 213°
Inclination: -70° at collar
Length: 88.39 m
Core recovered: <23.64 m; <35.4%
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: west of Gold Gopher Slope claim EL 47
Coordinates: on Line L at 0164N
Elevation: 1148 m (from 1:5000 topo map)
Drilled: 1989 10 24 to 27
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To attempt to intersect more of the Gopher Member than was intersected in drillhole 89-4.

Note: Analyses of core samples from 21.64-64.92 m and of sludge samples from 21.34-84.12 m are tabulated at the end of this log.

Metrage	Interval	Description
0-21.64	21.64	Overburden, boulder till; NW casing to 20.73 m
21.64-44.20	22.56	Black Tuff, dark-grey to black, very hard, siliceous, with 1-2% pyrite in very fine veins and disseminations throughout
44.20-59.44	15.24	Black Tuff, "shelly", dark-grey to black similar to 21.64-44.20 m but with white quartz-filled shell-like fragments and a few round vesicules(?), bedding at about 50°CA 44.20-54.25 m generally massive 44.20-47.85 m 1-2% pyrite in fine veins 53.95-54.41 m 1-2% pyrite in fine veins 54.25-59.44 m "shelly" features becoming more abundant
59.44-64.31	4.87	Black Tuff, dark-grey to black, massive, very hard, siliceous 1-3% pyrite in fine veins
64.31-64.62	0.31	Tuff, brownish-grey, very hard, siliceous, pyrite in blebs and a few veins
64.62-66.14	1.52	Black Tuff, dark-grey with slight greenish tinge, bedding(?) at 60°CA; may be grading to andesite(?) 65.23-65.53 m minor pyrite veins
66.14-66.45	0.31	Mafic Dyke, greenish-grey, fine-grained chilled contacts at 20°CA
66.45-73.15	6.70	Black Tuff, dark-grey to black, massive, very hard, siliceous, 1-3% pyrite in fine veins
73.15-74.07	0.92	Limestone, medium-greyish-green, massive bedding with chlorite partings at 60°-65°CA, calcite veins at 60°-70°CA

Company: Nathan Minerals Inc. Property: Burwash Creek, Yukon
Drillhole: 89-5 Page: 2

Metrage	Interval	Description
74.07-74.68	0.61	Black Tuff, carbonaceous(?) or graphitic(?), black to dark-grey, cut by abundant calcite veins to appear brecciated and vuggy, 1-2% pyrite in minor veins
74.68-75.13	0.45	Black Tuff, dark-grey, massive, cut by fine calcite veins at 50°CA, 1-2% pyrite in minor veins
75.13-81.08	5.95	Limestone, dark-grey, earthy appearance, brecciated, calcite veins and 1-2% pyrite in minor veins
81.08-82.30	1.22	Andesite, greenish-grey, flow(?), bedding at 60°CA, 1-2% pyrite in veins
82.30-83.67	1.37	Black Tuff, dark-grey, massive, very hard, siliceous, bedding at about 60°CA
83.67-84.12	0.76	Graphitic Tuff, dark-grey, earthy-carbonaceous texture, minor calcite, 1-2% pyrite, contacts crushed and deformed
84.12-85.04	0.92	Black Tuff, similar to 82.30-83.67 m
85.04-85.34	0.30	Andesite, greenish-grey, massive, gradational upper contact(?)
85.34-85.65	0.31	Limestone, medium- to light-greenish-grey, massive, chloritic bedding at about 60°CA
85.65-88.39	2.74	Andesite, greenish-grey, massive
88.39	-	End of hole

SAMPLES AND ANALYSES FROM DRILLHOLE 89-5

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Core								
21.64-23.47	6739	146	0.4	69	5	71	2	81
23.47-24.69	6740	33	<0.1	28	3	55	1	82
26.52-27.13	6741	18	0.3	52	8	93	4	77
33.83-34.44	6742	21	0.2	36	4	101	4	75
34.44-35.36	6743	68	0.4	40	22	122	6	71
35.36-36.88	6744	127	0.1	38	1	101	3	81
36.88-38.40	6745	89	0.2	41	3	112	4	73
38.40-39.93	6746	32	0.3	44	4	102	5	65
39.93-41.15	6747	20	0.2	37	<1	83	2	82
41.15-42.67	6748	32	0.5	37	3	117	4	65
42.67-44.20	6749	63	0.6	49	4	144	2	63
44.20-46.02	6750	40	0.4	39	4	108	3	68
46.02-47.85	6751	39	0.2	33	2	137	4	68
53.95-54.41	6752	43	0.5	30	2	140	1	65
59.74-61.24	6753	25	0.2	33	4	85	<1	72
61.24-62.79	6754	<10	<0.1	42	3	72	1	75
62.79-64.31	6755	329	0.1	47	4	159	<1	80
64.31-64.92	6772	25	0.1	106	5	131	2	126
64.92-65.84	6756	344	0.1	42	3	62	1	66
66.45-67.06	6757	11	<0.1	32	2	125	<1	63
67.06-68.28	6758	448	0.2	41	3	78	3	72
69.49-70.41	6759	37	0.3	35	5	156	1	87
70.41-71.02	6760	14	0.4	35	4	96	4	66
71.78-72.09	6761	54	0.3	32	5	140	4	78
74.07-74.68	6762	30	0.1	39	6	123	<1	7
75.59-76.20	6763	58	0.1	30	4	114	3	77
77.11-77.42	6764	43	0.3	38	<1	438	3	69
77.72-79.25	6765	52	0.4	34	<1	67	<1	67
79.55-80.16	6766	85	0.2	26	3	71	1	69
80.16-80.62	6768	33	0.2	24	6	196	4	65
80.62-81.08	6769	28	0.1	30	3	118	2	74
81.38-81.84	6770	33	0.1	37	3	62	1	59
83.67-84.12	6771	25	0.1	25	3	73	3	62

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Sludge								
21.34-24.38	6773	13	0.3	129	5	90	3	81
24.38-25.91	6774	33	0.3	185	6	187	4	204
26.52-27.74	6776	123	0.6	81	4	105	1	106
27.74-29.26	6777	21	0.6	68	9	89	2	88
29.26-30.78	6778	25	0.3	230	6	73	5	70
30.78-32.31	6779	28	0.5	127	7	81	<1	53
32.31-33.83	6780	14	0.4	114	10	93	4	59
33.83-35.36	6781	<10	0.5	258	13	101	4	60
35.36-36.88	6783	<10	0.4	551	4	93	4	67
36.88-38.40	6784	10	0.2	366	23	240	15	135
38.40-39.93	6785	86	0.8	170	8	160	7	105
39.93-41.45	6786	<10	0.6	150	4	167	1	104
41.45-42.98	6787	<10	0.3	234	4	215	3	119
42.98-44.50	6788	<10	0.6	252	3	201	12	89
44.50-46.02	6782	<10	0.4	162	9	182	3	79
46.02-47.85	6789	<10	0.2	719	7	558	4	212
47.85-49.07	6790	<10	<0.1	278	6	237	3	139
51.82-54.86	6775	14	0.3	166	5	184	5	109
54.86-56.39	6791	<10	<0.1	368	1	323	3	153
56.39-57.91	6792	<10	0.3	244	3	188	2	136
57.91-59.44	6793	17	0.1	220	3	213	5	134
61.26-62.79	6794	37	0.1	59	16	99	6	74
62.79-64.31	6795	<10	<0.1	92	2	163	7	107
64.31-65.84	6796	12	<0.1	56	3	120	7	95
65.84-67.36	6797	<10	<0.1	115	6	143	11	110
67.36-68.88	6798	23	<0.1	90	10	115	10	98
68.88-70.41	6799	56	0.1	116	19	142	11	108
70.41-71.93	6800	<10	<0.1	95	19	101	10	88
71.93-73.46	6812	15	0.2	131	55	105	6	97
73.46-74.98	6813	12	0.2	157	53	134	9	99
74.98-76.50	6814	13	0.1	110	18	160	12	113
76.50-78.02	6815	<10	<0.1	66	49	139	5	97
78.02-79.55	6816	<10	<0.1	67	4	163	2	65
79.55-81.08	6817	10	0.1	130	2	124	5	87
81.08-82.60	6818	<10	<0.1	86	11	83	3	60
82.60-84.12	6819	10	<0.1	117	4	100	<1	75

CORE RECOVERY FOR DRILLHOLE 89-5

Interval (m)	Recovery (m)	Interval (m)	Recovery (m)	Interval (m)	Recovery (m)
21.64-24.69	<0.15	54.86-55.17	0.31	69.80-70.41	0.18
24.69-26.52	0	55.17-56.08	<0.14	70.41-71.63	0.98
26.52-30.78	0.43	56.08-57.00	0.83	71.63-72.24	0.24
30.78-33.83	0	57.00-58.52	0.91	72.24-73.15	0.82
33.83-34.44	0.12	58.52-59.13	0.12	73.15-73.91	0.76
34.44-35.36	0.14	59.13-59.74	0.55	73.91-74.52	0.24
35.36-39.93	<0.46	59.74-61.26	0.61	74.52-76.20	<1.01
39.93-42.98	<0.61	61.26-62.79	<0.15	76.20-79.25	<2.13
42.98-46.02	0.76	62.79-64.31	0.30	79.25-81.99	<1.37
46.02-47.85	<0.37	64.31-65.23	0.37	81.99-83.82	1.28
47.85-50.90	0	65.23-67.06	0.91	83.83-84.12	0.30
50.90-53.95	<0.15	67.06-67.97	0.18	84.12-88.39	3.84
53.95-54.86	0.64	67.97-69.80	1.28		
					<23.64

$$\text{Recovery} = \frac{<23.64}{88.39-21.64} \times 100 = <35.4\%$$

Company: Nathan Minerals Inc.
Drillhole: 89-6
Azimuth: 211°
Inclination: -70° at collar
Length: 66.14 m
Core recovered: 5 to 40% estimated
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: east of Frying Pan Lake claim EL 36
Coordinates: Gopher Grid: 0830N, 3800W
Elevation: 1205 m (from 1:5000 topo map)
Drilled: 1989 10 28 to 31
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To test GENIE anomaly M toward its western end.

Note: Analyses of core samples are tabulated at the end of this log.

0-28.65	28.65	Overburden 0-14.33 m boulder till 14.33-28.65 m sand, minor gravel
28.65-30.78	2.13	Bedrock(?), triconed, not cored; NW casing to 30.78 m
30.78-37.49	6.71	Graphite Zone, black, carbonaceous, soft, crumbly, altered, clayey, fault(?) zone
37.49-37.80	0.31	Quartz-Epidote, finely disseminated pyrite
37.80-41.76	3.96	Acidic Dyke, intrusion(?), greyish-brown, finely crystalline, hard and compact where not cut by quartz veins and carrying disseminated pyrite 37.80-37.95 m brecciated with graphitic fragments
41.76-42.67	0.91	Graphitic Zone, brecciated, with quartz veins
42.67-43.28	0.61	Dacite(?) or Welded Tuff(?), greyish, compact, cut by fine quartz-calcite veins
43.28-51.82	8.54	Graphitic Zone, black, carbonaceous, more or less altered to soft clayey mass with some greenish alteration, faulted(?)
51.82-52.43	0.61	Gabbro(?), greenish, fine crystalline texture with chill zone 52.12-52.43 m altered clayey zone with minor quartz veins
52.43-54.56	2.13	Graphitic-Gabbro Zone, brecciated, perhaps graphite layer intruded by gabbro
54.56-61.42	6.86	Andesite(?), greyish-green, massive, some coarsening to gabbroic texture 61.11-61.42 m fine quartz-pyrite veins
61.42-62.18	0.76	Graphitic Zone, black, carbonaceous, altered to soft clayey material, brecciated-fault(?) zone with greenish clayey altered gabbro(?)
62.18-66.14	3.96	Gabbro, greenish, finely crystalline with broken, altered soft clayey sections 62.18-63.70 m brecciated 64.31-66.14 m minor quartz veins, no sulfide
66.14	-	End of hole

CORE SAMPLES AND ANALYSES FROM DRILLHOLE 89-6

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
37.49-37.80	6801	<10	<0.1	31	<1	29	18	32
37.80-39.32	6802	22	0.9	75	2	33	43	69
39.93-40.54	6803	13	<0.1	60	1	34	22	87
40.54-41.45	6804	19	<0.1	56	2	52	14	55
42.67-43.28	6805	24	0.2	65	1	17	2	180
46.94-47.24	6806	25	0.8	58	2	927	12	116
48.77-50.29	6820	17	1.3	70	9	189	23	57
50.29-51.82	6821	23	1.4	111	10	280	28	77
50.90-51.51	6807	18	0.1	92	3	132	7	76
51.82-53.34	6822	27	1.4	99	12	240	32	66
52.12-52.43	6808	<10	<0.1	74	<1	14	3	103
61.11-61.42	6810	18	0.4	109	<1	28	2	124
61.42-62.18	6809	188	0.3	111	2	22	3	78
62.18-63.70	6811	27	0.1	73	<1	28	<1	272

NOTES ON CORE RECOVERY

Interval (m)	Remarks
39.32-39.93	little or no core recovered
41.45-42.67	little or no core recovered
43.28-46.94	little or no core recovered
47.24-48.77	little or no core recovered

Company: Nathan Minerals Inc.
Drillhole: 89-7
Azimuth: 211°
Inclination: -70° at collar
Length: 71.93 m
Core recovered: 5-40% estimated
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: east of Frying Pan Lake claim EL 37
Coordinates: Gopher Grid: 0536N, 4200W
Elevation: 1197 m (from 1:5000 topo map)
Drilled: 1989 11 01 to 04
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To test a GENIE anomaly on strike with GENIE anomaly K which is on line K at 0285N and 4429W of the Gopher Grid.

Note: Drillhole 89-7 was abandoned at 71.93 m because of sloughing and caving which prevented drilling farther.

Analyses of core and sludge samples are tabulated at the end of this log.

Metrage	Interval	Description
0-51.21	51.21	Overburden 0 -46.02 m boulder till 46.02-46.94 m silt 46.94-47.55 m boulder 47.55-48.77 m silt 48.77-50.44 m boulder 50.44-50.60 m silt and gravel 50.60-50.90 m boulder of rhyolitic ashy tuff, agglomeratic, siliceous acidic fragments in a fine siliceous matrix, perhaps welded tuff 50.90-51.21 m boulders of assorted mafics, volcanics, granite, perhaps crevice in bedrock
51.21-56.08	4.87	Overburden or Boulders 51.21-51.97 m rhyolitic tuff, light-brownish, weathered, oxidized(?), siliceous acidic agglomerates in siliceous tuff matrix 51.97-56.08 m graphite, black, faulted sheared and altered, contacts not preserved 53.64-56.08 m no core recovered
56.08-65.53	9.45	Andesite, boulders(?), subrounded and abraded core fragments of mafics, andesites, and light-greyish-green welded tuff, virtually no core recovered
65.53-67.97	2.44	Black Tuff, dark-grey to black, very hard, siliceous, some fine calcite veins parallel to bedding(?) at 80°CA
67.97-68.58	0.61	Andesite, plus mafics, perhaps boulders
68.58-71.93	3.35	Vitric Tuff, black, shards, very hard, minor disseminated pyrite, sheared and fractured 69.80-70.10 m calcite veins 70.41-71.93 m no core recovered
71.93	-	End of hole

SAMPLES AND ANALYSES FROM DRILLHOLE 89-7

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Core								
50.29-50.60	6921	70	3.0	37	4	131	5	34
50.60-51.21	6922	221	1.0	6	5	92	3	9
51.21-51.97	6923	70	0.8	11	4	48	2	9
51.97-53.64	6924	116	0.8	24	7	83	11	20
65.53-67.06	6925	102	3.5	18	7	39	47	27
67.06-67.97	7826	662	4.2	50	8	265	85	65
68.58-69.80	7827	270	4.8	42	9	443	86	64
69.80-70.10	7828	1072	5.8	17	9	166	43	31
70.10-70.41	7829	347	4.2	51	13	657	40	55
Sludge								
50.29-52.12	6901	49	0.1	34	2	47	4	45
52.12-53.64	6904	61	0.7	435	5	293	17	92
53.64-55.17	6905	53	0.6	734	16	537	19	167
55.17-56.69	6906	39	1.1	565	12	566	29	153
56.69-57.91	6902	48	3.8	97	16	531	54	92
57.91-59.44	6903	33	3.1	68	8	640	56	74
59.44-60.96	7830	1081	3.8	61	12	390	50	79
60.96-62.48	6907	277	2.7	64	12	536	58	63
62.48-64.31	6908	53	6.1	318	6	656	48	111
64.31-65.84	6909	51	5.8	200	6	551	47	83
65.84-67.06	6910	73	6.4	275	8	387	44	84
68.88-70.41	6911	61	3.0	145	19	469	42	85
70.41-71.93	6912	55	4.3	146	12	788	71	106

Company: Nathan Minerals Inc.
Drillhole: 89-8
Azimuth: 210°
Inclination: -70° at collar
Length: 82.91 m
Core recovered: 5-40% estimated
Core size: NQ
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: east of Frying Pan Lake
claim EL 37
Coordinates: Gopher Grid: 0660N, 4000W
Elevation: 1202 m (from 1:5000 topo map)
Drilled: 1989 11 05 to 08
Drilled by Kluane Drilling Ltd.
Logged and sampled by T. Yawnghwe

Purpose: To test a GENIE anomaly at 0625N with a strike length of some 200 m

Note: Analyses of core and sludge samples are tabulated at the end of this log.

Metrage	Interval	Description
0-37.19	37.19	Overburden, boulder till, silt and gravel
37.19-43.89	6.70	Graphitic and Acidic Tuffs, interbedded black graphite bands and light-grey siliceous acidic tuff, minor chloritic andesite, bedding and banding at 75°-80°CA, 1-3% pyrite in veins and disseminations
43.89-47.55	3.66	Graphite Zone, massively bedded(?), contacts and bedding obliterated, crumpled and broken
47.55-48.62	1.07	Graphitic and Acidic Tuffs, interbedded as 37.19-43.89 m
48.62-53.49	4.87	Andesite, green, tuffaceous, gabbroic(?) in part 48.92-49.23, 49.53-49.83, 50.44-50.60, 51.21-51.82, 52.43-53.49 m black graphitic interbeds at 85°-90°CA
53.49-56.39	2.90	Gabbro, green, massive, fine- to medium-grained, sill(?), minor calcite veins
56.39-60.05	3.66	Latite(?) Porphyry, light-grey, fine-grained to aphanitic, whitish plagioclase(?) phenocrysts 1-3 mm in size
60.05-64.47	4.42	Gabbro, green, massive 61.87-62.48 m brecciated with some quartz veins, contact at 45°CA
64.47-69.80	5.33	Graphitic Zone, black, carbonaceous, sheared and crushed, contacts obliterated, some quartz veins
69.80-71.63	1.83	Calcareous Graphite, black to coal-grey, marly, fine calcite veins at 80°CA
71.63-82.91	11.28	Gabbro, green, medium- to fine-grained, generally massive
82.91	-	End of hole

SAMPLES AND ANALYSES FROM DRILLHOLE 89-8

Interval (m)	Sample	Au (ppb)	Ag (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Mo (ppm)	Ni (ppm)
Core								
37.19-39.01	7835	260	1.1	28	7	61	7	27
39.01-40.23	7836	203	1.2	36	6	108	5	74
40.23-41.76	7837	104	1.9	46	8	80	10	50
41.76-43.28	7838	33	0.9	98	7	85	4	50
43.28-43.89	7839	21	0.3	70	1	88	7	131
43.89-44.81	7840	131	0.5	95	4	156	13	152
44.81-46.33	7841	31	0.4	77	6	221	6	65
68.58-69.49	7842	42	3.0	50	3	325	61	59
70.10-71.63	7843	48	1.5	53	1	307	38	43
Sludge								
27.74-28.65	7844	33	0.1	24	<1	43	3	41
28.65-29.57	7845	<10	<0.1	48	8	50	5	43
30.78-31.70	7846	26	<0.1	89	6	86	5	58
31.70-32.61	7847	43	0.3	194	15	143	11	96
32.61-33.53	7848	39	0.1	57	<1	52	8	44
33.53-34.44	7849	47	0.3	82	3	67	10	57
34.44-35.36	7850	161	0.1	61	1	56	7	47
35.36-36.27	7851	28	0.2	47	<1	68	7	53
36.27-37.19	7852	38	0.2	37	2	68	5	30
37.19-38.10	7853	43	0.1	56	2	66	6	39
38.10-39.01	7854	85	0.3	43	1	103	9	65
39.01-39.93	7855	57	0.3	86	15	92	10	67
39.93-40.84	7856	28	0.4	68	9	101	18	83
40.84-41.76	7857	35	0.9	56	9	93	9	58
41.76-43.28	7858	48	0.5	69	12	78	10	49
43.28-44.20	7859	50	<0.1	87	12	102	8	89
44.20-45.11	7860	30	0.4	94	8	116	7	74
45.11-46.33	7861	12	0.6	90	11	111	10	76
46.33-47.85	7862	23	0.8	91	10	135	9	48
47.85-49.38	7863	24	<0.1	78	10	84	10	67
50.90-52.43	7864	<10	0.2	95	10	116	14	89
52.43-53.95	7865	15	0.5	93	14	144	15	66
53.95-55.47	7866	<10	0.2	91	11	84	10	89
55.47-57.00	7867	20	0.1	87	13	92	12	49
57.00-58.52	7868	23	0.3	74	8	94	7	63
58.52-60.05	7869	33	0.1	75	11	91	8	49
60.05-61.57	7869b	10	<0.1	90	9	61	3	180
61.57-63.09	7870	<10	<0.1	90	9	79	9	92
63.09-64.62	7871	59	0.1	156	9	138	20	72
64.62-65.53	7872	<10	1.0	137	12	233	32	63
65.53-66.44	7873b	28	1.0	132	16	248	42	57
66.44-67.67	7873	<10	1.9	135	15	333	65	64
67.67-69.19	7874	19	3.2	116	14	415	57	71
69.19-70.71	7875	244	3.2	103	15	443	55	72
70.71-72.24	7876	45	2.3	77	8	236	31	53
72.24-73.76	7877	34	2.5	87	12	324	31	60
73.76-75.29	7878	26	2.7	121	14	349	38	65
75.29-76.81	7879	38	3.9	193	27	548	58	123
76.81-78.33	7880	69	1.3	106	9	198	21	55
78.33-79.86	7881	29	1.2	115	5	191	23	78

Company: Nathan Minerals Inc.
Drillhole: 89-9
Azimuth: n/a
Inclination: -90 at collar
Length: 72.54 m
Core recovered: n/a
Core size: n/a
Downhole logs: none run

Property: Burwash Creek, Yukon
Location: Burwash Uplands near Lake One; claim SUE 2
Coordinates: 760S along Sue Trench, 42 m E of claim location line
Elevation: 1350 m (from 1:5000 topo map)
Drilled: 1989 11 16 to 23
Drilled by Kluane Drilling Ltd.
Logged by T. Yawnghwe

Purpose: To test the anomalous concentrations of platinum obtained in the percussion drilling along the Sue Trench in 1987.

Note: Drillhole 89-9 was abandoned at 72.54 m because of caving and sloughing overburden which prevented attempting to drill deeper. No samples from this hole were collected.

Metrage	Interval	Description
0-72.54	72.54	Overburden, boulder till
72.54	-	End of hole

APPENDIX 2: LIST OF MINERAL CLAIMS

Claim	Grant Number
El 1-9	YA 23529-36, YA 73861
El 11-28	YA 75205-22
El 29-84	YA 75409-56, YA 81412-19
Jo 1-10	YA 23537-44, YA 75189-90
Sue 1-11	YA 23545-52, YA 59001-02, YA 75195
Kat 1-46	YA 23553-60, YA 51141-56, YA 75167-88
Nan 1-8	YA 23561-68
Jan 1-8	YA 23569-76
Jan 19-30	YA 75233-44
Jan 43-56	YA 75257-62, YA 75385-88, YA 78505-08
Jan 59-72	YA 75389-96, YA 78509-10, YA 75397-400
Jan 77-80.	YA 75405-08
Den 1-10	YA 23577-84, YA 75193-94
Wen 1-10	YA 23585-92, YA 75191-92
And 1-12	YA 23593-600, YA 52595-98
Jy 1-28	YA 23601-08, YA 51125-40, YA 52563-66
Jy 29-36	YA 93853-54, YA 52569-72, YA 93857-58
Jy 37-52	YA 52575-78, YA 93861-62, YA 52581-90
Jy 53-70	YA 93855-56, YA 93859-60, YA 75153-66

Nathan Minerals Inc. is the recorded holder of the claims listed above.

JJ 1-132, 137-148
EL 10, 85-110
JAN 81-146
NAN 9-16
SUE 12-16
AND 13-17
JAQ 11-42
DUK 1-8

Laurence B. Halferdahl is expected to to the recorded holder of the claims listed above, pending their transfer to Nathan Minerals Inc.

APPENDIX 3: FIELD AND OFFICE PERSONNEL INVOLVED IN THE WORK REPORTED HERE

Field

Bea Enterprises Box 567 Golden, B.C. V0A 1H0	bulldozer contractor	422½ h from 1989 07 05 to 1989 11 29
Owen Brown Box 567 Golden, B.C. V0A 1H0	bulldozer operator and camp foreman	1989 07 05 to 1989 11 29 with a total of about 15 days away
Gary Demeriez 15414 - 81 Avenue Edmonton, Alberta T5R 3P1	assistant	1989 10 08 to 1989 11 27
Hank Foster Teslin, Yukon	bulldozer operator	1989 08 05 and 07
L.B. Halferdahl 11539 - 73 Avenue Edmonton, Alberta T6G 0E2	engineer	1989 07 26 to 1989 08 03 1989 08 24 to 1989 09 04 1989 10 08 to 1989 10 15 1989 11 20 to 1989 11 27
Sam Johnson Jr. Burwash Landing	hoe and loader contractor	67 h backhoe and 28½ h labor between 1989 07 16 and 1989 08 19
Kluane Drilling Ltd. 14 MacDonald Road Whitehorse, Yukon	drilling contractor	1989 10 11 to 1989 11 09 1989 11 15 to 27
Northern Analytical Laboratories Ltd. 105 Copper Road Whitehorse, Yukon Y1A 2Z7	analytical services	1989 10 to 12
Jean White Box 4550 Whitehorse, Yukon Y1A 4R8	cook	1989 07 05 to 1989 11 29
Tiger Yawnghwe 5409 - 109 Street Edmonton, Alberta T5A 4E9	geologist	1989 10 10 to 1989 11 27
Tic Exploration Box 5060 Whitehorse, Yukon Y1A 4S3	bulldozer contractor	49 h on 1989 11 09, 16, 17, 23, 27

Office

L.B. Halferdahl 11539 - 73 Avenue Edmonton, Alberta T5G 0E2	engineer	4 days in February 1990
W. McGuire 5307 - 145 Avenue Edmonton, Alberta T5A 4E9	draftsman	5½ days in November and December 1989
T. Yawnghwe 5409 - 109 Street Edmonton, Alberta T5A 4E9	geologist	7 days in December 1989

Document Separator

Start	Stop
✓	

Levels

	1	2	3	4	5	6	7	8
Binder								
Folder								
Staple								
Paper Clip								
Binder Clip								
Plastic Protector								
Elastic Bands								
TABS								
OTHER envelope		✓						

Special Instructions:

P 2_ 05 maps 2

WYATT LAKE

LAKE 8

BEA CREEK

WEST BEA CREEK

BEA LAKE

BEA LAKE OUTLET

MARTIN CREEK

GOPHER CREEK

EMIL CREEK

FRYING PAN CREEK

THIRTY PUP

FRYING PAN LAKE

Frying Pan Pup

ROAD

RIVER

DUKE

SQUIRREL CREEK

KNOB CREEK

PTARMIGAN CREEK

LAKE 3

ROAD (POSITION APPROX.)

89-1 89-2 89-3 89-4 89-5 89-6 89-7

1200 1150 1100 1050 1000 950 900 850

1288 1187 1203 1199 1204 1221 1215 1229 1219 1223

61°21'N 61°20'N 61°19'N

139°45'W 139°40'W 139°35'W 139°30'W

SYMBOLS

Road

Quartz claim post

Diamond drill hole location with number 89-1

NOTES

Elevation contours are metres a.m.s.l. Contour interval is 10 metres.

Some claim posts are not shown due to uncertainties in locating accurately on the map.

INDEX MAP
Scale: 1:104,000

UPLANDS WEST

UPLANDS EAST

A B C D E F

NATHAN MINERALS INC.

HALFERDAHL & ASSOCIATES LTD.
EDMONTON, ALBERTA

REVISIONS	
BY	DATE

Fig. 3-1 Diamond Drillholes and Access Trails on Uplands East Sheet.

BURWASH CREEK AREA, YUKON

0 100 200 300 400 500 m

SCALE: 1:5000

TY 1990-01

WEN 3 YA23587
WEN 4 YA23588
DEN 3 YA23579
DEN 4 YA23580
EL 3 YA23531
EL 4 YA23532
EL 13 YA75207
EL 14 YA75208
EL 19 YA75213
EL 20 YA75214
JO 1 YA23537
JO 2 YA23538
WEN 1 YA23585
WEN 2 YA23586
DEN 1 YA23577
DEN 2 YA23578
EL 1 YA23529
EL 2 YA23530
EL 15 YA75209
EL 16 YA75210
EL 17 YA75211
EL 18 YA75212
AND 7 YA23599
AND 8 YA23600
SUE 7 YA23551
SUE 8 YA23552
NAN 7 YA23567
NAN 8 YA23568
JAN 7 YA23575
JAN 8 YA23576
JAN 23 YA75237
JAN 24 YA75238
JAN 25 YA75239
JAN 26 YA75240
AND 5 YA23597
AND 6 YA23598
SUE 5 YA23549
SUE 6 YA23550
NAN 5 YA23565
NAN 6 YA23566
JAN 5 YA23573
JAN 6 YA23574
JAN 21 YA75235
JAN 22 YA75236
JAN 27 YA75241
JAN 28 YA75242
AND 3 YA23595
AND 4 YA23596
SUE 3 YA23547
SUE 4 YA23548
NAN 3 YA23563
NAN 4 YA23564
JAN 3 YA23571
JAN 4 YA23572
JAN 19 YA75233
JAN 20 YA75234
JAN 29 YA75243
JAN 30 YA75244
AND 1 YA23593
AND 2 YA23594
SUE 1 YA23545
SUE 2 YA23546
NAN 1 YA23561
NAN 2 YA23562
JAN 1 YA23569
JAN 2 YA23570
JAN 85
JAN 86
JAN 89
JAN 90
AND 9 YA52595
AND 10 YA52596
SUE 9 YA59001
SUE 10 YA59002
AND 11 YA52597
AND 12 YA52598
SUE 11 YA75195
HILL 90
BURNADY CREEK
LAKE 1
LAKE 2
LAKE 3
LAKE 4
THIRD AVENUE
ROAD (PROJECTION APPROX.)
89-10
89-9
61°21'N
61°20'N
132°25'W
132°24'W
132°23'W

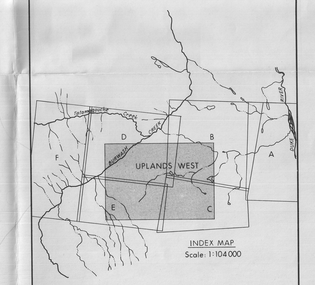
N

SYMBOLS

Road
Quartz claim post
Claim line
Diamond drillhole location with number ... ● 89-3,4 ● 89-9

NOTES

Elevation contours are metres a.m.s.l. Contour interval is 10m.



INDEX MAP
Scale: 1:104 000

NATHAN MINERALS INC.

HALFERDAHL & ASSOCIATES LTD.
EDMONTON, ALBERTA

REVISIONS	
BY	DATE

Fig. 3-2 Diamond Drillholes and Access Trail on Uplands West Sheet.

0 100 200 300 400
METRES
Scale: 1:5000

TY 1990-02