KASH LAKE PROPERTY

1987 GEOLOGY AND GEOCHEMISTRY REPORT

Prepared for:

NORTHERN DYNASTY EXPLORATIONS LTD.

Written by:

Jerry W. Ho, B.Sc.

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MINING LANDS SECTION

Patricia Mining Division
(Sioux Lookout Mining Recorder)

Claim Map: Armit Lake, G-1933

NTS 52 J/7

90 deg 49' 40'' W longitude
50 deg 23' 55'' N latitude

U.T.M. 5 585 000 mN, 654 000 mE

May, 1988

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SUMMARY

The Kash Lake Property in the Patricia Mining Division of northwestern Ontario was staked in 1987 by Northern Dynasty Explorations Ltd. Gold mineralization and alteration are localized about the Kashaweogama Lake fault zone, a ductile-brittle shear zone.

The 1987 field program comprised geochemical sampling of mineralized zones and prospecting in adjacent areas. Three zones of mineralization and alteration were defined:

1. The Hoey Zone: an extensive zone of disseminated pyrite and galena hosted in a chlorite-sericite-carbonate schist with local high grade gold values.

2. The Sphalerite Trench Zone: a 0.8m wide quartz vein with fracture-fill sphalerite.

3. The Alteration Island Zone: a zone of pervasive chromium mica development in a silicified and carbonated mafic-ultramafic volcanic. Significant gold values occur in pyritized felsic dikes.

KASH LAKE PROPERTY

NORTHERN DYNASTY EXPLORATIONS LTD.

1.0 GENERAL INFORMATION

1.1 Introduction

The summer of 1987 marked the beginning of an exploration program by Northern Dynasty Explorations Ltd. to establish the mineral potential of the Kashaweogama Lake area. This reconnaissance program resulted in the staking of 52 claims, herein known as the Kash Lake Property, and firmly established the positive gold potential of the area. The 1988 field season will mark the beginning of the second phase of exploration to further investigate this area for gold mineralization.

1.2 Location and Access

The Kash Lake Property is located 19km NNW of the village of Savant Lake (see Figure 1). The latitude and longitude co-ordinates are 50 deg 22' 55''N to 50 deg 24' 53''N and 90 deg 46' 40''W to 90 deg 52' 38''W respectively. The project area is located on NTS sheet 52 J/7.

There is excellent access to the property. The most convenient is by using a boat launch located at the extreme east end of Kashaweogama Lake. This boat launch can be accessed via a logging road which leaves highway 599 about 33km north of the village of Savant Lake. Farrington Lake and Houghton Lake also offer water access from the southeast, however, a number of short portages must be traversed.

Rusty Myers Flying Service, located on Sturgeon Lake, approximately 45km southeast of the claim block, also provides rapid and economical air transportation.

1.3 Claim Status and Titles

All claims (Figure 2) are held by Northern Dynasty Explorations Ltd., with 100% interest. The following is a summary of the status of the claims:

Claims	Claim Numbers	Anniversary Dates
10	903324-903333	April 8, 1988
11	912878-912888	April 8, 1988
13	913986-913998	April 8, 1988
5	914052-914056	April 8, 1988
13	1007125-1007137	November 26, 1988
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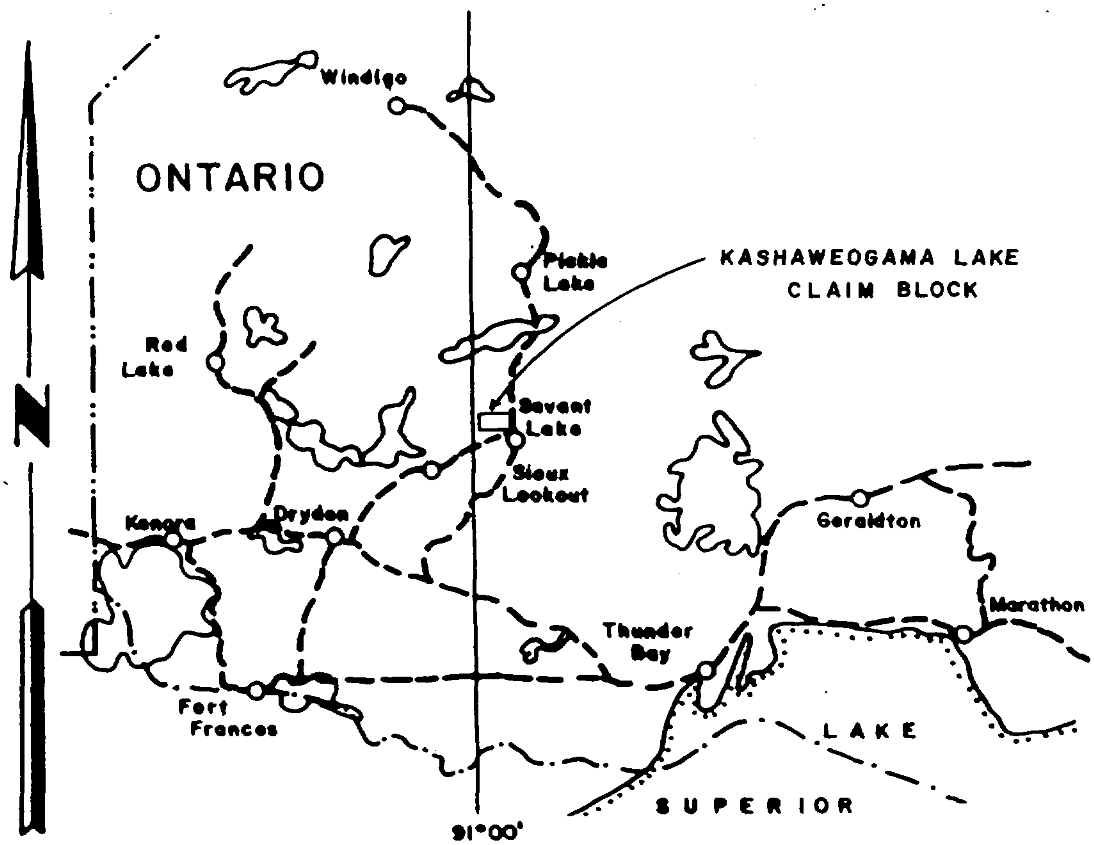
52 claims total		

Placer-Dome Inc. holds a large block of claims to the north and Ramsay and Associates hold ground to the immediate east.

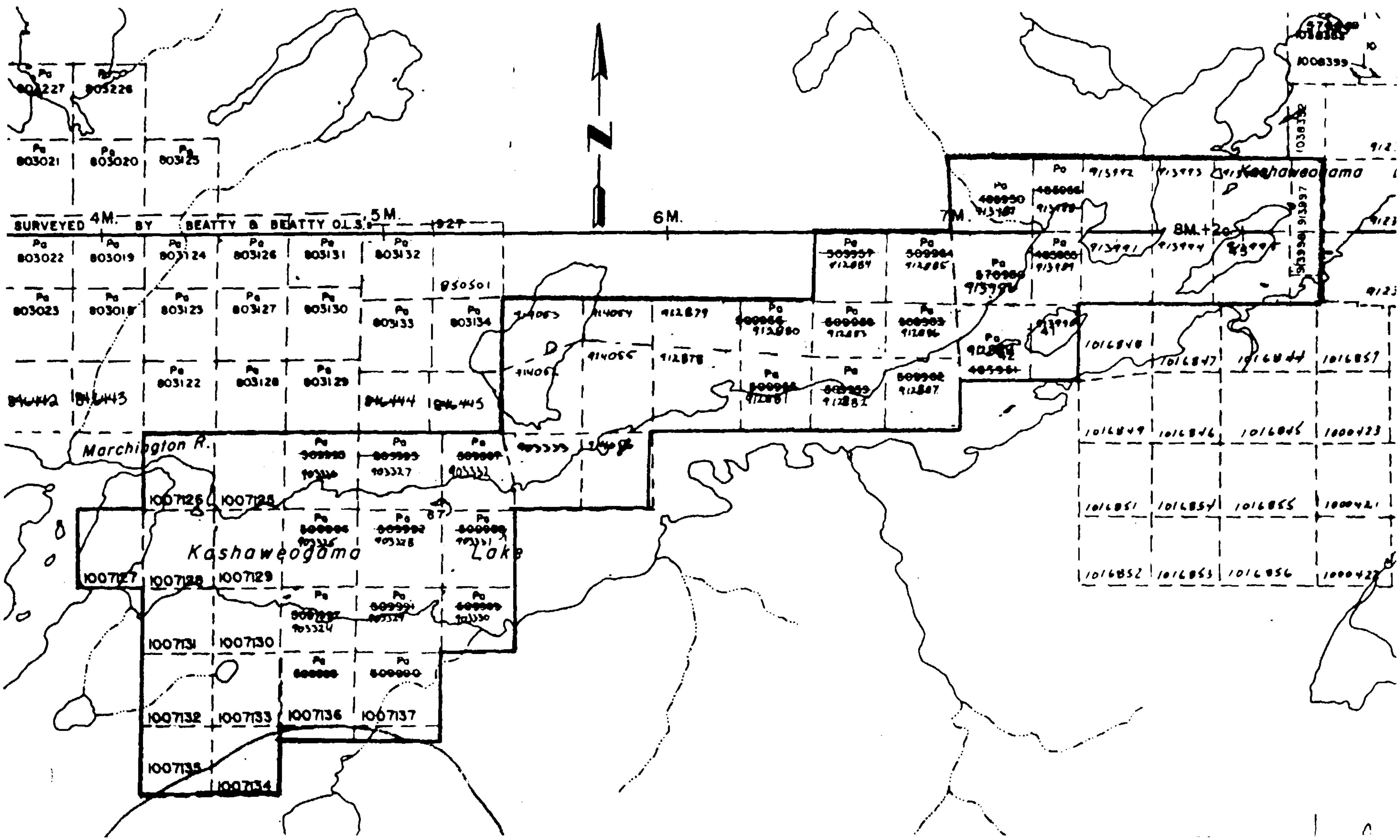


PROPERTY LOCATION MAP

SCALE 1" = 100 mi

FEBRUARY 1988

FIGURE 1



KASHAWEOGAMA CLAIM BLOCK , Armit Lake Sheet , G-1933

SCALE 1 inch = 20 chain

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FIGURE 2

1.4 Survey Dates and Personnel

The following is a summary of the dates, personnel, and type of survey that are pertinent to this project:

Survey Dates	Personnel	Type of Survey
June 28 - July 6, 1987	H. Eric Ewen J. W. Ho	geochemical sampling, prospecting
July 21 - July 30, 1987	H. Eric Ewen G. Gorzynski J. W. Ho	geochemical sampling, prospecting
August 3 - August 5, 1987	H. Eric Ewen J. W. Ho	geochemical sampling, prospecting
September 19, 1987	H. Eric Ewen G. Gorzynski J. W. Ho	geochemical sampling, prospecting
September 24 - September 30, 1987	H. Eric Ewen G. Gorzynski J. W. Ho	geochemical sampling, prospecting
October 1, 1987 - March 1, 1988 (intermittent)	H. Eric Ewen G. Gorzynski J. W. Ho	report writing, drafting

See Appendix 3 for details.

1.5 Previous Work

Pre-1960: Gold prospecting in the Savant Lake area by various groups and individuals. No significant discoveries reported (Kelly, 1975).

1960-1961: Keevil Mining Group - prospecting by J. A. Huges over a block of 18 claims. Erratic high gold assays encountered in some trenches but claims were allowed to lapse due to discontinuities of values (Kelly, 1975).

1961: Airborne magnetometer survey flown for the Ontario Department of Mines and the Geological Survey of Canada (Spartan, 1961). This survey outlined the major magnetic trends and anomalies of the region.

1973: W. D. Bond for the Ontario Geological Survey commenced a regional mapping program (Bond, 1980). Report 195, published in 1980 is the result of Bond's work. This report provides the basic geological information on the Kashaweogama Lake area.

1974: Prospecting and re-examination of old showings by F. Hoey (Kelly, 1975).

1975: F. Hoey (15%) in conjunction with Teck, Noranda, Falconbridge-Nickel, Inco, and Rayrock (17% each) conducted both magnetometer and VLF-EM surveys. No significant geophysical anomalies were delineated. Geochemical sampling revealed erratic gold values (Kelly, 1975).

1976: N. Trowell for the Ontario Geological Survey commenced a regional field mapping program (Trowell, 1988). 1988 saw the release of map P.3099 covering the entire Savant Lake area including the claim block of interest.

1981: Stargazer Resources Ltd. commenced an extensive exploration program over the entire Kashaweogama Lake area and the nearby Savant Lake area. The 1981 program consisted of biogeochemical sampling, mapping, and prospecting. Airborne geophysics revealed no new significant anomalies at the time. However, grab sample LT223, obtained over the F. Hoey showing assayed 2.2 Au/t. (Leary, 1981A, 1981B; Pichette and Spector, 1981; Misner, 1981; Geophysical Surveys Inc., 1981).

1982: Stargazer Resources Ltd. followed up their 1981 program with local ground magnetics, ground VLF-EM, and detailed I.P. surveys. One diamond drill hole (82-DDH-5) was completed in the F. Hoey Zone. The drill log reveals extensive zones of carbonate alteration and silicification with local zones of 1-2% pyrite-pyrrhotite development. No significant gold values were reported (Leary, 1982; Misner, 1982).

2.0 REGIONAL GEOLOGICAL REPORT

2.1 Introduction

The Kashaweogama Lake Property is located in the western arm of the Savant Lake greenstone belt. This western end is terminated by the Miniss River Fault system while the eastern end expands into the Savant Lake greenstone belt proper. The Savant Lake greenstone belt marks the limit of the northerly development of the Wabigoon subprovince.

2.2 Physiography

The claim block is dominated by Kashaweogama Lake which runs the length of the property. The north shoreline rises abruptly from lake level and achieves a topographic relief of up to 100m with distance from the lake. The southern shoreline, however, is characterized by lower and more gentle topography.

Glacial overburden is most developed on the southern limits of the property. Here, the overburden comprises a mix of boulder till to sandy-gravel tills. A number of prominent eskers can be found 3-4km south of the property.

North of Kashaweogama Lake, the glacial overburden is not as well developed as on the southern shores and comprises mainly sandy tills in the topographic lows. Outcrop exposure, therefore, is generally very good on the north shores.

All water ways drain into Kashaweogama Lake which in turn drains westward and eventually into the Hudson Bay watershed.

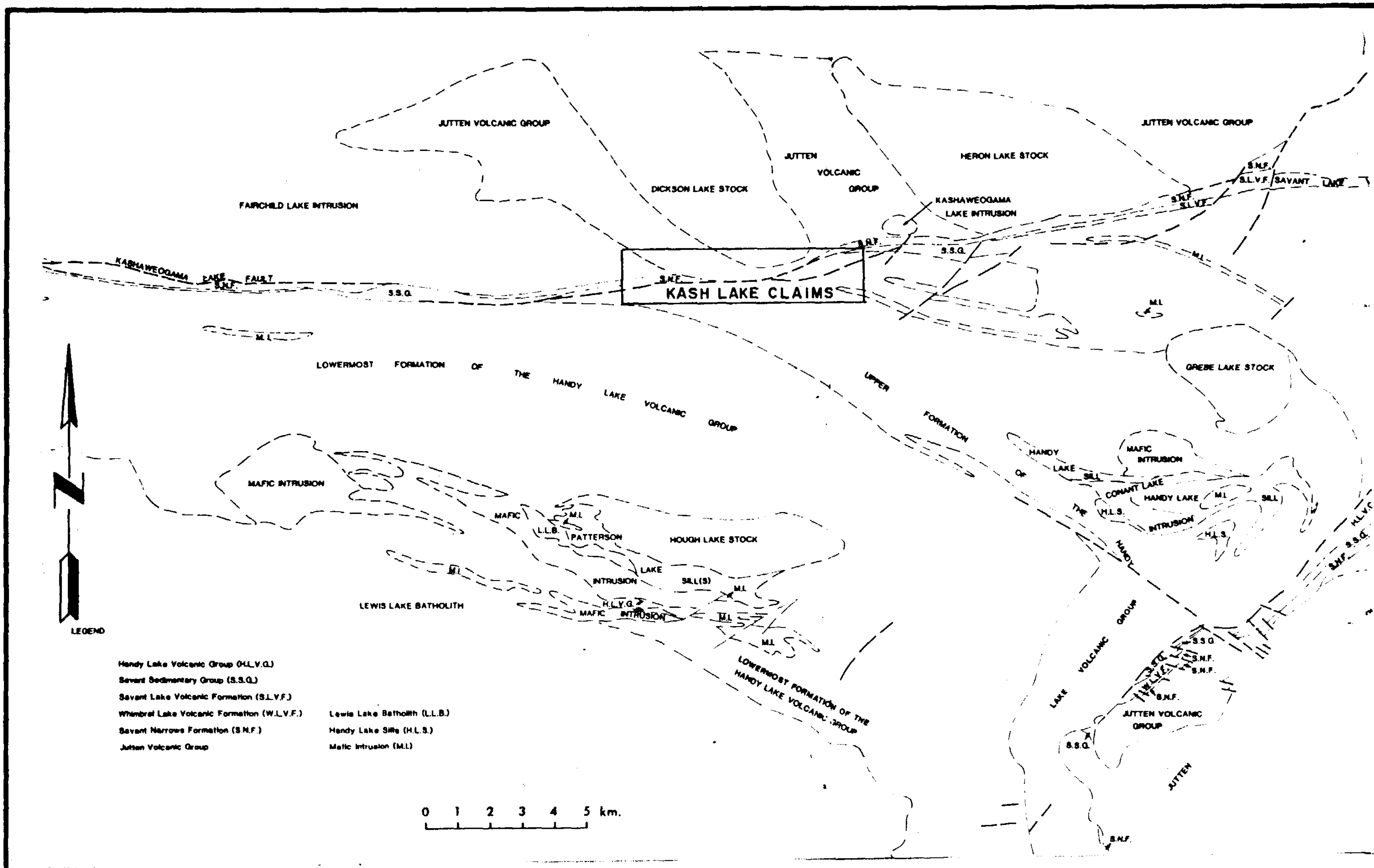
The vegetation is dominated by tall stands of poplar in the sandy areas and pines elsewhere. Cedars tend to be localized immediately about the shore line.

2.3 Regional Geology

W.D. Bond (1980) provides an excellent description of the regional geology. This report combined with map P.3099 (Trowell, 1988) forms a comprehensive geological picture (Figure 3).

In summary, the regional geology can be divided into three main supracrustal units with a late stage felsic intrusive phase. The oldest of the supracrustals is the Jutten Volcanic Sequence. This unit comprises essentially massive and pillowed mafic volcanic flows interlayered with thick chert-iron formation horizons.

The next stratigraphic group is localized about Kashaweogama Lake. Neither Bond(1980) nor Trowell(1988) clearly define the stratigraphic relationships, either within the group nor between it and the other supergroups. However, both authors do implicitly acknowledge the existence of a discontinuity. Our field examinations also support this view. This field evidence suggests that there are distinct variances in the lithological and structural nature of the



REGIONAL STRATIGRAPHY (after Trowell, 1988)

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FIGURE 3

rocks centred about Kashaweogama Lake. Therefore, the rocks of Kashaweogama Lake are believed to belong to a separate and distinct geological environment. For the purposes of this paper the rocks of Kashaweogama Lake are combined under the term Kashaweogama Lake supergroup.

The Kashaweogama Lake supergroup is composed of a number of distinct but laterally related units. The lower most unit of this group is the Savant Narrows formation. This unit unconformably overlies the Jutten Volcanic Sequence and is composed of a lower granitoid and volcanic-clastic conglomerate and an upper volcanic-clastic conglomerate. The sedimentary Whimbrel Lake Volcanic Sequence, in the extreme east is interbedded with the Savant Narrows formation and shows a lateral facies change into it. The Savant formation stratigraphically lies above the Savant Narrows formation and is essentially a mafic metavolcanic flow dominated formation. The last unit is the Savant Group. This group comprises fine wacke and siltstone with substantial accumulations of intercalated chert and magnetite ironstone.

The youngest supracrustal package is the Handy Lake Volcanic Sequence. This group comprises a complex interlayered sequence of mafic, intermediate, and felsic metavolcanics. This in turn is intercalated with arenaceous, argillaceous, and ferruginous metasediments.

Finally, felsic plutons and batholiths have intruded all the supracrustal sequences.

A summary of the stratigraphic order follows.

YOUNGEST

Dickson Lake Pluton
Handy Lake Volcanic Sequence
Kashaweogama Lake supergroup
- Savant Group
- Savant formation
- Savant Narrows formation

Jutten Volcanic Sequence

OLDEST

2.4 Regional Structure

The most significant structure in the region is the Kashaweogama Lake Fault (figure 3). Bond (1980) interprets the Kashaweogama Lake Fault as a late zone of fracturing. The controlling influences on this fault appear to be a combination of the location of the contact between the Jutten Volcanic Sequence and the Handy Lake Volcanic Sequence, and secondly, the effects of a major tectonic event that affected the Handy Lake Volcanic Sequence. The Handy Lake Volcanic Sequence displays evidence of anticlinal folding.

The Kashaweogama Lake Fault itself displays strongly sheared textures in the metavolcanics and cataclastic textures in the granitoid terrains (Fairchild Lake area). Bond (1980) concludes that the Kashaweogama Lake Fault is dominated by strike slip movement as evidenced by kink folds. The similarity in degree of metamorphism north and south of Kashaweogama Lake also supports the lack of dip-slip across the fault.

3.0 LOCAL GEOLOGICAL REPORT

3.1 Introduction

The 1987 field season outlined a zone of extreme deformation, alteration, and mineralization localized about Kashaweogama Lake. The property includes over 7km of the regional Kashaweogama Lake fault zone, which itself has a strike length of over 50km. This property occupies a particularly unique position within this 50km long deformation zone. The property encompasses a zone where alteration, metamorphic grade, and structurally induced permeability appear to be most favourable for gold deposition.

3.2 Local Geology

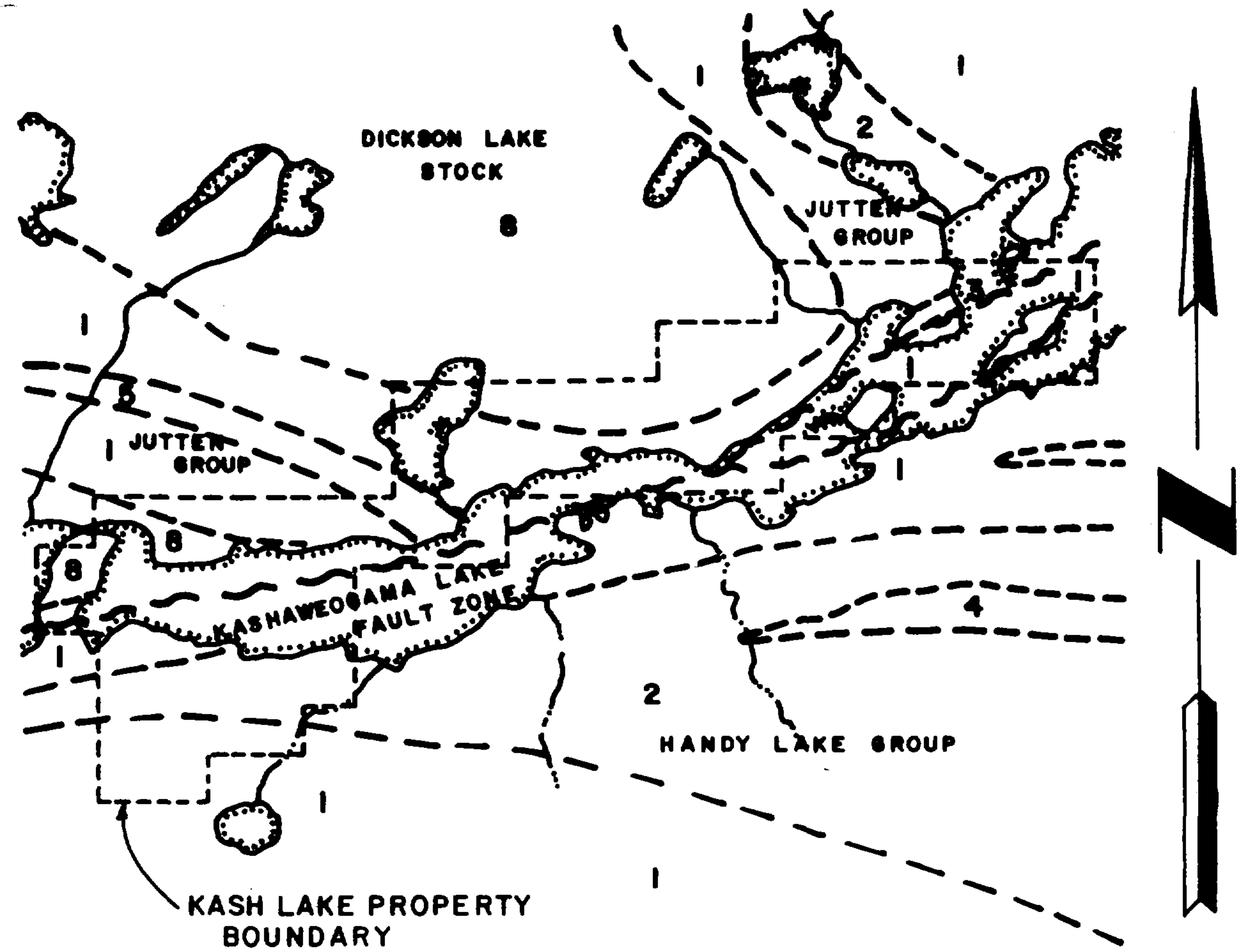
The Kashaweogama Lake claim block occupies a stratigraphically complex region (Figure 4). The north shore is dominated by mafic to ultramafic flows intercalated with magnetite-rich chemical sediments, all part of the Jutten Volcanic Sequence. Outcropping in the extreme east and west ends are polymictic matrix supported conglomerates of the Savant Narrows formation. The islands within the claim block are mafic in character and form part of the Savant Lake formation. A number of the smaller islands in the east end are also highly magnetic, suggesting either magnetite-bearing metavolcanics or ferruginous metasediments. Poor exposure has limited investigation, however, both types of magnetic lithologies are known to exist in the area. The southern shoreline marks the northern limit of the Handy Lake Volcanic Sequence.

The Dickson Lake stock, a massive granodiorite unit (O.G.S. map 2424) is the most prominent of the late stage felsic intrusions. This stock outcrops within 200m of the north lake shore.

The significance of the juxtaposition of all these varying lithologies is important. Each lithological unit has its own inherent deformational characteristics, with a variety of lithologies coming into contact, a number of discontinuities will arise. These discontinuities will act as foci for regional and local sites of deformation and the subsequent generation of permeability zones.

3.3 Metamorphism

Overall, the metamorphic grade is of greenschist facies. The mafic volcanics are dominated by a chlorite-calcium carbonate mineral assemblage. However, local areas of mafic volcanics do display amphibolite-rich zones. These amphibolite zones may be related to the intrusive event which accompanied the emplacement of the Dickson Lake stock. Further work will be needed to establish the nature of the contact aureole about the Dickson Lake Pluton.



SCALE 1 : 50,000 (after Trowell, 1988)

LEGEND

1	Mafic to intermediate Metavolcanics
2	Felsic to intermediate Metavolcanics
3	Conglomerate Metasediments
4	Fine Clastic Metasediments
5	Chemical Metasediments
8	Metamorphosed felsic to intermediate intrusive rocks

PROPERTY GEOLOGY

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The role of metamorphic grade has become an important consideration in the study of Archean lode gold deposits. For example, Hugon and Schwedtner (1988) have demonstrated that gold mineralization from the Madsen Mine area at Red Lake was coincident with the peak-metamorphic event associated with the emplacement of the Killala-Baird Batholith.

3.4 Structural Geology

At this stage of exploration there in not enough detailed structural data to arrive at any comprehensive conclusions. However, some general points can be made based on the 1987 field season. The local structural geology is dominated by a pervasive "C" fabric which is interpretted as resulting from the tectonic activity associated with the Kashaweogama Lake Fault. This dominant fabric has an orientation varying from 240 degrees to 260 degrees azimuth with a dip to the north. A distinct lineation is also present. This mineral lineation is developed on the "C" fabric and is nearly horizontal or has a slight easterly plunge.

Other small scale ductile deformation features have also been observed, such as kink banding, crenulation cleavage, and folding. A dominant, but not exclusive "Z" asymmetry is developed within these small scale structures.

Numerous small (<1cm wide) pits can be seen on highly weathered surfaces of the islands at the east end of the property. These pits are formed from the weathering out of carbonate-based minerals. Upon close examination, these pits are linear in nature and dip steeply to the east. It appears that these linear features were formed by the intersection of two planar fabrics and the subsequent deposition and weathering out of carbonate material.

The importance of these structural features are their implications for mineralization. Heather and Arias (1987) have shown that regional structural patterns are duplicated at the deposit scale and further down to the outcrop scale. Therefore, recognition and understanding of structural features, even on the outcrop scale, are vitally important in understanding the controls on ore deposition. The Kash Lake Property displays all the signs of ductile-brittle shear controlled mineralization

As a final note, Davis et al. (1982) dated the Savant Narrows formation at an age of 2704 +/-2 Ma. Colvine et al. (1984) showed that the absolute timing of gold mineralization in numerous greenstone belts of the Superior Province had an approximate upper limit of 2718 Ma and a lower limit of 2685 Ma. This relatively tight geological time span may be indicative of the existence of a unique time event in Archean crustal development and stabilization, and associated gold mineralization. The age of the Savant Narrows formation falls quite nicely into this time span.

3.5 Mineralization and Alteration

The most extensive and pervasive alteration pattern is the development of calcium carbonate in mafic lithologies and ferroan dolomite in the ultramafics. Within this extensive alteration envelope, three apparently distinct zones of alteration and mineralization were identified during the 1987 field season: the Hoey Zone, the Sphalerite Zone, and the Alteration Island Zone.

The Hoey Zone has the most history behind it. This zone has been the main target of exploration in past programs. The zone is hosted in highly sheared and altered mafic volcanics. The weathered surface is a buff white. The fresh surfaces are dark grey. A typical mineral assemblage is composed of chlorite, sericite, and calcite with local zones of silicification. The buff white weathering is particularly indicative of silicification and potassium alteration. Distinct zones of mineral segregation were also evident, where the micaceous minerals have been tectonically separated from the quartz components.

Mineralization is dominated by 2-2.5% euhedral pyrite and locally up to 2% galena. Anomalous gold values appear to be associated with the galena (see Section 4.4). These sulphides coincide with the most altered volcanics. Numerous barren and deformed quartz veins can also be found within this mineralized zone.

The Sphalerite Trench Zone, located west of the Hoey Zone, is hosted in a similar mafic volcanic as the Hoey. However, in addition to a mineral assemblage of chlorite, sericite, and calcite hosting mineralization, ferroan dolomite is added. This reflects the increasing iron and magnesium character of the host rocks with proximity to the lake.

Mineralization at the Sphalerite Trench Zone is vein hosted. The largest quartz vein is 0.8m wide with pyritic selvages, minor arsenopyrite is also present. Sphalerite occupies fracture fills within the quartz vein. Anomalous gold values coincide with both the sphalerite and pyrite.

The Alteration Island Zone, located farthest west, is probably the most spectacular of all three zones. There appear to be three variations of mineralization and alteration at this site. The most pronounced is the development of massive (>3.0m wide) zones of chromium mica-silica alteration hosted in a chlorite, sericite, ferroan dolomite schist. The schistosity gives way to a massive texture where silicification is intense. Pyrite and arsenopyrite are disseminated toward the less silicified chromium-mica zones. This site is also characterized by the appearance of talc-serpentine alteration. Chromium-mica, talc, and serpentine indicate replacement of ultramafic lithologies.

The second type of mineralization and alteration found at this site is quartz vein associated. An halo of alteration surrounds a core of quartz veining and sulphides.The outer most zonation comprises an assemblage of chlorite-ferroan dolomite schist. An assemblage of chlorite-sericite-ferroan dolomite schist abuts against a core of quartz veins. Sulphides are dominated by pyrite which tends to be localized by the quartz vein selvages. These alteration zones are roughly symmetrical about the quartz veining.

The last type of alteration and mineralization found at this site consists of cross-cutting(?), 0.8m wide, deformed quartz-feldspar porphyry dikes. These dikes have associated 5% arsenopyrite and anomalous gold values (see Section 4.4).

The three sites of mineralization discussed above are the most prominent areas at the moment. However, there is another area worth mentioning. This is under the lake itself. At present the only information we have comes from the few islands at the east end of the property. Although no significant gold values have been obtained there is ample evidence of pervasive alteration and deformation. All the islands display varying degrees of pervasive ferroan dolomite alteration. Locally, zones of distinct mineral differentiation have been observed. Numerous small scale deformations have also been documented.

3.6 Conclusions and Discussion

The 1987 field season established the positive precious mineral potential of the Kashaweogama Lake area, specifically, the ground comprising the Kash Lake Property. Alteration and mineralization associated with anomalous gold values consists of variable amounts of calcite, ferroan dolomite, sericite, quartz- silicification, chromium mica, talc-serpentine, pyrite, sphalerite, galena, and arsenopyrite. Though varied, the alteration and mineralization are reflective of varying host lithologies rather then individual and independent mineralization events.

The metamorphic grade appears to be greenschist but areas of amphibolite grade have been noted. The peak metamorphic event has been shown to be an important factor in some Archean gold mines and may prove to be a factor at Kashaweogama Lake.

Structurally, the mineralization occurs in two settings: (1) disseminated sulphides and alteration occur in ductilely sheared volcanics, and (2) cross-cutting fracture dominated, brittle shear zones, which are marked by the appearance of quartz veins and quartz feldspar porphyry dikes. These two settings are do not necessarily represent two distinct events in time but probably reflect different stages of shear-dominated deformation.

Our investigations to this point clearly indicate that the Kash Lake Property encompasses a zone where alteration, metamorphic grade, and structurally induced permeability appears to be favourable for precious mineral deposition.

As a final consideration, this property has a striking resemblance to the Larder Lake area in eastern Ontario. The chromium mica-silica alteration and the ferroan carbonate alteration are particularly reminiscent of the Kerr-Addison mine and immediate areas. The Kashaweogama Lake Fault itself, takes on the similar dimensions as the main Larder Lake Break. Both are zones of alteration and brittle-ductile deformation. Furthermore, the Larder Lake Break is bounded on the north by a distinctive polymictic orthoconglomerate of the Timiskaming group. Colvine et al. (1984) believe that this conglomerate is representative of rapid, possibly scarp, erosion, along a developing deformation zone. The Savant Narrows formation, also a polymictic orthoconglomerate, has a similar geographical extent and relation to a regional deformation zone, the Kashaweogama Lake Fault, as the Timiskaming conglomerate to the Larder Lake Break. In short, the setting of the Kash Lake Property bears a striking resemblance, regionally, to the Larder Lake Break, and locally, to the Kerr-Addison mine area.

4.0 GEOCHEMICAL REPORT

4.1 Introduction

Geochemical sampling was focused on the three main zones of mineralization and alteration: the Hoey zone, the Sphalerite Trench Zone, and the Alteration Island zone (see section 3.5). Both lithogeochemical samples and soil samples were taken.

The purpose of this survey was not only to outline zones of gold mineralization but also to provide geochemical information concerning mineral deposition and information to ensure that future, more comprehensive surveys are successful. Geochemical sampling is a quick and effective method to gather such information, specifically, type and extent of glacial overburden, mineral dispersion characteristics, and the development of associated alteration.

4.2 Methods

In general, a mattock and/or rock hammer were used to collect a 0.3-0.5kg sample of soil. Ideally, a B2 horizon sample was the target. However, soil horizon development was highly variable even over short distances of 200-300m. Where a B2 horizon sample was not available an A1 or A2 horizon sample was substituted. All soil samples were deposited into kraft paper bags, labelled, and packed for shipment. No further field preparation was performed. Full descriptions of field and laboratory procedures are in Appendix 2. Analytical results are in Appendix 1.

4.3 Observations

A1 and A2 horizons were generally black, moderately to well decomposed, and of variable texture. Where an A2 horizon was well developed there was often no development of B2 horizons; this occurred in swampy and boggy ground. Depths of A1-A2 samples varied from 3cm to >70cm.

The colour of B2 horizon samples ranged from orange-brown to red-brown. Sample depths varied from 20cm to 40cm. Texturally, B2 samples varied from a fine silt to a silty sand. B2 horizons were best developed in the vicinity of rock outcrops, particularly at the base. B2 horizons were almost never found within 5m of the lake shore nor in swampy and boggy ground.

Glacial overburden is a particularly important aspect in this geochemical survey because of its effect on the primary mineral dispersion pattern(s). For example, clay beds were encountered in some low lying areas and in some swampy and boggy ground. The clay was generally highly consolidated, varied in colour from grey to green-grey, and often occurred at a depth of >30cm. Thicknesses could not be determined.

Most of the clay beds were encountered on the north shore but the southern shore is characterized by another type of glacial overburden: boulder and sandy till. This till sheet covers a considerable expanse of area. This overburden comprises an unconsolidated mixture of boulders and stones supported by a matrix of gravel and sand. The colour of this mixture varies from a grey-brown to orange-brown. When orange-brown in colour and sandy in texture, this till resembles a coarser B2 horizon. The true thickness of this till sheet is unknown but based on regional geographical glacial features, the thickness appears to be considerable.

The lithogeochemical samples were taken at the discretion of the sampler. Plates 1 and 3 display the locations of all pertinent samples.

4.4 Results and Conclusions

All geochemical results are detailed in Appendix 1. Arsenic and gold values were further plotted against location (see Plates 2 and 4). A number of anomalous results are worth discussing in more detail.

Hoey Zone:

The significant results are:

Sample	Type	Anomaly	
J53	rock	(14, 494, 1860)	(ppm As, ppm Cr, ppb Au)
R3	rock	(21, 11284, 1150)	(ppm As, ppm Pb, ppb Au)

Sample J53 was taken from a highly altered zone just north of the main Hoey Zone. No chromium-mica was observed but this area was highly stained with a deep red gossan. The extent of this alteration and exact nature is not yet known.

Sample R3 was taken from the main alteration-shear zone of the Hoey Zone and contained 1-2% euhedral galena. This zone has been traced for over 200m.

Sphalerite Trench Zone:

The significant results are:

Sample	Type	Anomaly	
E16	rock	(550, 99, 4790)	(ppm Cu, ppm Zn, ppb Au)
J8	rock	(362, 109, 2840)	(ppm Cu, ppm Zn, ppb Au)

Both anomalous samples have mildly elevated base metal values. Examination of this zone was restricted to the exposed trenches. Sample E15 contained over 2% Zn but had no anomalous gold values. Sphalerite was visible as fracture fills in this sample.

Alteration Island Zone:

The significant results are:

Sample	Type	Anomaly	
G127	rock	(3622,533,15,235)	(ppm As,ppm Cu,ppm Cr,ppb Au)
E150	soil	(19513,223,48,5440)	(ppm As,ppm Cu,ppm Cr,ppb Au)
E150	rock	(3555,26,9,380)	(ppm As,ppm Cu,ppm Cr,ppb Au)
G4	soil	(562,173,231,3110)	(ppm As,ppm Cu,ppm Cr,ppb Au)

Arsenic and lead, and to a lesser extent copper and zinc, appear to be indicator elements of gold mineralization. This zone is also characterized by extensive chromium mica-silica alteration. Chromium mica, however, probably acts as a marker of enhanced fluid permeability rather than as a direct indicator of gold mineralization.

Soil sampling is effective at Kashaweogama Lake, but there are limitations. Soil sampling is most effective when a B2 horizon is developed. A1-A2 horizon samples were of much more limited use. Arsenic is highly mobile and gold to a lesser extent. None of the other indicators have the same mobility as arsenic or gold in this area.

Clay has traditionally presented a considerable barrier to geochemical mobility; this property is no different. The overburden on the south shore also appears to be a considerable barrier to geochemical soil sampling. However, because no known mineralization has been found in this overburden this observation is tentative.

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APPENDIX 1

Chemical Analyses

REFERENCE GUIDE TO SAMPLE NUMBERING SCHEME

1. SAMPLES COLLECTED ON FLAGGED LINES :

LS1	2+40N	B
(1)	(2)	(3)

(1) = Property Reference : LS = Kash Lake

(2) = Location on flagged line.

(3) = Soil horizon sampled.

2. OFF-GRID SAMPLES

E	S	7	-	R	207
(1)	(2)	(3)		(4)	(5)

(1) = Sampler.

(2) = Property Reference : S = Kash Lake

(3) = Year of work : 7 = 1987.

(4) = Sample medium : S = soil
R = rock
SS = stream sediment

(5) = Sample number

ACME ANALYTICAL LABORATORIES 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

SAVANT

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-3 SOIL P4-SOIL/SILT P5-6 ROCK AU** ANALYSIS BY FA+AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JUL 27 1987 DATE REPORT MAILED: Aug 4/87 ASSAYER. D. Toye ..DEAN TOYE. CERTIFIED B.C. ASSAYER

NORTHERN DYNASTY File # 87-2733 Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU** PPB
SL1 1+00N B	2	16	12	51	.1	20	10	144	3.02	6	5	ND	4	15	1	4	2	43	.25	.088	10	45	.43	82	.14	6	2.22	.01	.07	1	1
SL1 0+90N B	1	11	5	25	.1	14	5	102	1.83	7	5	ND	4	10	1	2	3	29	.17	.020	8	32	.28	34	.12	4	1.11	.01	.05	1	1
SL1 0+80N B	1	13	4	21	.1	14	5	99	1.81	4	5	ND	4	11	1	2	3	30	.23	.016	8	31	.31	32	.14	4	.90	.01	.06	1	1
SL1 0+70N A	1	11	3	20	.1	13	4	77	1.04	4	5	ND	4	13	1	2	3	21	.39	.015	19	24	.27	41	.10	2	.84	.01	.06	1	1
SL1 0+60N A	1	40	13	36	.4	20	9	222	1.78	19	5	ND	4	39	1	2	2	35	2.22	.044	33	55	.50	114	.08	6	1.64	.02	.07	1	1
SL1 0+50N A	1	23	7	28	.1	8	2	206	.54	4	5	ND	1	62	1	2	2	12	6.17	.057	9	12	.37	104	.02	12	.45	.01	.07	1	1
SL1 0+40N A	1	19	8	26	.1	15	5	129	1.42	6	5	ND	5	16	1	2	4	28	.72	.038	17	33	.42	41	.10	2	.83	.02	.10	1	92
SL1 0+30N A	1	14	6	31	.1	14	6	218	1.21	7	5	ND	3	22	1	2	2	23	1.47	.025	11	29	.41	57	.07	5	.88	.01	.07	1	1
SL1 0+20N B	1	12	9	35	.1	20	8	165	1.67	4	5	ND	4	13	1	2	2	33	.47	.015	13	54	.45	70	.14	10	1.32	.02	.08	1	1
SL1 0+10N E	1	13	3	24	.1	84	8	98	1.60	27	5	ND	3	9	1	2	2	25	.23	.005	8	49	.34	27	.11	2	.98	.01	.04	1	3
~~SL1 0+00N A~~	1	49	31	61	.1	360	50	741	3.28	428	5	ND	2	17	1	2	2	53	1.39	.068	6	595	1.59	48	.01	10	1.59	.01	.06	1	126
LS1 3+25N B	1	17	7	38	.1	21	7	121	2.89	7	5	ND	4	9	1	2	2	47	.21	.020	9	38	.46	33	.20	6	1.32	.01	.05	1	1
LS1 3+20N B	1	11	9	48	.1	16	6	141	3.17	2	5	ND	4	13	1	2	2	71	.20	.036	9	42	.39	51	.23	4	1.63	.01	.07	1	1
LS1 3+10N B	1	13	15	40	.1	19	7	94	3.12	2	5	ND	6	12	1	3	2	55	.16	.030	10	51	.34	58	.19	9	2.76	.01	.06	2	1
LS1 3+00N B	1	11	13	34	.1	9	4	82	2.52	5	5	ND	4	9	1	3	2	80	.14	.033	10	36	.30	32	.27	4	1.24	.01	.06	1	1
LS1 2+90N	1	7	11	28	.1	5	3	63	1.52	3	5	ND	5	9	1	2	2	36	.15	.017	12	17	.17	39	.17	3	.92	.01	.04	1	1
LS1 2+80N B	1	18	10	30	.1	23	7	113	2.25	4	5	ND	6	12	1	2	2	35	.22	.021	12	42	.39	53	.17	6	1.54	.01	.05	1	9
LS1 2+70N B	1	22	14	80	.2	21	9	147	2.75	11	5	ND	5	13	1	2	2	42	.25	.019	10	43	.47	54	.19	6	1.90	.01	.07	1	1
LS1 2+60N B	1	15	11	39	.1	9	4	86	1.57	10	5	ND	3	10	1	2	2	32	.15	.022	10	22	.23	40	.13	2	.98	.01	.05	1	10
LS1 2+50N B	1	15	7	37	.1	25	8	129	2.13	2	5	ND	5	16	1	2	2	33	.25	.038	12	43	.42	41	.14	4	2.02	.02	.05	1	1
LS1 2+40N	1	11	4	44	.1	16	7	164	2.34	2	5	ND	7	12	1	2	2	37	.20	.048	15	36	.38	42	.15	5	1.54	.01	.07	1	1
LS1 2+30N	1	14	6	40	.1	21	6	109	2.76	2	5	ND	4	14	1	2	3	39	.23	.062	11	39	.35	57	.14	4	1.93	.01	.07	2	1
LS1 2+20N B	1	4	9	53	.1	13	5	131	3.01	2	6	ND	5	14	1	2	2	51	.19	.065	11	37	.32	54	.18	6	1.55	.01	.07	1	85
LS1 2+10N	1	14	8	30	.1	21	7	272	1.88	3	5	ND	4	14	1	2	2	29	.24	.060	11	35	.36	63	.11	2	1.41	.01	.06	1	3
LS1 2+00N B	1	8	11	38	.1	18	6	124	2.83	2	5	ND	5	15	1	2	2	46	.23	.052	13	44	.41	53	.16	2	1.60	.01	.07	1	1
LS1 1+90N E	1	13	13	40	.1	19	6	134	2.62	4	5	ND	4	11	1	2	2	39	.19	.072	11	36	.33	44	.14	3	1.54	.01	.06	1	1
LS1 1+80N B	1	28	7	41	.1	27	9	186	2.28	2	5	ND	5	14	1	2	3	37	.28	.054	10	45	.53	55	.14	5	1.88	.02	.09	1	2
LS1 1+70N B	1	15	2	29	.1	18	7	190	1.90	2	5	ND	4	12	1	2	2	30	.20	.049	11	34	.35	37	.11	3	1.37	.01	.07	1	1
LS1 1+60N B	1	15	9	38	.1	23	8	122	2.53	4	5	ND	6	10	1	3	3	37	.19	.084	12	42	.34	51	.13	4	2.32	.01	.06	2	1
LS1 1+50N B	1	7	13	46	.1	10	7	186	2.01	2	5	ND	5	10	1	2	2	32	.17	.132	11	33	.25	53	.11	6	1.42	.01	.06	1	3
LS1 1+40N B	1	11	13	33	.1	19	7	153	2.24	2	5	ND	5	12	1	2	3	35	.21	.110	10	39	.34	47	.12	3	1.58	.01	.05	1	1
LS1 1+30N B	1	1	8	20	.1	6	3	78	1.42	2	5	ND	4	10	1	2	3	25	.10	.028	11	20	.09	35	.08	8	1.02	.01	.04	1	7
LS1 1+20N B	1	14	10	40	.1	16	6	130	2.89	2	5	ND	5	11	1	2	2	47	.18	.129	11	43	.32	49	.15	4	1.65	.01	.06	1	11
LS1 1+10N E	1	15	9	49	.1	22	9	133	2.67	2	5	ND	5	13	1	2	2	42	.22	.062	11	50	.39	58	.15	2	2.02	.01	.06	2	1
LS2 2+00N A	6	102	17	115	.1	85	72	1649	5.91	53	5	ND	9	26	1	2	2	90	1.15	.136	46	100	.95	380	.18	3	2.01	.02	.20	1	1
LS2 1+90 B	12	46	28	99	.3	55	93	2730	8.30	152	5	ND	7	26	1	2	2	123	.99	.137	25	96	.85	201	.18	8	1.90	.02	.13	1	1
LS2 1+80N AB	4	52	13	55	.1	74	22	564	3.15	12	5	ND	6	20	1	2	2	58	.60	.046	40	117	1.11	74	.18	3	1.93	.02	.11	1	3
STD C/AU-S	18	59	37	132	7.2	70	28	939	3.98	37	18	8	40	51	18	17	22	57	.49	.085	39	61	.91	182	.08	35	1.72	.06	.14	12	49

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU** PPB
LS2 1+70N B	1	23	7	36	.1	50	13	225	2.32	4	5	ND	4	13	1	2	2	46	.35	.014	11	107	1.04	66	.20	3	1.76	.02	.19	2	1
LS2 1+60N B	1	24	2	19	.1	22	7	102	1.99	4	5	ND	5	8	1	2	2	34	.23	.024	17	45	.36	21	.15	3	1.45	.01	.03	1	2
LS2 1+50N B	1	17	11	45	.1	20	9	126	3.28	5	5	ND	5	9	1	2	2	64	.18	.024	10	58	.46	35	.25	2	1.92	.01	.05	2	1
LS2 1+40N	1	23	7	45	.1	88	11	329	2.91	4	5	ND	6	10	1	2	3	54	.22	.028	8	196	1.26	56	.24	2	2.16	.01	.27	1	1
LS2 1+30N B	1	11	13	37	.2	17	6	98	3.28	2	5	ND	6	10	1	2	2	55	.16	.077	10	54	.28	35	.16	2	2.17	.01	.06	1	2
LS2 1+20N B	1	10	11	29	.1	20	7	100	2.49	4	5	ND	5	9	1	2	2	37	.16	.046	11	47	.32	28	.13	2	1.88	.01	.04	1	1
LS2 1+10N B	1	11	4	32	.1	20	7	126	2.30	4	5	ND	4	9	1	3	2	42	.16	.018	10	41	.44	31	.17	2	1.35	.01	.06	1	1
LS2 1+00N B	1	10	4	26	.1	25	6	111	2.09	3	5	ND	3	9	1	2	2	56	.17	.029	7	43	.33	29	.20	2	.89	.01	.04	3	1
LS2 0+90N A-B	1	10	12	14	.1	7	2	53	.81	2	5	ND	1	9	1	2	3	22	.14	.016	8	20	.09	46	.08	2	.52	.01	.03	1	1
LS2 0+80N B	1	16	8	30	.1	22	7	121	2.41	6	6	ND	5	9	1	2	2	54	.16	.024	11	58	.41	43	.19	2	1.74	.01	.05	1	2
LS2 0+70N B	1	29	9	17	.1	4	4	89	6.82	2	5	ND	1	2	1	4	2	11	.03	.066	3	4	.02	16	.03	2	.12	.01	.01	1	1
LS2 0+60N B	1	12	13	27	.2	11	5	258	1.13	2	5	ND	3	10	1	2	2	28	.22	.018	8	23	.33	58	.15	2	.80	.01	.06	1	1
LS2 0+50N B	1	36	52	47	.3	29	8	180	1.75	9	5	ND	3	15	1	2	2	38	.38	.034	10	61	.52	34	.10	2	1.10	.01	.06	1	300
LS2 0+40N B	1	20	72	37	.1	25	8	484	1.65	4	5	ND	4	13	1	2	2	43	.27	.016	11	61	.49	57	.21	2	1.21	.01	.05	1	1
LS2 0+30N B	1	24	33	72	.1	47	16	666	4.78	17	5	ND	3	30	1	3	2	96	.56	.044	7	110	1.37	62	.28	3	2.13	.01	.13	1	1
LS2 0+20N B	1	27	12	52	.1	50	17	462	3.96	10	5	ND	6	24	1	2	2	73	.44	.014	9	90	1.29	55	.32	2	2.31	.01	.07	1	2
LS2 0+10N B	1	53	7	44	.1	51	14	246	3.70	9	5	ND	7	11	1	2	2	85	.27	.017	12	99	.94	31	.32	2	1.76	.01	.04	2	1
LS2 0+00N B	1	30	7	20	.1	26	8	101	2.21	4	5	ND	5	10	1	2	2	47	.19	.011	12	50	.36	28	.16	2	1.25	.01	.03	1	1
LS3 0+00S A	1	16	26	48	.1	32	10	94	2.33	3	5	ND	2	21	1	2	2	42	.08	.024	16	73	1.39	56	.03	2	1.60	.01	.04	1	1
LS3 0+10S B	1	9	3	36	.1	27	9	62	1.83	2	5	ND	3	22	1	2	5	55	.08	.011	28	77	1.24	28	.06	2	1.95	.01	.03	1	1
LS3 0+20S B	1	10	9	21	.1	5	3	71	1.13	2	5	ND	5	17	1	2	2	35	.21	.011	8	19	.25	42	.26	2	.74	.01	.02	1	1
LS3 0+30S B	1	8	9	21	.2	12	3	47	.85	2	8	ND	3	15	1	2	2	32	.16	.016	11	35	.30	58	.14	3	.79	.01	.05	1	1
LS3 0+50S A	1	56	3	14	.1	11	2	24	.47	2	6	ND	2	136	1	2	2	10	2.28	.091	32	9	.14	118	.01	5	.80	.01	.01	1	1
LS3 0+60S A	1	76	2	15	.1	12	1	18	.39	2	5	ND	2	100	1	2	2	9	2.88	.056	14	8	.17	79	.01	4	.32	.01	.01	1	1
LS3 0+70S A	1	60	4	16	.1	13	1	11	.80	2	7	ND	2	160	1	2	2	9	3.32	.063	18	7	.22	88	.01	4	.43	.01	.02	1	2
LS3 0+80S B	1	31	24	23	.1	23	9	29	1.58	2	5	ND	3	39	1	2	2	7	.26	.017	30	11	.10	96	.01	2	.84	.01	.04	1	1
LS3 0+90S B	1	6	6	25	.1	33	5	8	.97	2	5	ND	2	9	1	2	2	15	.05	.005	30	24	.14	48	.01	2	.70	.01	.02	1	1
LS3 1+00S A	1	49	10	21	.1	25	5	20	1.78	2	5	ND	2	100	1	2	2	12	.98	.074	26	35	.18	89	.01	3	1.38	.01	.04	1	1
LS4 0+00S B	1	12	10	69	.1	104	21	114	3.50	3	5	ND	4	69	1	2	3	78	.45	.018	49	242	2.80	67	.04	2	2.35	.01	.03	1	1
LS4 0+10S B	1	5	4	28	.1	21	6	43	1.38	2	5	ND	2	23	1	2	2	36	.13	.017	29	55	.67	67	.01	2	1.53	.01	.04	1	1
LS4 0+20S B	1	11	21	65	.1	38	19	231	4.98	2	5	ND	3	18	1	2	2	129	.07	.015	10	88	2.81	42	.11	2	2.84	.01	.03	1	1
LS4 0+30S B	1	6	9	26	.1	30	5	184	1.15	2	5	ND	3	26	1	2	3	26	.22	.009	11	52	.56	61	.14	3	.89	.01	.11	1	2
LS4 0+40S B	1	8	18	26	.2	3	2	66	.70	2	5	ND	1	13	1	2	2	13	.12	.019	15	11	.07	84	.02	3	.40	.01	.04	1	35
LS4 0+50S B	1	13	15	50	.1	25	11	158	3.75	14	5	ND	7	16	1	3	2	52	.20	.116	15	54	.61	62	.16	3	2.10	.01	.08	1	1
LS4 0+60S B	1	11	12	31	.1	14	5	94	1.62	5	5	ND	6	17	1	3	2	31	.22	.029	15	30	.41	43	.14	3	.86	.01	.04	1	1
LS4 0+70S B	1	37	15	99	.2	45	22	594	3.67	6	5	ND	7	19	1	3	2	68	.26	.067	15	56	1.00	79	.26	7	1.98	.01	.14	1	1
LS4 0+80S B	1	18	14	42	.1	22	8	187	2.45	5	5	ND	5	15	1	5	2	66	.24	.020	8	35	.62	46	.27	2	1.11	.01	.06	1	2
STD C/AU-S	18	60	38	129	7.0	69	29	956	4.05	41	18	8	40	53	19	14	20	58	.50	.086	39	62	.92	186	.09	36	1.78	.06	.14	14	53

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU** PPB
LS4 0+90S B	3	40	17	73	.1	15	20	918	4.78	11	7	ND	9	13	1	2	3	85	.23	.038	22	34	.74	89	.21	5	2.18	.01	.06	1	1
LS4 1+00S B	5	50	28	207	.5	39	32	2246	7.21	44	5	ND	9	37	1	2	2	157	.90	.100	29	88	1.15	183	.27	6	3.02	.02	.11	1	1
LS4 1+10S A	1	135	5	20	.2	24	5	343	1.14	4	5	ND	3	57	1	2	2	24	2.18	.119	93	30	.22	147	.01	5	1.62	.01	.02	1	1
LS4 1+20S A	1	120	2	25	.1	21	4	19	.90	2	5	ND	3	135	1	2	2	6	3.64	.073	46	19	.26	216	.01	3	.83	.01	.01	1	1
LS4 1+30S A	1	146	3	22	.1	17	1	10	.95	2	5	ND	2	105	1	2	2	6	3.48	.057	63	11	.25	109	.01	3	.55	.01	.01	1	3
JS7 S18	1	23	14	72	.1	201	22	1317	3.01	79	5	ND	4	9	1	2	3	48	.28	.024	10	429	1.22	67	.14	5	1.99	.01	.08	1	1
ES7 R9	1	50	3	29	.1	36	9	1019	2.13	85	5	ND	2	17	1	2	2	12	1.83	.010	2	26	1.12	55	.01	2	.56	.01	.14	1	18
ES7 R10	1	11	2	21	.1	13	3	507	2.95	42	5	ND	1	4	1	3	2	1	.04	.006	2	5	.09	34	.01	2	.03	.01	.02	1	5
ES7 R11	7	664	18	7928	1.0	155	70	1132	11.49	102	5	ND	4	10	19	2	4	110	1.54	.014	6	128	2.16	10	.01	2	2.75	.01	.03	1	11
ES7 R12	1	71	25	50	.1	8	14	806	2.80	5	5	ND	4	459	1	2	2	26	4.75	.187	28	5	.97	113	.07	5	.90	.02	.24	1	1
ES7 R13	1	23	10	121	.1	60	21	1024	4.15	2	5	ND	9	564	1	2	2	24	5.07	.145	62	36	2.42	108	.01	2	1.04	.01	.17	1	1
ES7 R4	1	60	5	39	.1	686	39	2128	4.63	572	5	ND	1	51	1	3	2	27	11.68	.006	2	1130	6.57	44	.01	2	1.28	.01	.06	2	31
ES7 R16	1	550	66	99	.9	83	50	1035	10.24	2	5	ND	2	14	1	2	2	23	.72	.021	3	6	.67	37	.03	5	.87	.01	.14	1	4790
ES7 R15	43	546	31	73095	2.0	133	73	289	5.55	38	5	ND	1	4	142	5	2	33	.10	.001	2	55	.51	19	.01	2	.62	.01	.02	2	24
JS7 R7	1	148	17	134	.3	54	48	1356	12.00	15	5	ND	3	19	1	2	2	246	2.28	.033	4	79	3.50	19	.01	3	5.23	.01	.02	1	4
JS7 R8	1	362	5	109	.6	59	46	1368	9.97	3	5	ND	3	55	1	2	2	60	3.06	.033	3	14	2.43	33	.03	4	2.22	.01	.12	1	2840
JS7 R2	1	18	10	57	.1	44	14	783	3.14	2	5	ND	11	176	1	2	2	29	2.11	.091	50	41	1.61	91	.01	3	1.68	.02	.20	1	1
JS7 R3	2	28	9	60	.1	50	16	1080	3.62	2	5	ND	4	863	1	2	2	10	8.37	.094	37	28	3.47	82	.01	3	.70	.02	.14	1	1
JS7 R4	1	41	23	107	.3	39	20	1240	4.55	2	5	ND	7	937	1	2	2	39	7.59	.120	56	20	2.13	54	.01	3	1.89	.01	.13	1	1
RS7 R2	1	18	19	37	.1	6	11	357	27.16	15	8	ND	4	92	1	2	2	30	.64	.069	6	7	.36	19	.01	11	.29	.01	.22	1	1
RS7 R3	2	189	11284	93	30.0	71	35	811	7.18	21	5	ND	14	51	3	2	30	66	4.01	.035	22	36	2.21	28	.05	2	2.67	.01	.14	4	1150
ES7 S8	5	169	17	56	.1	2308	137	7387	11.66	2265	5	ND	3	35	1	5	3	38	5.29	.034	12	328	2.87	94	.01	6	.76	.01	.03	1	94
ES7 S9	5	42	17	21	.4	36	5	162	4.42	255	5	ND	2	7	1	2	12	24	.15	.027	7	12	.11	48	.03	6	.37	.01	.04	1	6
ES7 S10	1	458	32	92	1.5	273	49	1537	5.50	115	5	ND	4	14	1	2	3	153	1.97	.036	24	481	2.60	141	.18	15	3.19	.01	.54	2	13
ES7 S11	3	149	15	88	.5	75	29	404	7.14	77	5	ND	4	12	1	2	2	63	.30	.015	16	69	1.31	40	.06	4	2.55	.01	.06	1	495
ES7 S12	1	28	10	76	.1	68	13	74	2.22	37	5	ND	5	65	1	2	2	18	.51	.162	42	51	.81	8	.01	2	.97	.01	.01	1	2
ES7 S13	1	149	8	30	.2	78	24	301	3.28	28	5	ND	8	10	1	2	2	24	.18	.006	17	45	.52	26	.09	2	1.13	.01	.02	1	21
ES7 SS1	3	5	42	88	.1	13	50	7932	3.21	21	5	ND	1	13	1	2	2	30	.34	.064	12	22	.23	200	.04	2	.60	.01	.04	1	-

ACME ANALYTICAL LABORATORIES 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-7 SOIL P8-SOIL/STREAM SED P9-12 ROCK AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: AUG 10 1987 DATE REPORT MAILED: Aug 18/87 ASSAYER. [signature] ..DEAN TOYE, CERTIFIED B.C. ASSAYER

NORTHERN DYNASTY PROJECT-SAVANT LAKE File # 87-3127 Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU* PPB
6S7-S-2	1	33	31	43	.1	171	11	251	1.19	27	5	ND	1	24	1	2	2	18	1.45	.047	20	224	.67	66	.03	4	1.01	.01	.02	1	5
6S7-S-3	1	25	11	56	.1	191	28	194	2.75	81	5	ND	4	9	1	2	3	48	.29	.011	13	135	.89	44	.18	2	1.80	.01	.05	1	7
6S7-S-4	1	173	19	59	.7	421	50	810	9.39	562	5	ND	2	18	1	2	2	69	2.14	.027	5	231	2.06	44	.01	2	2.23	.01	.02	1	3110
JS7-S-13B	1	4	29	20	.1	3	1	14	.36	35	5	ND	1	5	1	2	2	18	.04	.029	11	14	.07	39	.02	2	1.24	.01	.04	1	2
JS7-S-46B	1	41	13	30	.2	19	6	128	.95	5	5	ND	1	107	1	2	2	10	2.72	.044	38	19	.35	79	.03	4	.81	.01	.03	1	1
JS7-S-47B	1	29	23	35	.1	30	9	148	4.89	16	5	ND	6	16	1	2	2	88	.14	.022	17	73	.54	27	.22	2	1.83	.01	.05	1	1
JS7-S-48B	1	21	22	30	.1	22	8	128	2.89	10	5	ND	3	13	1	2	2	51	.20	.021	12	45	.42	25	.15	4	1.42	.01	.03	1	1
JS7-S-49B	1	27	20	24	.1	32	10	89	3.17	9	5	ND	4	10	1	3	2	37	.16	.014	9	53	.30	25	.15	3	2.16	.01	.03	2	1
JS7-S-50B	1	10	8	19	.1	11	4	100	.90	3	5	ND	4	12	1	2	2	16	.32	.039	15	24	.30	21	.09	2	.58	.02	.04	1	1
JS7-S-51B	1	34	21	27	.1	49	12	111	2.30	2	5	ND	5	12	1	2	2	45	.20	.005	11	51	.48	58	.20	2	1.92	.01	.06	1	1
JS7-S-71B	1	36	21	36	.2	199	30	161	5.56	112	5	ND	2	10	1	2	8	103	.30	.004	5	725	1.99	25	.01	5	2.72	.01	.02	1	1
LS5-0+00B	1	40	12	42	.1	50	10	156	2.12	8	5	ND	3	9	1	2	2	45	.19	.008	6	75	.92	37	.23	2	1.42	.01	.04	1	1
LS5-0+10S	1	144	18	57	.1	123	15	197	3.04	12	5	ND	8	17	1	2	2	42	.50	.019	31	113	1.04	90	.20	2	2.44	.04	.10	1	1
LS5-0+20S	1	25	15	37	.2	38	8	128	1.77	6	5	ND	3	12	1	2	2	36	.24	.018	8	67	.70	56	.18	2	1.24	.01	.07	1	1
LS5-0+30S	1	16	11	29	.1	25	7	111	1.72	11	5	ND	3	7	1	2	2	32	.18	.009	7	38	.47	44	.17	2	1.02	.01	.04	1	1
LS5-0+40S	1	13	8	30	.1	34	8	123	2.01	10	5	ND	4	7	1	2	2	39	.16	.009	8	54	.54	32	.20	2	1.11	.01	.03	1	1
LS5-0+50S	1	22	12	40	.2	42	10	159	2.85	9	5	ND	5	9	1	2	2	63	.16	.010	6	65	.71	28	.29	2	1.49	.01	.04	36	1
LS9-3+00N	2	12	18	31	.1	58	9	266	2.38	5	13	ND	1	4	1	2	4	41	.10	.015	7	149	1.15	15	.22	2	2.14	.01	.03	1	6
LS9-2+90N	5	26	16	36	.1	30	8	121	2.24	7	5	ND	4	6	1	2	2	38	.14	.030	11	57	.39	33	.15	9	1.92	.01	.06	1	1
LS9-2+80N	9	27	18	36	.1	26	7	98	2.55	8	5	ND	4	6	1	2	2	58	.11	.018	9	46	.33	34	.21	2	1.48	.01	.03	1	1
LS9-2+70N	2	27	19	37	.1	29	8	128	2.63	19	5	ND	2	8	1	2	2	44	.14	.034	10	57	.44	34	.15	6	1.74	.01	.04	1	2
LS9-2+60N	3	34	30	54	.3	28	8	138	2.95	12	5	ND	4	9	1	3	2	55	.16	.041	10	47	.43	33	.20	2	1.43	.01	.04	1	5
LS9-2+50N	30	204	80	362	.7	59	22	358	2.25	3	5	ND	6	17	1	3	3	26	.26	.024	47	32	.31	105	.07	12	2.90	.01	.06	1	1
LS9-2+40N	6	110	15	67	.1	39	12	245	2.19	2	5	ND	7	14	1	2	4	37	.39	.011	14	61	.80	35	.20	2	1.67	.01	.04	1	1
LS9-2+30N	17	41	17	67	.3	24	9	263	2.30	5	5	ND	3	14	1	2	2	47	.28	.027	11	33	.36	66	.15	2	1.28	.01	.05	1	15
LS9-2+20N	4	40	17	72	.1	38	14	211	3.73	11	5	ND	4	11	1	2	2	61	.20	.046	10	66	.67	28	.21	3	1.69	.01	.06	2	3
LS9-2+10N	2	16	14	74	.2	22	7	153	1.84	3	5	ND	2	11	1	2	2	37	.20	.018	10	38	.40	42	.16	2	1.12	.01	.06	1	1
LS9-2+00N	2	26	17	60	.2	19	7	136	2.54	7	5	ND	3	9	1	3	2	43	.12	.034	14	31	.33	50	.13	3	1.67	.01	.07	1	550
LS9-1+90N	1	27	12	47	.1	25	10	213	2.33	6	5	ND	3	10	1	2	4	44	.20	.021	9	48	.53	33	.18	2	1.19	.01	.05	2	3
LS9-1+80N	1	34	18	60	.3	34	11	266	2.55	10	5	ND	4	11	1	2	2	38	.20	.039	11	50	.50	45	.13	2	1.78	.01	.06	1	1
LS9-1+70N	1	16	13	72	.1	37	9	387	1.85	4	5	ND	4	16	1	2	3	37	.29	.028	15	62	.78	83	.20	2	1.33	.01	.17	1	1
STD C/AU-S	19	59	42	132	7.3	69	28	950	3.97	40	25	8	40	52	18	16	22	59	.48	.087	39	61	.88	179	.09	32	1.87	.06	.14	12	50

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU* PPB
LS9-1+60W	1	30	11	95	.2	26	12	1515	1.90	2	8	ND	2	15	1	2	2	30	.23	.045	13	90	.38	162	.11	2	1.20	.01	.08	1	1
LS9-1+50W	1	18	14	33	.3	20	7	160	2.46	4	5	ND	4	13	1	2	2	40	.17	.016	11	39	.42	45	.16	7	1.62	.01	.06	1	2
LS9-1+40W	1	8	6	39	.3	10	4	101	1.45	2	5	ND	3	10	1	2	2	25	.15	.011	11	20	.27	34	.13	6	.96	.01	.05	1	2
LS9-1+30W	1	29	15	76	.1	29	11	485	3.21	2	5	ND	5	13	1	2	2	43	.23	.038	11	46	.62	90	.16	9	1.95	.01	.09	1	4
LS9-1+20W	1	17	6	48	.1	19	6	197	2.75	2	5	ND	5	13	1	2	2	56	.21	.018	12	37	.55	48	.21	12	1.52	.01	.08	1	3
LS9-1+10W	1	19	15	98	.6	25	11	392	3.44	2	5	ND	4	9	1	2	2	53	.15	.029	11	54	.78	71	.21	5	1.73	.01	.09	2	1
LS9-1+00W	1	92	12	67	.1	49	16	390	5.39	10	5	ND	5	15	1	2	2	66	.23	.023	8	87	1.17	79	.26	5	2.60	.01	.11	1	3
LS9-0+90W	1	131	13	103	.1	106	32	444	6.30	17	5	ND	5	4	1	2	2	103	.08	.017	12	260	2.10	43	.29	6	3.61	.01	.05	2	3
LS9-0+80W	1	17	17	76	.1	94	25	520	6.79	10	5	ND	5	8	1	2	2	126	.28	.024	4	273	2.94	80	.42	6	3.58	.01	.14	1	1
LS9-0+70W	1	53	21	106	.3	112	40	1868	6.51	14	5	ND	7	10	1	2	2	116	.27	.045	8	363	1.94	217	.47	3	3.43	.01	.22	1	1
LS9-0+60W	1	22	12	40	.1	23	9	160	2.30	8	5	ND	4	12	1	2	2	41	.29	.022	9	36	.69	44	.21	4	1.51	.01	.06	1	1
STD C/AU-S	18	59	42	133	7.3	67	29	938	4.08	38	19	8	41	51	18	17	4	57	.50	.086	38	61	.92	171	.09	36	1.92	.06	.13	14	48
LS9-0+50W	1	47	10	50	.3	53	14	169	2.98	7	5	ND	5	11	1	2	2	45	.28	.034	15	89	.87	47	.15	17	2.08	.02	.06	1	1
LS9-0+40W	1	118	6	62	.1	76	24	345	4.55	42	5	ND	5	11	1	2	3	68	.30	.025	10	73	1.11	54	.18	3	2.42	.01	.06	1	2
LS9-0+30W	1	30	12	86	.3	28	17	289	4.28	46	5	ND	4	11	1	2	2	61	.32	.021	8	61	1.10	65	.28	7	2.27	.01	.15	1	1
LS9-0+20W	1	46	19	58	.1	39	18	277	3.10	18	5	ND	4	11	1	2	2	53	.27	.017	13	73	1.06	45	.08	7	2.31	.01	.04	1	1
LS9-0+10W	1	34	22	115	.4	24	13	778	2.99	33	5	ND	2	11	1	2	2	59	.40	.062	8	82	.81	165	.03	3	2.67	.01	.04	1	1
LS9-0+00	1	15	19	31	.2	20	5	170	1.81	19	5	ND	2	11	1	2	2	35	.29	.011	7	71	.63	33	.07	2	1.60	.01	.02	2	1
LS10-0+00	1	190	12	38	.1	60	26	235	5.27	3	5	ND	4	30	1	2	2	65	.44	.015	15	139	1.23	55	.29	6	2.81	.01	.02	1	2
LS10-0+10S	1	35	18	61	.1	46	14	273	3.39	2	5	ND	5	29	1	2	2	72	.29	.015	13	89	1.07	80	.36	6	1.92	.01	.10	1	1
LS10-0+20S	1	22	7	39	.1	47	11	303	2.84	3	5	ND	4	15	1	2	2	45	.34	.004	10	76	1.18	43	.27	3	1.97	.01	.03	1	5
LS10-0+30S	1	9	9	39	.1	20	7	189	1.54	2	5	ND	3	12	1	2	2	25	.21	.009	10	36	.56	41	.14	3	1.14	.01	.03	1	1
LS10-0+40S	1	10	4	28	.1	16	4	125	1.13	2	5	ND	2	11	1	2	2	23	.20	.013	9	35	.43	27	.12	16	.91	.01	.02	1	3
LS10-0+50S	1	29	9	106	.1	28	20	813	4.76	4	9	ND	3	26	1	2	2	65	.64	.072	21	56	1.52	65	.41	4	2.97	.01	.05	1	1
LS10-0+60S	1	29	12	42	.1	32	11	160	3.86	6	7	ND	5	24	1	2	2	58	.23	.033	10	66	.67	51	.19	6	2.33	.01	.05	1	1
LS10-0+70S	1	10	14	22	.1	22	6	76	2.13	13	5	ND	2	10	1	2	2	34	.14	.014	8	49	.32	35	.13	3	1.27	.01	.03	1	2
LS10-0+80S	1	13	9	25	.1	17	6	95	2.49	4	5	ND	5	10	1	3	2	53	.13	.011	10	40	.37	31	.19	2	1.21	.01	.04	1	2
LS10-0+90S	1	13	14	16	.1	6	2	52	1.04	37	5	ND	4	15	1	2	2	40	.13	.006	7	15	.18	22	.22	31	.58	.04	.04	2	3
LS10-1+00S	1	4	13	15	.1	5	2	33	1.12	2	5	ND	4	10	1	3	3	20	.14	.012	10	18	.15	20	.08	2	1.09	.01	.02	1	1
LS10-1+10S	1	49	15	35	.1	32	9	160	2.90	3	5	ND	5	27	1	2	2	41	.39	.023	16	49	.56	23	.16	5	1.69	.01	.03	1	5
LS10-1+20S	1	4	12	16	.1	11	3	56	1.53	2	5	ND	5	9	1	2	2	36	.15	.017	9	23	.24	25	.14	2	1.09	.01	.04	1	1
LS10-1+30S	1	8	9	20	.1	14	4	84	1.30	2	5	ND	4	9	1	2	2	36	.11	.008	9	31	.46	15	.16	9	.80	.01	.05	2	1
LS10-1+40S	1	12	11	32	.1	18	5	111	1.55	2	5	ND	4	13	1	2	2	31	.16	.012	9	32	.46	29	.18	2	1.13	.01	.06	1	1
LS10-1+50S	1	3	7	11	.1	6	2	37	.87	2	5	ND	3	6	1	2	2	25	.09	.008	8	14	.15	11	.10	2	.52	.01	.03	1	2
LS10-1+60S	1	8	14	15	.1	7	3	44	1.10	2	5	ND	2	12	1	2	2	35	.10	.006	7	14	.18	22	.15	9	.66	.01	.03	1	1
LS10-1+70S	1	10	15	27	.2	17	6	85	2.75	3	5	ND	5	16	1	2	2	59	.18	.011	7	43	.38	28	.31	5	1.20	.01	.04	1	2
LS10-1+80S	1	14	9	18	.1	14	4	69	2.50	6	5	ND	3	10	1	2	2	34	.17	.034	10	44	.32	20	.11	3	1.50	.01	.02	1	1
LS10-1+90S	1	10	18	42	.1	20	7	197	2.88	2	5	ND	6	24	1	5	2	47	.11	.020	10	34	.52	52	.19	3	1.56	.01	.07	1	1
LS10-2+00S	1	12	25	38	.1	18	4	73	2.69	2	5	ND	5	10	1	2	2	70	.06	.014	10	44	.30	30	.23	3	1.05	.01	.04	1	2

NORTHERN DYNASTY PROJECT-SAVANT LAKE FILE # 87-3127

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU** PPB
GS7-R4	1	26	7	22	.1	595	42	1976	3.52	714	5	ND	1	77	1	2	2	16	13.15	.004	2	520	6.46	34	.01	6	.64	.01	.04	1	1
GS7-R5	1	32	13	33	.2	595	41	1533	5.23	763	5	ND	1	110	1	2	2	49	14.37	.002	2	573	7.33	18	.01	2	1.20	.01	.04	1	46
JS7-R44	1	32	7	39	.1	37	10	563	2.15	2	5	ND	4	167	1	2	5	8	3.61	.042	19	28	1.12	65	.01	2	.51	.03	.07	1	2
JS7-R50	1	182	29	77	.4	215	43	824	6.92	86	5	ND	2	33	1	2	2	143	2.43	.009	2	458	6.28	22	.01	4	4.11	.01	.02	1	4
JS7-R51	1	10	12	28	.1	566	37	1831	3.49	593	5	ND	1	67	1	2	2	17	12.09	.021	2	696	6.03	17	.01	3	.77	.01	.03	1	1
JS7-R52	1	70	24	47	.2	1030	65	1926	6.90	179	5	ND	1	52	1	2	2	51	10.87	.015	2	1408	6.11	19	.01	6	1.73	.01	.02	1	6
JS7-R53	1	126	10	49	.2	50	17	1043	8.21	14	5	ND	1	5	1	2	4	52	.76	.017	2	494	.53	171	.18	5	1.08	.06	.37	1	1860
STD C/AU-R	19	60	48	132	7.0	69	29	921	3.92	39	20	8	38	50	17	16	21	56	.47	.083	38	61	.88	180	.08	26	1.86	.06	.13	11	505

ACME ANALYTICAL LABORATORIES 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-ROCK P2-SOIL AU** ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

DATE RECEIVED: SEPT 29 1987 DATE REPORT MAILED: Oct 7/87 ASSAYER. D. Toye. DEAN TOYE, CERTIFIED B.C. ASSAYER

NORTHERN DYNASTY PROJECT-SAVANT LAKE File # 87-4478 Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU** PPB
ES7-R150	1	26	15	12	.7	56	8	546	2.06	3555	5	ND	17	24	1	2	2	3	1.12	.035	14	9	.42	41	.01	2	.24	.05	.08	1	380
ES7-R151	2	8	303	5	4.3	53	5	251	.86	60	5	ND	1	30	1	2	13	6	1.32	.001	2	176	1.41	4	.01	2	.18	.03	.01	1	5
GS7-R100	2	5	348	8	5.1	117	9	339	1.02	127	5	ND	1	36	1	2	18	8	1.04	.001	2	215	1.75	9	.01	2	.21	.03	.01	1	4
ES7-S150	1	223	132	56	3.0	380	36	2131	15.03	19513	5	6	10	41	1	2	3	11	.75	.065	30	48	.42	53	.01	3	.61	.03	.01	1	5440

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-.

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1-9 SOIL P10-12 ROCK AU** ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

P-20 mesh, pulverized

DATE RECEIVED: OCT 13 1987 DATE REPORT MAILED: Oct 26/87 ASSAYER. [signature] ..DEAN TOYE, CERTIFIED B.C. ASSAYER

NORTHERN DYNASTY PROJECT-SAVANT LAKE File # 87-4962 Page 1

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM	AU** PPB
ES7-S 207	2	621	15	91	.3	63	31	1448	17.80	605	5	ND	3	10	1	2	2	50	.45	.059	12	58	.50	80	.04	2	1.50	.01	.12	2	30
6S7-S112	2	97	18	111	.1	185	53	1760	10.10	451	5	ND	7	14	1	2	7	83	.53	.066	20	421	1.28	70	.02	2	3.42	.01	.04	1	32
6S7-S113	2	183	121	557	.8	156	28	570	4.32	571	5	ND	1	7	2	2	8	37	.32	.046	8	159	.63	33	.02	2	1.43	.01	.04	1	105
6S7-S114	2	25	18	56	.1	75	12	460	3.08	83	5	ND	2	4	1	3	2	56	.08	.016	7	165	.57	39	.02	2	1.55	.01	.03	1	67
LS25 2+00NA P	1	7	5	45	.1	14	3	805	.43	9	5	ND	1	63	1	2	2	4	3.85	.040	4	11	.24	69	.01	11	.36	.01	.02	1	1
LS25 1+90NA P	1	3	7	61	.1	16	3	839	.61	4	5	ND	1	46	1	2	2	4	2.88	.059	2	12	.22	61	.01	9	.22	.01	.03	1	2
LS25 1+80NA P	1	5	5	30	.1	7	3	352	.45	2	5	ND	2	43	1	2	2	3	2.61	.034	3	6	.14	55	.01	7	.25	.01	.01	1	1
LS25 1+70N P	1	5	17	48	.1	23	7	1484	.68	3	5	ND	1	37	1	2	2	8	2.25	.049	2	37	.25	53	.01	9	.25	.01	.04	2	1
LS25 1+60N P	1	3	20	77	.1	5	1	97	.32	3	5	ND	1	34	1	2	2	5	2.03	.044	2	5	.16	31	.01	10	.22	.01	.04	1	1
LS25 1+50N	1	7	4	30	.1	22	6	175	1.50	91	5	ND	4	11	1	2	2	19	.42	.037	11	39	.33	34	.07	8	.78	.01	.04	1	1
LS25 1+40NB	1	14	3	24	.1	45	7	120	1.54	39	5	ND	2	10	1	2	2	23	.28	.030	10	31	.31	42	.07	5	1.46	.01	.03	1	2
LS25 1+30NB	1	11	9	37	.1	20	6	139	3.06	6	5	ND	3	9	1	2	2	54	.14	.018	7	43	.38	50	.15	6	1.51	.01	.06	1	1
LS25 1+20NB	1	23	3	24	.1	33	7	133	1.72	8	5	ND	4	9	1	2	3	26	.22	.034	11	34	.34	36	.08	5	1.40	.01	.05	1	1
LS25 1+10NB	1	7	5	27	.1	15	5	131	2.01	4	5	ND	3	8	1	2	2	35	.13	.017	8	34	.29	30	.10	6	.97	.01	.03	1	2
LS25 1+00NB	1	8	5	22	.1	10	3	80	1.59	4	5	ND	4	8	1	4	2	32	.10	.012	9	24	.17	25	.08	5	.88	.01	.04	1	1
LS25 0+90NB	1	11	9	34	.1	24	6	151	2.19	9	5	ND	4	9	1	2	2	48	.16	.012	9	50	.42	31	.14	5	1.19	.01	.04	1	1
LS25 0+80NB	2	14	2	67	.2	65	18	398	3.96	6	5	ND	1	3	1	2	3	121	.06	.013	4	207	2.16	18	.02	5	2.53	.01	.04	1	5
LS25 0+70NB	1	42	6	99	.3	161	34	1353	5.36	228	5	ND	4	13	1	2	4	62	.41	.053	14	326	1.33	118	.02	8	3.69	.01	.09	1	1
LS25 0+60NB	1	9	6	55	.1	45	10	326	2.33	9	5	ND	4	11	1	2	3	43	.29	.018	9	133	1.05	35	.14	4	1.65	.02	.09	1	1
LS25 0+50NB	1	11	3	38	.2	20	6	175	1.99	4	5	ND	3	13	1	2	2	44	.20	.014	8	54	.49	46	.12	6	1.07	.01	.10	1	2
LS25 0+40NB	1	15	4	24	.1	25	7	118	1.48	3	5	ND	3	9	1	2	2	27	.15	.008	11	45	.38	27	.08	4	1.15	.01	.04	1	1
LS25 0+30NB	1	13	6	21	.1	25	7	127	1.67	4	5	ND	3	8	1	2	2	33	.16	.012	7	44	.37	25	.09	3	.84	.01	.03	1	1
LS25 0+20NB	2	29	9	28	.1	38	9	162	2.20	6	5	ND	4	10	1	2	2	52	.21	.007	10	66	.53	31	.13	4	1.15	.01	.05	1	1
LS25 0+10NB	2	40	9	37	.1	53	13	201	3.27	11	5	ND	4	10	1	2	2	63	.20	.010	9	58	.60	47	.18	6	1.88	.01	.06	1	1
LS26 0+80NB	1	102	12	144	.3	164	28	3336	3.52	56	5	ND	3	17	1	2	3	62	.93	.035	19	476	2.22	110	.08	8	2.97	.01	.06	1	1
STD C/AU-S	19	59	41	132	7.1	67	28	1144	4.03	37	19	8	39	51	18	18	20	57	.48	.083	38	61	.90	182	.07	34	1.87	.06	.14	12	49
LS26 0+70NA	1	225	10	133	.6	98	19	721	3.40	47	5	ND	2	33	1	2	3	55	2.61	.087	64	100	1.27	99	.06	10	2.83	.01	.10	1	1
LS26 0+60NA	1	122	31	163	.5	55	8	1008	1.55	54	5	ND	1	34	1	8	2	21	2.78	.073	44	61	.48	74	.03	5	1.23	.01	.04	1	1
LS26 0+50NA	1	35	48	264	.5	23	9	251	2.39	38	5	ND	6	30	1	15	2	53	.78	.015	22	46	.76	96	.20	2	1.50	.01	.09	1	1
LS26 0+40NB	1	14	26	128	.3	17	6	77	1.11	22	5	ND	3	8	1	8	2	20	.30	.008	12	25	.21	25	.06	2	.96	.01	.01	1	1
LS26 0+30NA	1	217	11	60	.5	31	5	104	.80	10	5	ND	1	35	1	2	2	15	3.42	.052	59	26	.19	71	.01	5	.78	.01	.03	1	1
LS26 0+20NB	1	12	12	76	.1	34	9	311	2.53	8	5	ND	1	6	1	2	2	54	.23	.004	6	104	1.37	24	.10	2	1.63	.01	.02	1	1
LS26 0+15NB	1	151	18	110	.3	174	31	877	10.23	28	5	ND	4	3	1	2	5	131	.17	.012	4	417	3.33	29	.18	2	4.76	.01	.08	1	7
LS26 0+10NB	3	33	14	75	.1	66	15	498	7.00	17	5	ND	5	3	1	2	3	141	.05	.010	4	175	2.41	22	.12	2	3.58	.01	.03	1	1
LS26 0+00NB	2	8	12	34	.1	159	9	208	2.97	43	5	ND	1	5	1	2	2	48	.07	.008	9	517	.73	33	.04	2	1.50	.01	.02	1	1
LS26 0+00	1	16	12	41	.1	21	4	90	1.36	5	5	ND	3	25	1	2	2	18	.43	.014	18	31	.35	36	.05	5	1.19	.01	.03	1	1
ES7-R 205	1	1417	6	57	1.1	18	12	400	17.26	59	6	ND	19	7	1	2	4	26	.11	.009	28	20	1.73	87	.04	2	2.61	.01	.33	1	59
ES7-R 206	1	134	2	15	.1	45	10	1676	2.68	192	5	ND	1	38	1	2	2	1	6.48	.010	2	7	.37	3	.01	2	.07	.02	.01	2	230
ES7-R 207	8	2243	5	39	.9	49	33	996	5.64	38	5	ND	1	33	1	2	2	87	2.59	.007	2	12	1.96	9	.01	5	1.12	.05	.03	3	205
6S7-R 126	1	33	8	66	.2	145	25	1937	6.20	82	6	ND	1	98	1	2	2	62	8.96	.006	2	488	4.57	22	.01	5	1.31	.02	.03	1	4
6S7-R 127	3	533	9	97	.3	128	25	420	4.95	3622	5	ND	1	3	1	2	2	2	.03	.005	2	15	.06	18	.01	5	.07	.01	.02	2	235
6S7-R 128	1	96	3205	596	30.2	24	6	595	1.30	238	5	ND	2	7	6	2	63	4	1.11	.002	2	11	.48	8	.01	2	.18	.01	.02	1	84

APPENDIX 2

Technical Data Statements and Procedure Records

Please Note: Copies of Invoices & cancelled cheques were added to this file Aug/89 from OMEP submittal # OM87-2-C-086

APPENDIX 3

Personnel and Survey Dates

ACME A... ...ORIES LTD.

...NE: 253-3158 852 ... V... 1R6

File: 87-2733

Date: AUGUST 4 1987

NORTHERN DYNASTY
844 W. HASTINGS ST
VANCOUVER B.C.
V6C 1C8

TERMS:
NET TWO WEEKS.
1½% PER MONTH CHARGED ON OVERDUE ACCOUNTS.

NUMBER	ASSAY	PRICE	AMOUNT
163	ICP ANALYSIS @	6.00	978.00
163	GEOCHEM AU BY FA+AA @	5.75	937.25
122	SOIL & SILT SAMPLE PREPARATION @	.75	91.50
41	ROCK SAMPLE PREPARATION @	3.00	123.00
	WESTERN CANADIANS #861323		2129.75
			78.71
	TOTAL		2208.46

SAVANT.
659.

Pd. Aug 1?/87 # 1586

PLEASE PAY LAST AMOUNT

PROPORTIONS CHARGED TO KASH LAKE PROPERTY*

72 SOILS × $(6.00 + 5.75 + 0.75) = $ $900.00
1 SILT × $(6.00 + 5.75 + 0.75) = 12.50
14 ROCKS × $(6.00 + 5.75 + 3.00) = 206.50
$1,119.00 TOTAL

SAMPLE SHIPMENT → $\frac{87}{163}$ × $78.71 = $42.01

* – NOTE – THE ABOVE PROPORTIONS COVER ONLY CLAIMS LISTED ON TECHNICAL DATA STATEMENTS; OTHER ASSAYS NOT INCLUDED HERE.

OM87-2-C-086

ACME ANALYTICAL LABORATORIES LTD.
PHONE: 253-3158 852 E. Hastings St., Vancouver, B.C. V6A 1R6

File: 87-3127

Date: AUGUST 18 1987

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER B.C.
V6C 1C8

TERMS:
NET TWO WEEKS - 1½% PER MONTH CHARGED ON OVERDUE ACCOUNTS.

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : SAVANT LAKE		
372	ICP ANALYSIS @	6.00	2232.00
372	GEOCHEM AU ASSAY @	4.25	1581.00
117	ROCK SAMPLE PREPARATION @	3.00	351.00
255	SOIL & STREAM SED SAMPLE PREPARATION @	.75	191.25
			4355.25
	MOTORWAYS DIRECT #4654307-0		160.50
	TOTAL		4515.75
	Cheque # 1472		

PLEASE PAY LAST AMOUNT

PROPORTIONS CHARGED TO KASH LAKE PROPERTY

57 SOILS × #(6.00 + 5.75 + 0.75) = #712.50

8 ROCKS × #(6.00 + 5.75 + 3.00) = 118.00

#830.50 TOTAL

SAMPLE SHIPMENT → $\frac{(57+8)}{372}$ × #160.50 = #28.04

ACME ANALYTICAL LABORATORIES LTD.

PHONE: 253-3158 852 East Hastings St., Vancouver, B.C. V5A 1R6 File: 87-4478

Date: OCT. 7 1987

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER B.C.
V6C 1C8

TERMS:
NET TWO WEEKS - 1½% PER MONTH CHARGED ON OVERDUE ACCOUNTS.

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : SAVANT LAKE		
18	ICP ANALYSIS @	6.00	108.00
18	GEOCHEM AU BY FA+AA @	5.75	103.50
11	ROCK SAMPLE PREPARATION @	3.00	33.00
7	SOIL SAMPLE PREPARATION @	0.75	5.25

			249.75
	SURCHARGE FOR UNDER 20 SAMPLES PER BATCH		5.00
	MOTORWAYS DIRECT #4654753-5		82.37

	TOTAL		337.12
	Cheque #1502		

PLEASE PAY LAST AMOUNT

Portions Charged to Kash Lake Property

4 Rocks × #(6.00 + 5.75 + 3.00) = #59.00

Portion of Surcharge → 4/18 × #5 = 1.11

#60.11 TOTAL

Sample Shipment → 4/18 × #82.37 = #18.30

ACME ANALYTICAL LABORATORIES LTD.

PHONE 253-3158 852 East Hastings St., Vancouver, B.C. V6A 1R6 File: 87-4962

Date: OCT. 24 1987

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER B.C.
V6C 1C8

TERMS:
NET TWO WEEKS -
1½% PER MONTH CHARGED ON
OVERDUE ACCOUNTS.

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : SAVANT LAKE		
415	ICP ANALYSIS @	6.00	2490.00
415	GEOCHEM AU BY FA+AA @	5.75	2386.25
104	ROCK SAMPLE PREPARATION @	3.00	312.00
311	SOIL SAMPLE PREPARATION @	0.75	233.25
6	PULVERIZING SAMPLE @	1.50	9.00
			5430.50
	KINGSWAY #DRY-112494		140.80
	TOTAL		5571.30

CH Oct 8 15/16

PLEASE PAY LAST AMOUNT

PORTIONS CHARGED TO KASH LAKE PROPERTY

36 SOILS x #(6.00 + 5.75 + 0.75) = #450.00

5 PULVERIZED SOILS x #1.50 = 7.50

6 ROCKS x #(6.00 + 5.75 + 3.00) = 88.50

#546.00 TOTAL

SAMPLE SHIPMENT → (36+6) / 415 SAMPLES x #140.80 = #14.25

#1546 Pd. Nov 13/87 28174.00

NORTHERN DYNASTY EXPLORATIONS LTD. 1386

844 W. HASTINGS STREET PHONE (604) 682-3727
VANCOUVER, B.C. V6C 1C8

August 10 19 87

PAY TO THE ORDER OF ACME ANALYTICAL $ 2,711.96

Two thousand, seven hundred and eleven ------------------ 96/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

BANK OF BRITISH COLUMBIA
999 WEST HASTINGS ST. PH. 668-4630
VANCOUVER, B.C. V6C 1M3

PER

PER

⑈001386⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑇0000271196⑇

NORTHERN DYNASTY EXPLORATIONS LTD. 1472

844 W. HASTINGS STREET PHONE (604) 682-3727
VANCOUVER, B.C. V6C 1C8

Sept. 29 19 87

PAY TO THE ORDER OF ACME ANALYTICAL $ 4,744.75

Four thousand, seven hundred and forty-four -------------- 75/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

BANK OF BRITISH COLUMBIA
999 WEST HASTINGS ST. PH. 668-4630
VANCOUVER, B.C. V6C 1M3

PER

PER

⑈001472⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑇0000474475⑇

AG '87 12
ROYAL BANK
BRITISH COLUMBIA PC

12 AUG 87

THE ROYAL BANK OF CANADA
MAIN AND HASTINGS
VANCOUVER

07120-003

0909 6919

OT '87 01
ROYAL BANK
BRITISH COLUMBIA PC

01 OCT 87

THE ROYAL BANK OF CANADA
MAIN AND HASTINGS
VANCOUVER

07120-003

0900 2677

NORTHERN DYNASTY EXPLORATIONS LTD. 1502
844 W. HASTINGS STREET PHONE (604) 682-3727
VANCOUVER, B.C. V6C 1C8

Oct. 23 19 87

PAY TO THE ORDER OF ACME ANALYTICAL $ 3,365.45

Three thousand, three hundred and sixty-five ------------- 45/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

PER

PER

BANK OF BRITISH COLUMBIA
999 WEST HASTINGS ST. PH. 668-4630
VANCOUVER, B.C. V6C 1M3

⑈001502⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑇0000336545⑇

NORTHERN DYNASTY EXPLORATIONS LTD. 1516
844 W. HASTINGS STREET PHONE (604) 682-3727
VANCOUVER, B.C. V6C 1C8

Oct. 29 19 87

PAY TO THE ORDER OF ACME ANALYTICAL LABORATORIES LTD. $ 6,699.30

Six thousand, six hundred and ninety-nine --------------- 30/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

PER

PER

BANK OF BRITISH COLUMBIA
999 WEST HASTINGS ST. PH. 668-4630
VANCOUVER, B.C. V6C 1M3

⑈001516⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑇0000669930⑇

OT '87 26

ROYAL BANK
BRITISH
COLUMBIA PC

OT '87 30

ROYAL BANK
BRITISH
COLUMBIA PC

00740 - 003
THE ROYAL BANK OF CANADA
CHINATOWN BRANCH
VANCOUVER, B. C.
00740 - 003

APPENDIX 3

PERSONNEL AND SURVEY DATES

KASH LAKE PROPERTY

PERSONNEL	WORK PERIODS
JERRY W. HO 1334 Woodbine Ave. Toronto, Ontario M4C 4G2	Field : June 28 - July 6, 1987 July 21 - 30, 1987 August 3 - 5, 1987 September 19, 1987 September 24 - 30, 1987 Office : Oct. 1, 1987 - March 1, 1988
H. ERIC EWEN 3239 Ganymede Dr. Burnaby, B.C. V3J 1A5	Field : June 28 - July 6, 1987 July 21 - 30, 1987 August 3 - 5, 1987 September 19, 1987 September 24 - 30, 1987 Office : Oct. 1, 1987 - March 1, 1988
GEORGE GORZYNSKI 3836 West 16th Ave. Vancouver, B.C. V6R 3C7	Field : July 21 - 30, 1987 September 19, 1987 September 24 - 30, 1987 Office : Oct. 1, 1987 - March 1, 1988

APPENDIX 4

Author's Certification

<u>AUTHOR'S CERTIFICATION</u>

I, Jerry W. Ho, of 1334 Woodbine Ave, Toronto, Ontario, hereby certify as follows:

1. That I graduated from the University of Toronto with a Bachelor of Science degree in geology in 1987.

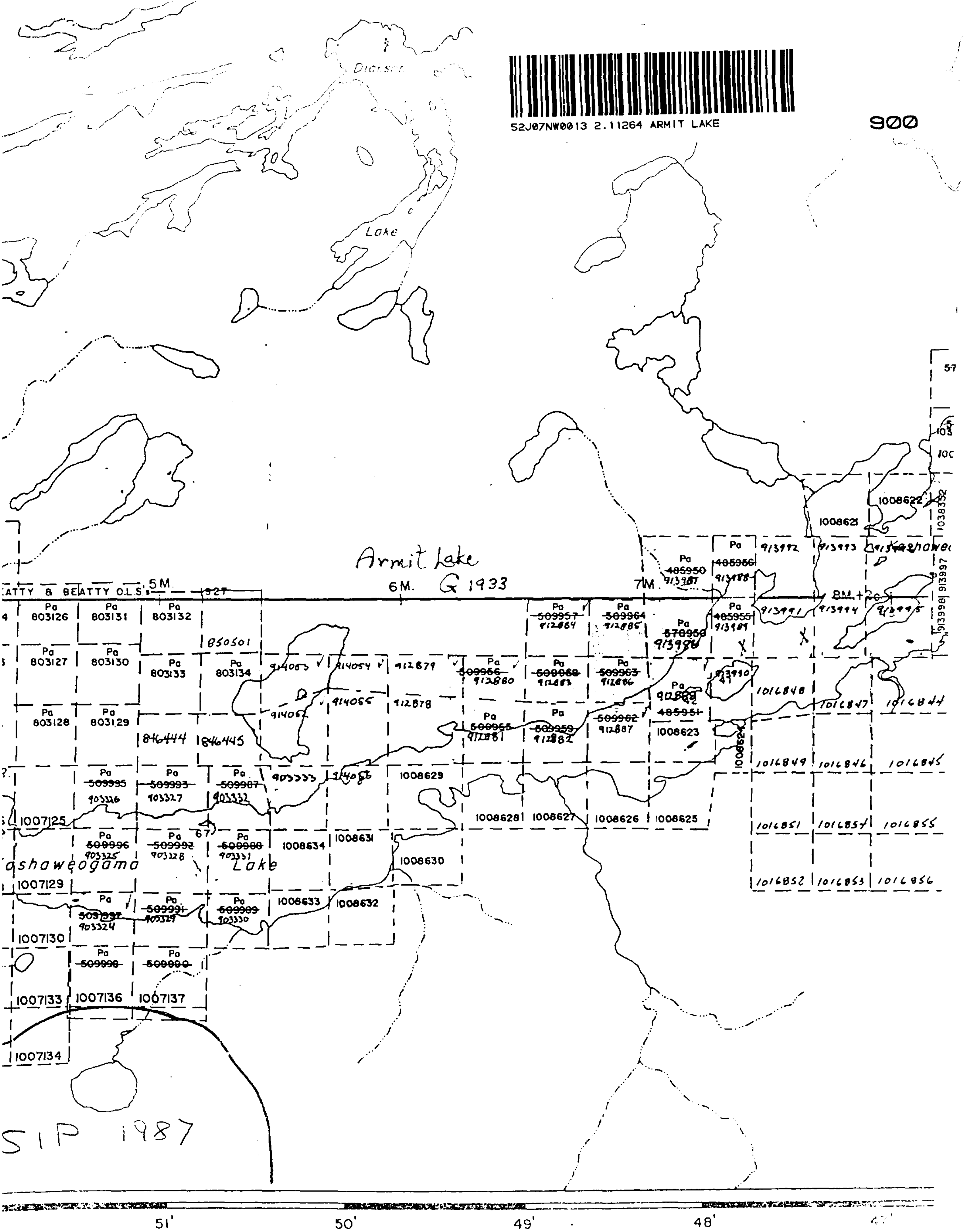
2. That I have practised my profession continually since that time.

3. That I participated in the field work and [redacted]authored this report based on the 1987 field program on the Kash Lake property.

Jerry W. Ho, B.Sc.

52J07NW0013 2.11264 ARMIT LAKE

900



- G-2070

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken: AS PER LIST ON FIRST PAGE

Total Number of Samples: 203

Type of Sample (Nature of Material): 170 SOILS, 32 ROCKS, 1 STREAM SILT

Average Sample Weight: 0.3 kg SOIL

Method of Collection: MATTOCK, ROCK HAMMER

Soil Horizon Sampled: A_1, A_2, (B_2)

Horizon Development: A_1-A_2-B_1-B_2-C

Sample Depth: 1-120 cm

Terrain: BEDROCK, GLACIAL TILL, SWAMP

Drainage Development: POOR

Estimated Range of Overburden Thickness: 0 - 20m

SAMPLE PREPARATION
(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis:
SOILS -80 MESH
ROCKS -100 MESH PULP

General: INDUCED CATION PLASMA (I.C.P) 30 ELEMENT ANALYSIS - 0.5 g sample digested in 3 ml of 3-1-2 $HCl-HNO_3-H_2O$ at 95°C for 1 hour, then diluted to 10 ml with H_2O for I.C.P analysis

ANALYTICAL METHODS

Values expressed in: per cent ☑ p. p. m. ☑ p. p. b. ☑

(Cu), (Pb), (Zn), (Ni), (Co), (Ag), (Mo), (As), (circle)

Others: SEE BELOW

Field Analysis (______ tests)

Extraction Method

Analytical Method

Reagents Used

Field Laboratory Analysis

No. (______ tests)

Extraction Method

Analytical Method

Reagents Used

Commercial Laboratory (______ tests)

Name of Laboratory: ACME ANALYTICAL

Extraction Method: AQUA REGIA

Analytical Method: SEE BELOW

Reagents Used

General: OTHER ELEMENTS -> Mn, Fe, U, Th, Sr, Cd, Sb, Bi, V, Ca, P, La, Cr, Mg, Ba, Ti, B, Al, Na, K, W, Au

Au = 10 gram sample - Fire Assay with atomic absorption finish

OFFICE USE ONLY

File ______

Ontario

Ministry of Natural Resources

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s): GEOCHEMICAL (SOILS & ROCKS) + EXPENDITURES

Township or Area: ARMIT LAKE G-1933

Claim Holder(s): NORTHERN DYNASTY EXPLORATIONS LTD

Survey Company: SUPERIOR VENTURES

Author of Report: JERRY W. HO

Address of Author: 1334 WOODBINE AVE., TORONTO, ONTARIO

Covering Dates of Survey: JUNE 28, 1987 - MARCH 1, 1988 (linecutting to office)

Total Miles of Line Cut

SPECIAL PROVISIONS CREDITS REQUESTED

ENTER 40 days (includes line cutting) for first survey.

ENTER 20 days for each additional survey using same grid.

	DAYS per claim
Geophysical	
–Electromagnetic	
–Magnetometer	
–Radiometric	
–Other	
Geological	
Geochemical	9

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer ______ Electromagnetic ______ Radiometric ______ (enter days per claim)

DATE: MAY 22/88 SIGNATURE: [signature] Author of Report or Agent

Res. Geol. ______ Qualifications: 2.8598

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
Pa.	903324
	903327
	903329
	903332
	903333
	912882
	912883
	912885
	912886
	913995
	913996
	913997
	914055
	913994
	913986

TOTAL CLAIMS: 15

If space insufficient, attach list

837 (5/79)

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS – If more than one survey, specify data for each type of survey

Number of Stations ____ Number of Readings ____
Station interval ____ Line spacing ____
Profile scale ____
Contour interval ____

MAGNETIC

Instrument ____
Accuracy – Scale constant ____
Diurnal correction method ____
Base Station check-in interval (hours) ____
Base Station location and value ____

ELECTROMAGNETIC

Instrument ____
Coil configuration ____
Coil separation ____
Accuracy ____
Method: ☐ Fixed transmitter ☐ Shoot back ☐ In line ☐ Parallel line
Frequency ____ (specify V.L.F. station)
Parameters measured ____

GRAVITY

Instrument ____
Scale constant ____
Corrections made ____
Base station value and location ____
Elevation accuracy ____

INDUCED POLARIZATION / RESISTIVITY

Instrument ____
Method ☐ Time Domain ☐ Frequency Domain
Parameters – On time ____ Frequency ____
– Off time ____ Range ____
– Delay time ____
– Integration time ____
Power ____
Electrode array ____
Electrode spacing ____
Type of electrode ____

SELF POTENTIAL

Instrument ____ Range ____
Survey Method ____
Corrections made ____

RADIOMETRIC

Instrument ____
Values measured ____
Energy windows (levels) ____
Height of instrument ____ Background Count ____
Size of detector ____
Overburden ____ (type, depth – include outcrop map)

OTHERS (SEISMIC, DRILL WELL LOGGING ETC.)

Type of survey ____
Instrument ____
Accuracy ____
Parameters measured ____
Additional information (for understanding results) ____

AIRBORNE SURVEYS

Type of survey(s) ____
Instrument(s) ____ (specify for each type of survey)
Accuracy ____ (specify for each type of survey)
Aircraft used ____
Sensor altitude ____
Navigation and flight path recovery method ____
Aircraft altitude ____ Line Spacing ____
Miles flown over total area ____ Over claims only ____

KASH LAKE PROPERTY — May 31

Ministry of Northern Affairs and Mines, Ontario — 2.11264

Report of Work
(Geophysical, Geological, Geochemical and Expenditures)

DOCUMENT NO. W8805-110

MINING LANDS

Mining Act

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s): GEOCHEMICAL (SOILS & ROCKS)	Township or Area: ARMIT LAKE / G-1933
Claim Holder(s): NORTHERN DYNASTY EXPLORATIONS LTD	Prospector's Licence No.: T-1884
Address: 844 WEST HASTINGS ST, VANCOUVER, B.C., V6C 1C8	
Survey Company: NORTHERN DYNASTY EXPLORATIONS LTD.	Date of Survey (from & to): 01 07 87 – 01 03 88 (Day, Mo., Yr.) — Total Miles of line Cut: ~28.5
Name and Address of Author (of Geo-Technical report): J.W. HO, 1334 WOODBINE AVE, TORONTO, ONTARIO, M4C 4G2	

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	24.68

RECEIVED MAY 3 1988 MINING LANDS SECTION

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
Pa	903324	
	903327	
	903329	
	903332	
	903333	
	912882	
	912883	
	912885	
	912886	
	913986	
	913994	
	913995	
	913996	
	913997	
	914055	
	~~1007127~~	
	~~1007130~~	
	~~1007131~~	
	~~1007137~~	

REFUSED WORK COMPLETED BEFORE CLAIMS RECORDED

RECEIVED APR 11 1988 PATRICIA MINING DIVISION

Total number of mining claims covered by this report of work: 1~~9~~5

Expenditures (excludes power stripping)

Type of Work Performed	
Performed on Claim(s)	

Calculation of Expenditure Days Credits

Total Expenditures $ ______ ÷ 15 = Total Days Credits ______

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
370.2	APRIL 11/88	[signature]
	Date Approved as Recorded: 9 May 88	Branch Director: [signature]

Date: April 8/88 — Recorded Holder or Agent (Signature): [signature]

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: G. GORZYNSKI, 844 WEST HASTINGS ST, VANCOUVER, B.C.

Date Certified: April 8/88 — Certified by (Signature): [signature] (stamp: G. A. GORZYNSKI, PROFESSIONAL, PROVINCE OF ...)

Assessment Work Breakdown

Man Days are based on eight (8) hour Technical or Line-cutting days. Technical days include work performed by consultants, draftsmen, etc..

Type of Survey: GEOCHEMICAL

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
67	X	7	=	469	+	—	=	469	÷	19	=	24.68

Type of Survey:

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
	X	7	=		+		=		÷		=	

Type of Survey:

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
	X	7	=		+		=		÷		=	

Type of Survey:

Technical Days				Technical Days Credits		Line-cutting Days		Total Credits		No. of Claims		Days per Claim
	X	7	=		+		=		÷		=	

Ministry of Northern Development and Mines
Ontario

Mining Lands Section

Report of Work (Geophysical, Geological, Geochemical and Expenditures)

Mining Act

DOCUMENT No. W8803·156

[illegible] 24, 1988 - R E V I S E D 2.11264

Instructions: – Please type or print.
– If number of mining claims traversed exceeds space on this form, attach a list.
Note: – Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
– Do not use shaded areas below.

Type of Survey(s): Geochemical Expenditures	Township or Area: Armit Lake/G-1933
Claim Holder(s): Northern Dynasty Explorations Ltd.	Prospector's Licence No.: T-1884
Address: 844 West Hastings Street, Vancouver, B.C., V6C 1C8	
Survey Company: Northern Dynasty Explorations Ltd.	Date of Survey (from & to): 01 07 87 – 01 03 88 (Day Mo. Yr.); Total Miles of line Cut: 28.5 approx.
Name and Address of Author (of Geo-Technical report): J. W. Ho, 1334 Woodbine Ave., Toronto, Ontario M4C 4G2	

Credits Requested per Each Claim in Columns at right

Special Provisions		Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	Geophysical	
	- Electromagnetic	
For each additional survey: using the same grid: Enter 20 days (for each)	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Man Days		Days per Claim
Complete reverse side and enter total(s) here	Geophysical	
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits		Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

RECEIVED JUN 1988 MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed: Geochemical Analyses Section 77-19

Performed on Claim(s): Pa 903324, 903327, 903329, 903332, 903333, 912882, 912883, 912885, 912886, 913986, 913994, 913995, 913996, 913997, 914055.

Calculation of Expenditure Days Credits

Total Expenditures $ 2,555.61 ÷ 15 = Total Days Credits 170.37

Instructions
Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.
Pa	903324	20
	912879	20
	912880	20
	913987	20
	913988	20.33
	914052	20
	914053	10.04
	914054	20
	912884	20

ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE JUN 20 1988 RECEIVED

RECEIVED JUN - 2 1988 PATRICIA MINING DIVISION

Total number of mining claims covered by this report of work: 9

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
170.37	June 2, 1988	[signature]
	Date Approved as Recorded: 9 June 88	Branch Director: [signature]

Date	Recorded Holder or Agent (Signature)
27 May 88	[signature]

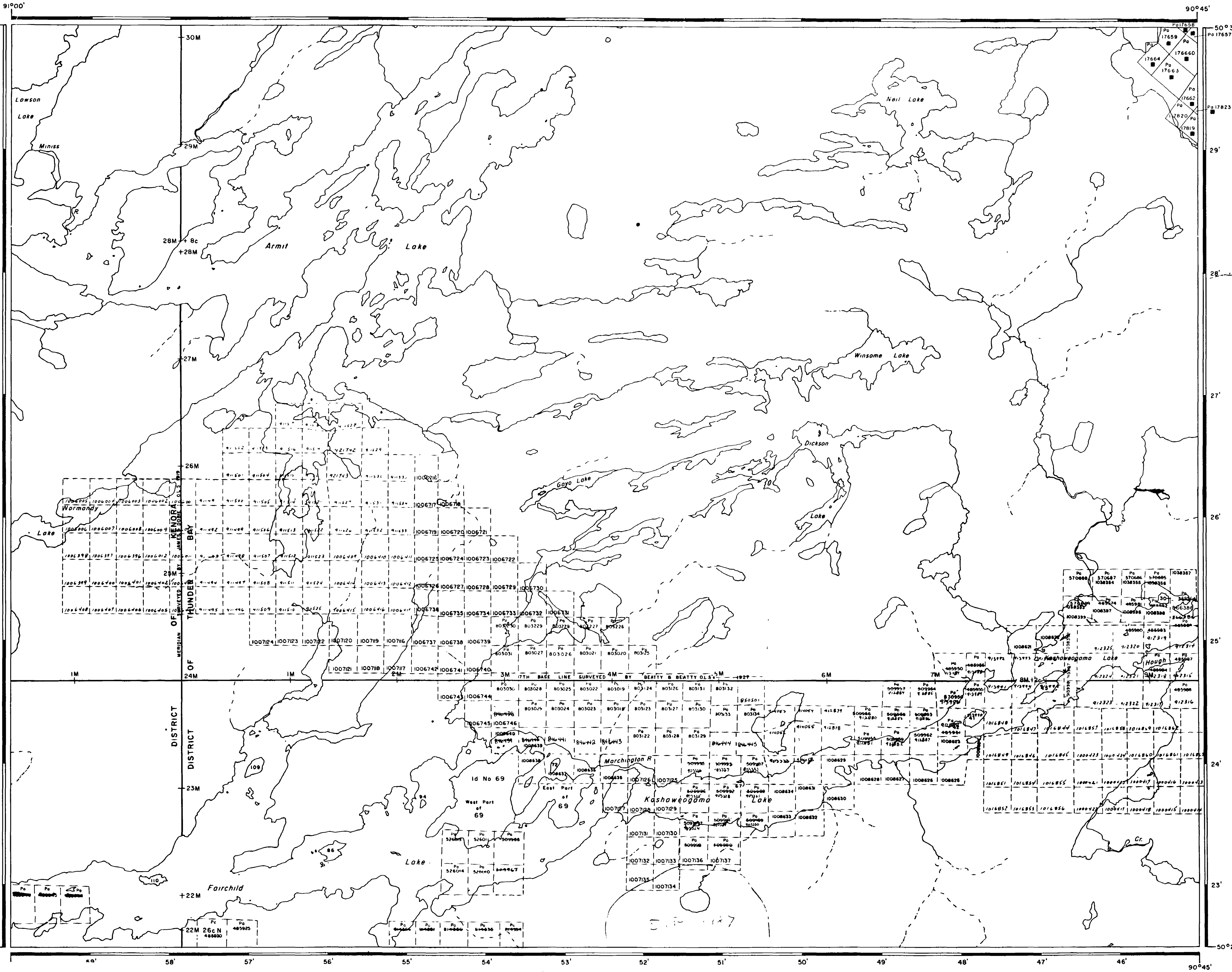
Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
J. G. SIMPSON 844 W. HASTINGS ST VANCOUVER B.C. [illegible]

Date Certified: 27 May 88
Certified by (Signature): [signature]

HILL LAKE G-2067



RUNWAY LAKE G-2194

GREBE LAKE AREA - G-2053

HOUGHTON LAKE - G-2070

LEGEND

HIGHWAY AND ROUTE No.
OTHER ROADS
TRAILS
SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC.
LOTS, MINING CLAIMS, PARCELS, ETC.
UNSURVEYED LINES.
LOT LINES
PARCEL BOUNDARY
MINING CLAIMS ETC
RAILWAY AND RIGHT OF WAY
UTILITY LINES
NON PERENNIAL STREAM
FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN
RESERVATIONS
ORIGINAL SHORELINE
MARSH OR MUSKEG
MINES
TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LEASE, SURFACE & MINING RIGHTS	■
" , SURFACE RIGHTS ONLY	
" , MINING RIGHTS ONLY	
LICENCE OF OCCUPATION	▼
ORDER-IN-COUNCIL	OC
RESERVATION	
CANCELLED	
SAND & GRAVEL	

NOTE. MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 6, 1913 VESTED IN ORIGINAL PATENTEE BY THE PUBLIC LANDS ACT, R.S.O. 1970 CHAP. 380, SEC. 63, SUBSEC. 1

REFERENCES

AREAS WITHDRAWN FROM DISPOSITION

M.R.O. – MINING RIGHTS ONLY
S.R.O. – SURFACE RIGHTS ONLY
M.+ S. – MINING AND SURFACE RIGHTS

Description	Order No	Date	Disposition	File

Aug 28/85

July 31/86

87 12 18

RECEIVED MAR 31 1988 PATRICIA MINING DIVISION

SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000
METRES 0 200 1000 (1 KM) 2000 (2 KM)

AREA

ARMIT LAKE

M.N.R. ADMINISTRATIVE DISTRICT
SIOUX LOOKOUT
MINING DIVISION
PATRICIA
LAND TITLES / REGISTRY DIVISION
KENORA / THUNDER BAY

Ontario Ministry of Natural Resources
Land Management Branch

Date JANUARY, 1984

Number G-1933

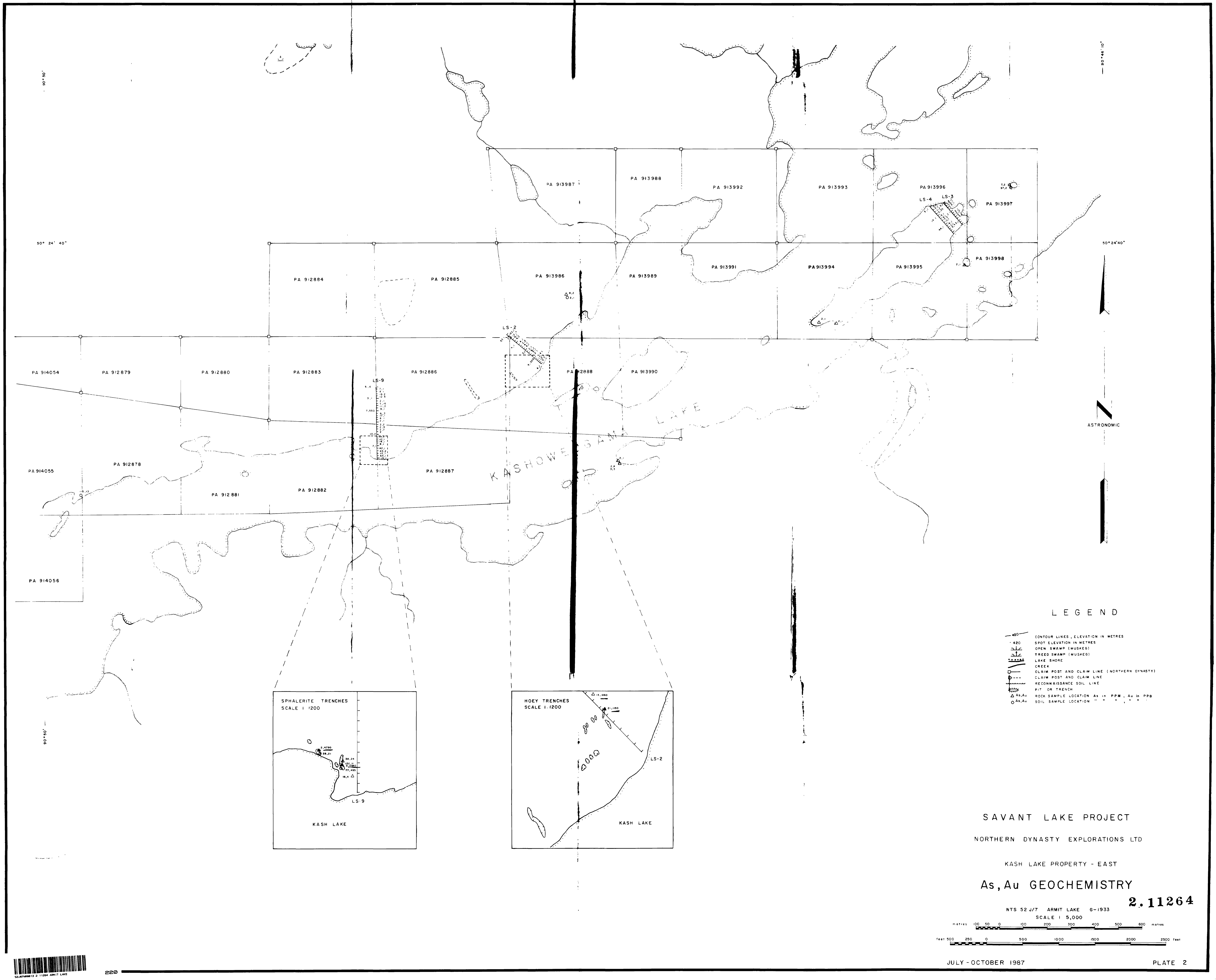
52J07NW0013 2.11264 ARMIT LAKE

200

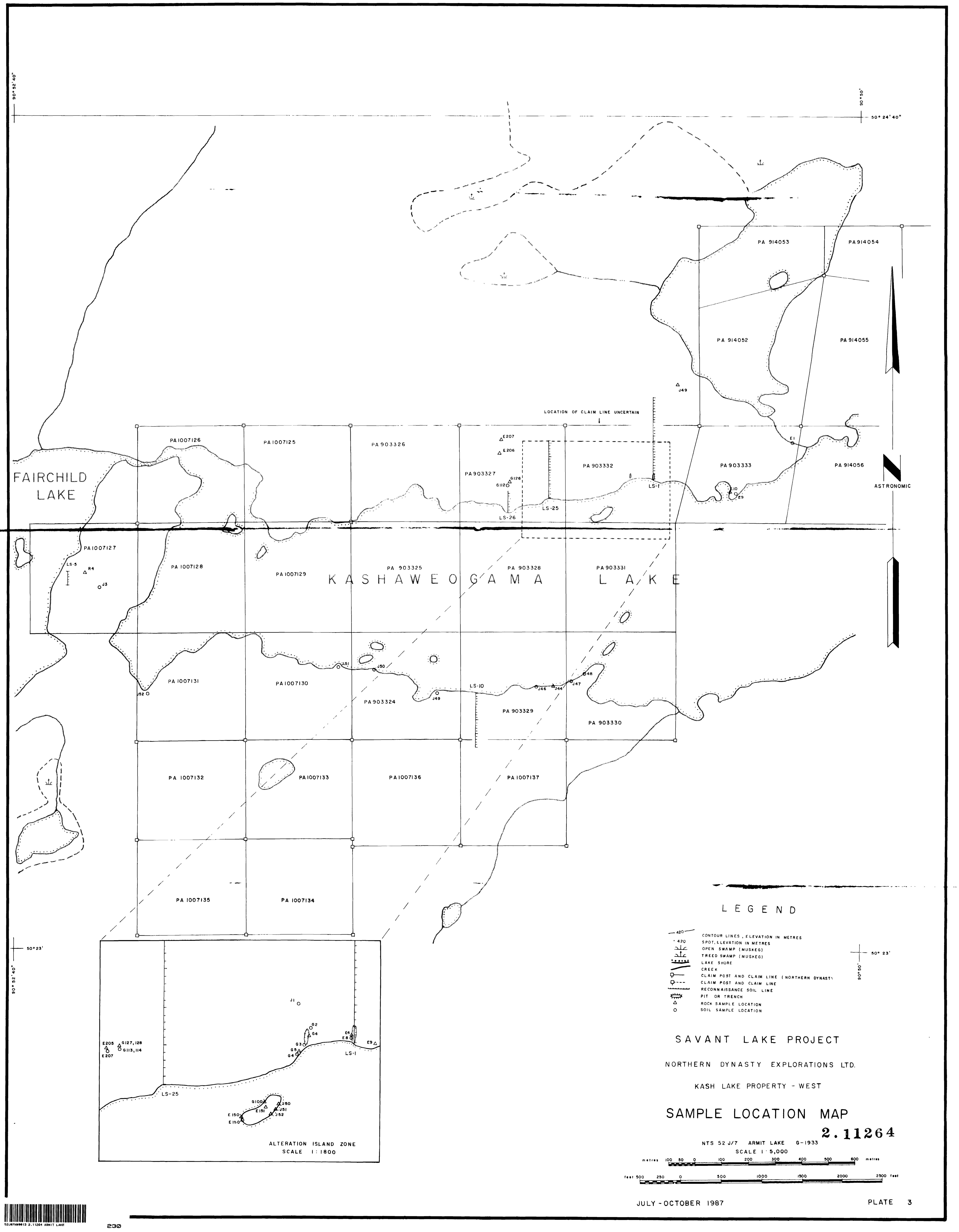
504904

52J07NW0013 2.11264 ARMIT LAKE

210

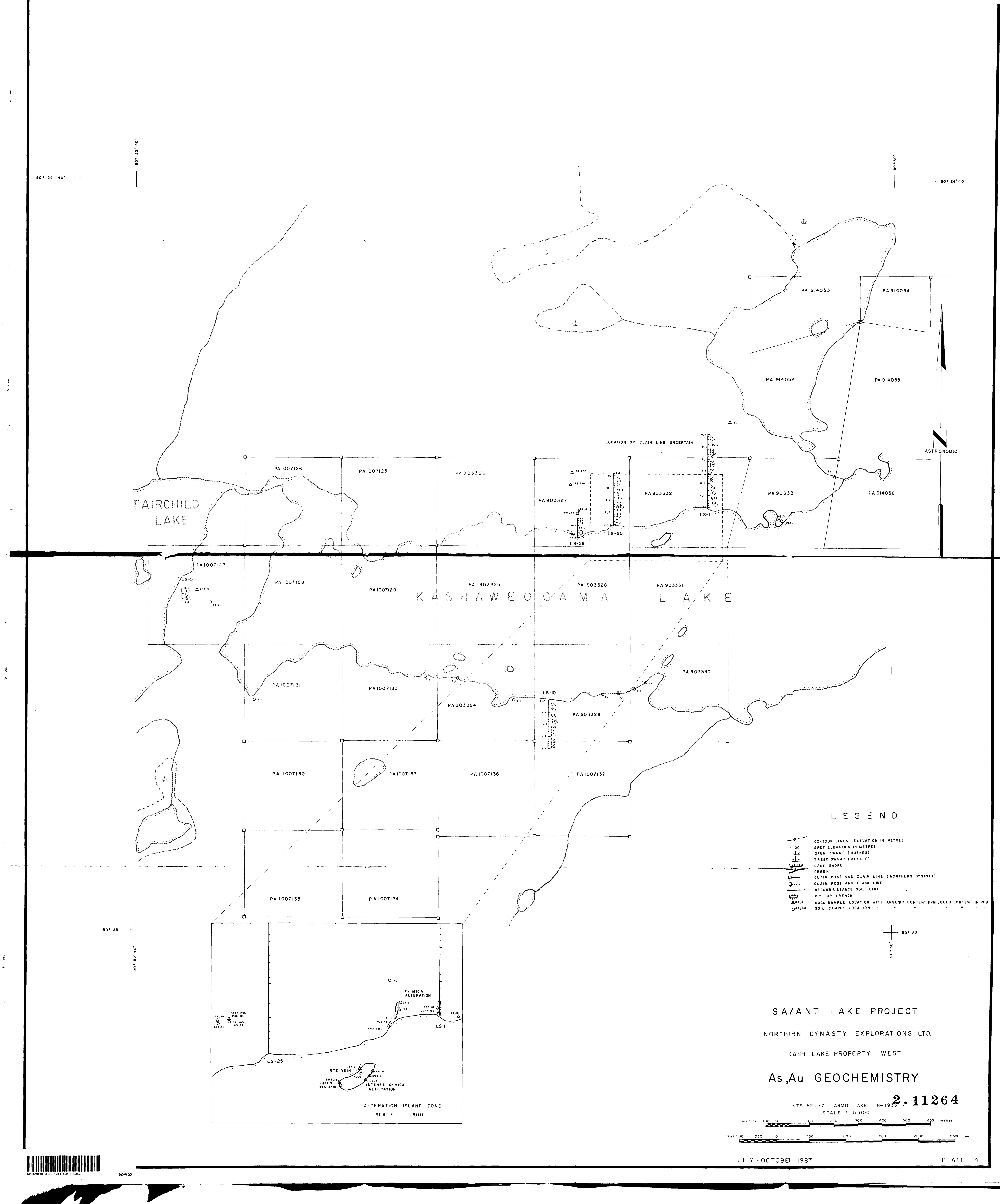

PA 913987
PA 913988
PA 913992
PA 913993
PA 913996
PA 913997
LS-3
LS-4
PA 912884
PA 912885
PA 913986
PA 913989
PA 913991
PA 913994
PA 913995
PA 913998
LS-2
PA 914054
PA 912879
PA 912880
PA 912883
PA 912886
PA 912888
PA 913990
LS-9
PA 914055
PA 912878
PA 912881
PA 912882
PA 912887
PA 914056
KASHOWEGSAMA LAKE
ASTRONOMIC
SPHALERITE TRENCHES
SCALE 1:1200
LS-9
KASH LAKE
HOEY TRENCHES
SCALE 1:1200
LS-2
KASH LAKE
LEGEND
CONTOUR LINES, ELEVATION IN METRES
SPOT ELEVATION IN METRES
OPEN SWAMP (MUSKEG)
TREED SWAMP (MUSKEG)
LAKE SHORE
CREEK
CLAIM POST AND CLAIM LINE (NORTHERN DYNASTY)
CLAIM POST AND CLAIM LINE
RECONNAISSANCE SOIL LINE
PIT OR TRENCH
As,Au ROCK SAMPLE LOCATION As in PPM, Au in PPB
As,Au SOIL SAMPLE LOCATION " " " , " "
SAVANT LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD
KASH LAKE PROPERTY - EAST
As, Au GEOCHEMISTRY
2.11264
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1 5,000
metres 100 50 0 100 200 300 400 500 600 metres
feet 500 250 0 500 1000 1500 2000 2500 feet
JULY - OCTOBER 1987
PLATE 2

220



FAIRCHILD LAKE
KASHAWEOGAMA LAKE
LOCATION OF CLAIM LINE UNCERTAIN
PA 914053
PA 914054
PA 914052
PA 914055
PA 914056
PA 903333
PA 903332
PA 903327
PA 903326
PA 1007125
PA 1007126
PA 1007127
PA 1007128
PA 1007129
PA 903325
PA 903328
PA 903331
PA 1007131
PA 1007130
PA 903324
PA 903329
PA 903330
PA 1007132
PA 1007133
PA 1007136
PA 1007137
PA 1007135
PA 1007134
LS-1
LS-25
LS-26
LS-5
LS-10
ASTRONOMIC
50° 24' 40"
90° 52' 40"
90° 50'
50° 23'
ALTERATION ISLAND ZONE
SCALE 1 : 1800
LEGEND
CONTOUR LINES, ELEVATION IN METRES
SPOT ELEVATION IN METRES
OPEN SWAMP (MUSKEG)
TREED SWAMP (MUSKEG)
LAKE SHORE
CREEK
CLAIM POST AND CLAIM LINE (NORTHERN DYNASTY)
CLAIM POST AND CLAIM LINE
RECONNAISSANCE SOIL LINE
PIT OR TRENCH
ROCK SAMPLE LOCATION
SOIL SAMPLE LOCATION
SAVANT LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD.
KASH LAKE PROPERTY - WEST
SAMPLE LOCATION MAP
2.11264
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1:5,000
metres 100 50 0 100 200 300 400 500 600 metres
feet 500 250 0 500 1000 1500 2000 2500 feet
JULY - OCTOBER 1987
PLATE 3

230


FAIRCHILD LAKE
KASHAWEOGAMA LAKE
LOCATION OF CLAIM LINE UNCERTAIN
ASTRONOMIC
PA 914053
PA 914054
PA 914052
PA 914055
PA 90333
PA 914056
PA 1007126
PA 1007125
PA 903326
PA 903327
PA 903332
PA 1007127
PA 1007128
PA 1007129
PA 903325
PA 903328
PA 903331
PA 903330
PA 1007131
PA 1007130
PA 903324
PA 903329
PA 1007132
PA 1007133
PA 1007136
PA 1007137
PA 1007135
PA 1007134
LS-1
LS-5
LS-10
LS-25
LS-26
50° 24' 40"
90° 52' 40"
90° 50'
50° 23'
LEGEND
CONTOUR LINES, ELEVATION IN METRES
SPOT ELEVATION IN METRES
OPEN SWAMP (MUSKEG)
TREED SWAMP (MUSKEG)
LAKE SHORE
CREEK
CLAIM POST AND CLAIM LINE (NORTHERN DYNASTY)
CLAIM POST AND CLAIM LINE
RECONNAISSANCE SOIL LINE
PIT OR TRENCH
ROCK SAMPLE LOCATION WITH ARSENIC CONTENT PPM, GOLD CONTENT IN PPB
SOIL SAMPLE LOCATION
Cr MICA ALTERATION
QTZ VEIN
DIKES
INTENSE Cr MICA ALTERATION
ALTERATION ISLAND ZONE
SCALE 1 1800
SA/ANT LAKE PROJECT
NORTHIRN DYNASTY EXPLORATIONS LTD.
(ASH LAKE PROPERTY - WEST
As, Au GEOCHEMISTRY
2.11264
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1 5,000
metres
feet
JULY - OCTOBEI 1987
PLATE 4
240