KASH LAKE PROPERTY

1988 GEOLOGY AND GEOCHEMISTRY REPORT

Prepared for:

NORTHERN DYNASTY EXPLORATIONS LTD.

Written by:

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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

December, 1988

52J07NW8931 2.12077 ARMIT LAKE

010C

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SUMMARY

The Kash Lake property is located in the Patricia Mining Division of northwestern Ontario and consists of 96 contiguous claims. High grade gold mineralization occurs on the property in quartz-carbonate veins which are hosted in highly altered and deformed metavolcanics over a strike length of three kilometres. The focus of gold mineralization and alteration in the area is the regionally prominent Kashaweogama Lake deformation zone which has similarities to the Larder Lake Break in the vicinity of the large Kerr Addison Gold Mine of northeastern Ontario. This favourable setting makes the Kash Lake property an exceptional exploration target.

KASH LAKE PROPERTY

1988 GEOLOGY AND GEOCHEMISTRY REPORT

NORTHERN DYNASTY EXPLORATIONS LTD.

1.0 GENERAL INFORMATION

1.1 Introduction

The original Kash Lake claim block was staked in 1987 and consisted of 52 claims. Today the property has been expanded to 96 claims with three gold showings and a number of other occurrences with anomalous gold and base metal values. The assays returned in 1988 were some of the highest and most extensive ever reported for the area. This report describes the geology, geochemistry and mineralization of the property based on work performed in 1988.

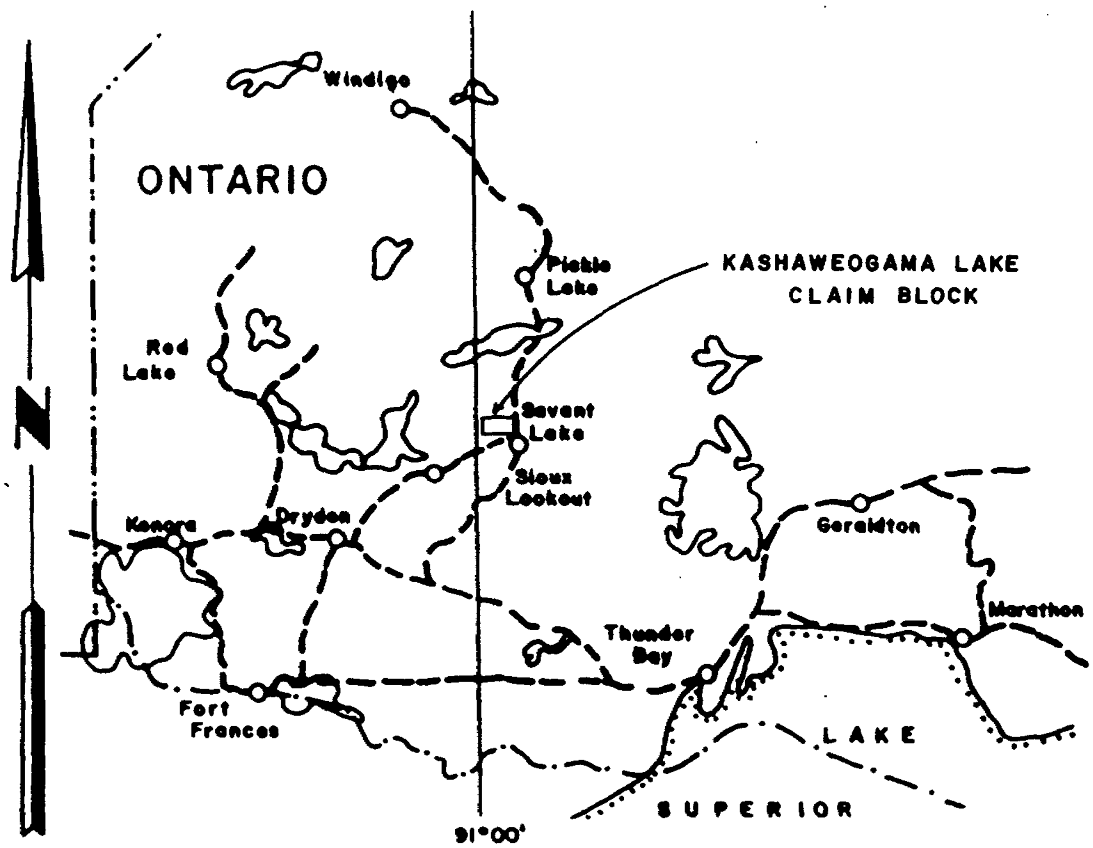
1.2 Location and Access

The Kash Lake property is located 19km NNW of the village of Savant Lake (Figure 1). There is excellent access to the property; the most convenient is by boat. A boat launch is located at the east end of Kashaweogama Lake. This boat launch can be accessed off highway 599, 33km north of Savant Lake. Travelling west from the boat launch, Kashaweogama Lake furnishes an uninterrupted route to the property.

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

1.3 Claim Status and Titles

All claims (Figure 2) are held with 100% interest by Northern Dynasty Explorations Ltd. of 844 West Hastings Street, Vancouver, B.C. Present status of the claims is summarized in Table 1.



PROPERTY LOCATION MAP

SCALE 1" = 100 mi

0 100 200 300 miles

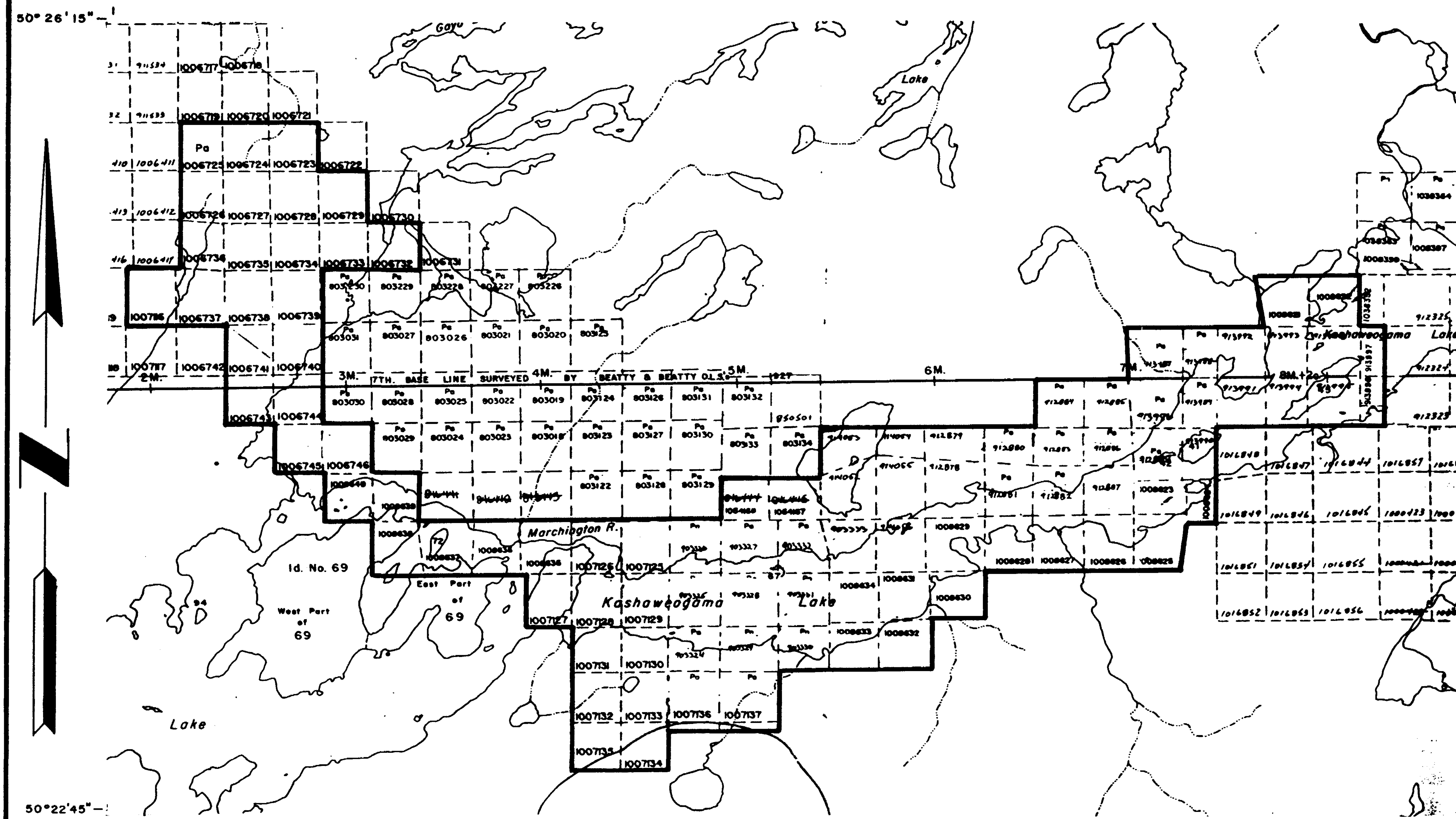
DEC 1988

FIGURE 1

Table 1. Kash Lake Property - Claim Status.

Number of Claims	Claim Numbers	Anniversary Dates
Main Kash Lake Claim Block		
1	Pa. 903324	8 April 1989
1	903325	8 April 1990
1	903326	8 April 1989
7	903327-903333	8 April 1990
3	912878-912880	8 April 1989
2	912881-912882	8 April 1990
3	912883-912885	8 April 1989
3	912886-912888	8 April 1990
3	913986-913988	8 April 1989
1	913989	8 April 1990
1	913990	8 April 1989
6	913191-913996	8 April 1990
2	913997-913998	8 April 1989
4	914052-914055	8 April 1989
1	914056	8 April 1990
4	1007125-1007128	26 November 1989
1	1007129	26 November 1990
8	1007130-1007137	26 November 1989
3	1008621-1008623	18 March 1991
5	1008624-1008628	18 March 1989
1	1008629	18 March 1991
1	1008630	18 March 1989
1	1008631	18 March 1991
2	1008632-1008633	18 March 1989
1	1008634	18 March 1991
2	1054167-1054168	19 September 1989
-----		
68 subtotal		
Willie Lake Extension		
7	1006723-1006729	26 November 1989
10	1006732-1006741	26 November 1989
4	1006743-1006746	26 November 1989
1	1007116	26 November 1989
6	1008635-1008640	18 March 1989
------		
28 Subtotal		

Grand Total = 96 claims



SCALE: 1 INCH = 40 CHAINS

FEET 0 1000 2000 4000 6000 8000

METRES 0 200 1000 (1 KM) 2000 (2 KM)

NORTHERN DYNASTY EXPLORATIONS LTD.

KASH LAKE CLAIM BLOCK

ARMIT LAKE G1933

NOV 1988

FIGURE 2

1.4 Survey Dates and Personnel

Field work consisted of mapping the property on a 1:5000 scale as well as detailed mapping of mineralized zones. A geochemical survey was carried out concurrently with the mapping. The geochemical survey is discussed in Section 5.0.

All field personnel contributed to both geological mapping and geochemical sampling. Most of this work was completed in three phases through the summer, each phase building on the previous work. Some preliminary mapping was also carried out in 1987. The following list is a summary of the survey periods and personnel involved :

Survey Dates	Personnel
24 Sept. to 30 Sept., 1987	H. Eric Ewen G. Gorzynski J. W. Ho
13 June to 5 July, 1988	H. Eric Ewen J. W. Ho
27 July to 17 August, 1988	H. Eric Ewen G. Gorzynski J. W. Ho
6 Sept. to 18 Sept., 1988	H. Eric Ewen G. Gorzynski J. W. Ho

Drafting and report writing commenced shortly after the conclusion of the field season. Office work was carried out intermittently between October, 1988 and January, 1989. The personnel involved were H. Eric Ewen, G. Gorzynski, and J. W. Ho. Addresses of personnel involved are listed in Appendix 4.

1.5 Previous Work

Pre-1960: The greater Savant Lake area had been prospected for gold well before this program, however, no significant discoveries were reported (Kelly, 1975).

1960-1961: J. A. Hughes, working for the Keevil Mining group, reported local high gold values over a block of 18 claims on the Hoey Showing, but the claims were allowed to lapse (Kelly, 1975).

1961: An airborne magnetometer survey was flown by Spartan Air Services Ltd. for the Ontario Department of Mines and the Geological Survey of Canada. This survey outlined the major magnetic trends of the region (Spartan, 1961).

1973: A regional mapping program was initiated in 1973 by W. D. Bond on behalf of the Ontario Geological Survey (Bond, 1980).

1974: F. Hoey prospected the old showings in the Kashaweogama Lake area (Kelly, 1975).

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

1976: B.B.M. Investments Ltd. (B.B.M., 1976) trenched and sampled a high grade gold quartz vein just north of the property (Plate 3). Chip samples returned many assays over 1 ounce gold per ton across 12-24 inches along a 650 ft. strike length. Subsequent drilling failed to enlarge the zone.

1976: N. F. Trowell commenced a regional mapping program on behalf of the Ontario Geological Survey which included the Kashaweogama Lake area (Trowell, 1986 and 1988).

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, however, grab sample LT223, obtained over the Hoey Showing assayed 2.02 oz/t Au. (Leary, 1981A and 1981B; Pichette and Spector, 1981; Misner, 1981; Geophysical Surveys Ltd., 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 at 43+85E/1+75N - Plate 1) was completed near the Hoey Showing. The drill log revealed 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).

1987: Northern Dynasty Explorations Ltd. conducted a reconnaissance exploration program involving prospecting and geochemical examinations of showings and surrounding areas (Ho, 1988A).

1988: Northern Dynasty Explorations Ltd. conducted winter ground magnetometer and EM-16 surveys over the property grid (Ho, 1988B) and returned to continue work in the summer of 1988 (this report). A program of detailed sampling and mapping proved very successful in outlining an extensive auriferous hydrothermal system.

2.0 REGIONAL GEOLOGICAL REPORT

2.1 Introduction

The Kash Lake property is located in the western arm of the Savant Lake greenstone belt (Figure 3). This western arm is terminated by the Miniss River fault system on the west while the eastern end expands into the Savant Lake greenstone belt proper. The Savant Lake greenstone belt marks the northern limit of the Wabigoon subprovince of the Superior Province of the Canadian Shield.

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. Outcrop exposure is best immediately north of the shoreline but with increasing distance from the lake, typical Canadian Shield muskeg is found. There is also good exposures of the granitoids and metachert-iron formations.

Glacial overburden on the north shore tends to occupy natural topographic lows and forms the rare ridge. The overburden is a varied mixture of clay, sand, and boulder till.

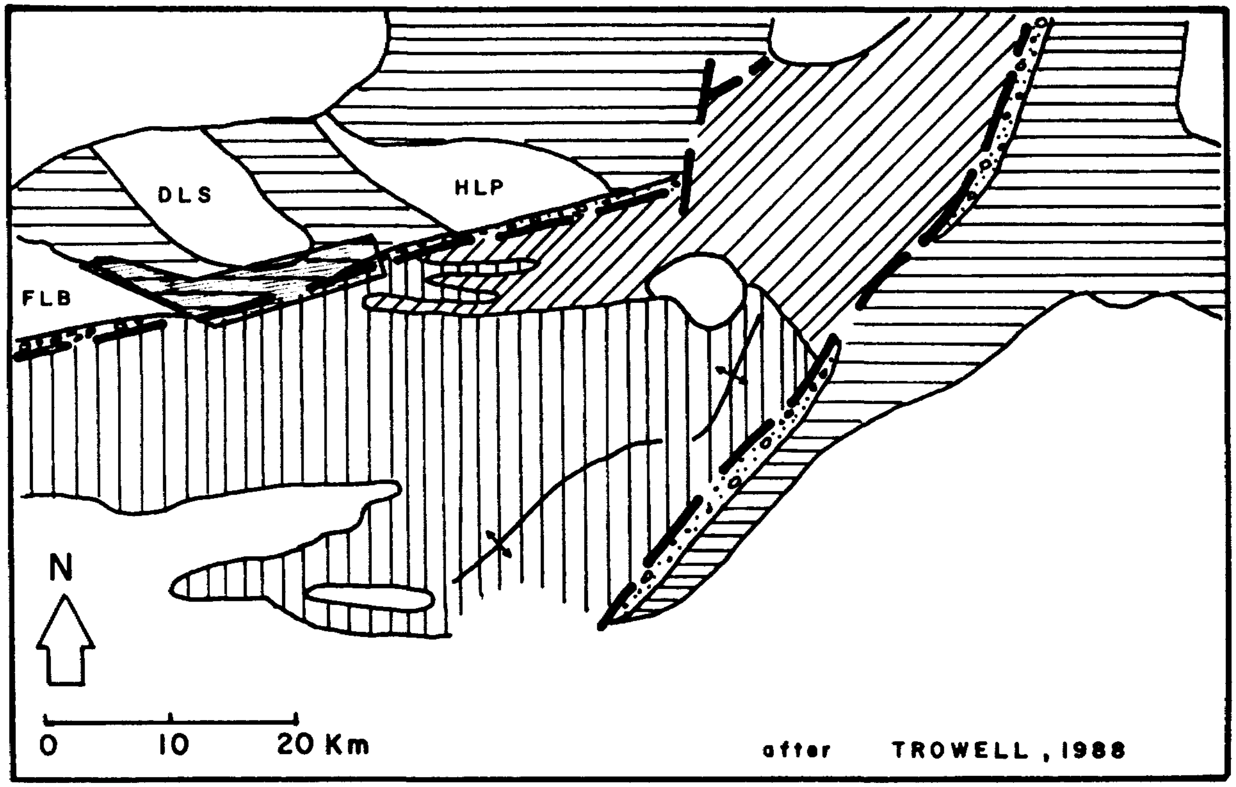
The southern shore is much more subdued than the north shore with the exception of a late stage granitoid intrusion located in the extreme southern portion of the claim block. Overburden is extensive with a blanket-like covering of boulder till and eskers.

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

Vegetation is dominated by tall stands of poplar in sandy areas and pines elsewhere. Cedars trees are located immediately about the shoreline.

2.3 Regional Geology

The greater Savant Lake area has been the target of several regional mapping programs. As a result, a fairly complete regional geological picture has been developed (Figure 3). Only a brief summary of the major units will be given in this report; a detailed description can be obtained by referencing Shegelski (1978), Bond (1980), or Trowell (1986 and 1988).



Granitoid Intrusives

FLB – Fairchild Lake batholith

DLS – Dickson Lake stock

HLP – Heron Lake pluton

Savant Narrows formation

Savant group

Handy Lake group

Jutten group

Deformation Zone

Anticline

KASH LAKE PROPERTY

Figure 3. Regional geology of the Kashaweogama Lake area.

The metamorphic grade, overall, is greenschist facies, though local zones of amphibolite grade rocks have been observed. There does not appear to be a strong metamorphic aureole around any of the granitoid intrusives.

The oldest sequence of rocks belongs to the Jutten group (Figure 4). The Jutten group marks the northern boundary of the Savant Lake greenstone belt and comprises a sequence of massive and pillowed mafic volcanic flows interlayered with metachert-iron formation horizons. Ultramafic flows are developed towards the base of the Jutten group.

Lying unconformably on the Jutten group is the Savant Narrows formation (SNF). This unit is a polymictic clast- to matrix-supported conglomerate. The SNF outcrops as far east as Savant Lake and to the northeast in the Neverfreeze-Elwood Lakes area. To the west, the SNF can be found outcropping parallel to the Marchington River for an exposed strike length of more then 40km.

Shegelski (1978) demonstrates that volcanic clasts in the SNF were derived from the underlying Jutten group, hence an unconformity. Shegelski (1978) further concludes that granitoid clasts in the vicinity of the Heron Lake stock were derived from the erosion of that stock. Our mapping suggests that granitoid clasts in the vicinity of the Fairchild Lake batholith (FLB) were derived from that intrusive, based on the presence of arsenopyrite within both - arsenopyrite mineralization is locally developed in the fringes of the FLB (described in Appendix 2) and some of the granitoid clasts in the SNF similarly contain arsenopyrite but the matrix does not. Jutten volcanics immediately adjacent to the SNF also do not contain any appreciable amounts of arsenopyrite. Therefore, the SNF also post-dates the granitoid intrusives.

The relationship of the Handy Lake group and associated Savant group, to the Jutten group and SNF is controversial. The contact is not exposed but geological, geophysical and chronological evidence (Section 3.0 & Ho, 1988B) suggest that the Kashaweogama Lake Fault (Plate 1) marks this contact. Thus the Handy Lake group and Savant group were tectonically juxtaposed against the Jutten group and SNF.

The Handy Lake group is a complex interlayered sequence of mafic, intermediate, and felsic volcanics. The upper portion of the Handy Lake group is intercalated with arenaceous, argillaceous, and ferruginous sediments of the Savant group (Trowell, 1988).

As with most Archean greenstone belts in the Superior Province, all supracrustals have been intruded by felsic plutons and batholiths.

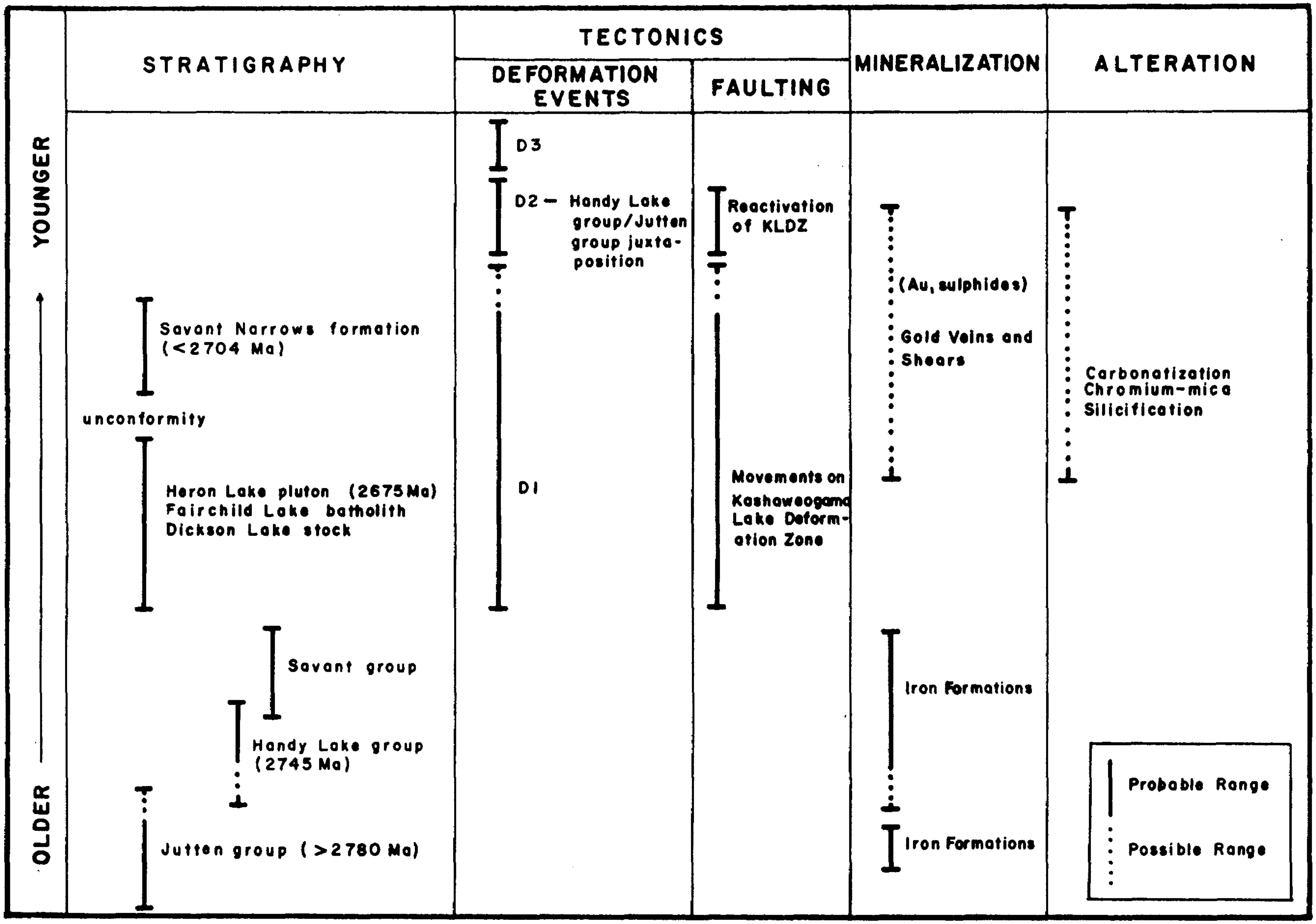


Figure 4. Proposed geologic history for the Kashaweogama Lake area. Vertical lines represent schematic time scale.

3.4 Regional Structural Geology

The Jutten group represents an early deformed and intruded basement greenstone terrain. The deformation patterns observed in the Handy Lake group resulted from the compression of the Handy Lake group against the more rigid Jutten group. The Savant group was derived from the erosion of the Handy Lake group but was deposited prior to cessation of deformation and therefore, displays similar deformation features as the Handy Lake and Jutten groups.

The field work conducted by Northern Dynasty Explorations Ltd. in the summer of 1988 supports the overall geological picture as presented by previous researchers.

3.0 PROPERTY GEOLOGY REPORT

3.1 Introduction

In 1987 a zone of deformation, alteration, and mineralization was outlined in the Kashaweogama Lake area. The 1988 summer field work proved that the Kash Lake property is a favoured area of auriferous mineralization with a strike-length in excess of 3km.

3.2 Property Geology

The Kash Lake property has been expanded since the original claims were staked in 1987. The main part of the property is localized about the western-half of Kashaweogama Lake. Expansion of the property has occurred on the southwest corner and an extensive block of claims have been added to the northwest called the Willie Lake block.

The property encompasses a complicated stratigraphic package comprising the Jutten group, the Handy Lake group, the Savant Narrows formation, the Fairchild Lake batholith, and the Dickson Lake stock (Figure 3 and Plates 1,2, and 3).

The Jutten group is dominated by ultramafic to mafic flows which are interbedded with thin greywacke beds and at least two metachert-iron formations.

The ultramafic flows can be found on the northwest shore of Kashaweogama Lake (Plate 1). These ultramafic flows are poorly exposed because of their recessive weathering. Lithologically, the ultramafic units have been altered to chlorite-talc-calcium- and iron-carbonate schists. The rest of the mafic volcanics in the Jutten group comprise a sequence of coarse chlorite-plagioclase flows, fine grained massive flows, and chlorite-calcite schists. Locally, pillows and hyaloclastites have also been observed. The greywackes which have only been observed immediately south of the Dickson Lake stock have been metamorphosed to a biotite-quartz schist. Iron-rich biotites have given these metasediments a distinct red colouring.

Some of the most impressive looking rocks of the Jutten group are those that comprise the metachert-iron formations. Because of the high silica content these rocks are particularly well exposed. On the Kash Lake property these iron formations are composed of up to 90% quartz in beds that vary in thickness from 1-2cm to greater then 1m. Interbedded with the quartz beds are chlorite-grunerite schists. There is very little magnetite present but magnetometer surveys do delineate these iron formations without difficulty (Ho, 1988B).

Outcropping on the north shore, periodically, is a polymictic clast-supported conglomerate of the Savant Narrows formation. The dominant clast type is a pinkish granitoid which varies in size from 2-3cm to greater then 20cm. These clasts are also well rounded and aligned parallel to the main structural trends. The rest of the clasts form an assemblage of mafic volcanics, quartz pebbles, and sediment clasts. The mafic volcanics have been altered and metamorphosed to chlorite schists.

Geographically to the south is the Handy Lake group. In the Kashaweogama Lake area the geologic contact between the Savant Narrows formation (SNF) conglomerate and the Handy Lake group has been obscured by the waters of Kashaweogama Lake. In the extreme west where Kashaweogama Lake terminates, this contact has been covered by thick boulder and sandy overburden.

In the extreme east, along Kashaweogama Lake, a quartz-magnetite iron formation outcrops (60+50E, 6+50N). This unit is probably the top most unit of the Handy Lake group that outcrops on the Kash Lake property. Most of this iron formation is under the lake. Magnetometer surveys, however, indicate that this iron formation proceeds westward and pinches out at L 51+00E.

The next stratigraphic outcropping of the Handy Lake group is centered on two large islands on the eastern half of the property (Plate 2). Mapping has revealed that these islands are essentially composed of an assemblage of chlorite-Ca-carbonate-sericite schist.

The south shore marks the beginning of the main assemblage of the Handy Lake group. The eastern-half of the shoreline consists of a sequence of chlorite-calcite mafic volcanics, with only moderate deformation. Approaching the western half of the lake the mafic metavolcanics give way to a thick sequence of intermediate to felsic volcanics. This sequence is characterized by 1-10cm long pink felsic volcanic fragments hosted in a chloritic matrix. The lack of variety of clasts suggests that this unit is an agglomerate.

The Kash Lake property includes two large granitoid intrusives. The largest is the Fairchild Lake batholith located in the west; the Dickson Lake stock is located towards the center of the property. Both intrusives are outwardly very similar; on the property they both are quartz monzonitic. The Dickson Lake stock has varying amounts of biotite as the main- mafic mineral. Proceeding away from the contact zones the Fairchild Lake intrusive becomes more tronjhemitic while the Dickson Lake stock becomes more granitic.

3.3 Property Structural Geology

The rocks of the Kashaweogama Lake area reveal a complex structural history. The complexity is due to superposition of structural elements and difficulty in determining the timing and duration of these tectonic events. This section describes and correlates these various events.

D1 Phase Deformation

The D1 phase deformation is the earliest tectonic event that affected the Kashaweogama Lake rocks (Figure 4). This phase is responsible for the present geographical distribution of the Jutten group rocks.

D1 structural elements are primarily oriented along a 140-180 degree azimuth. These elements include a pervasive, steeply dipping foliation (S1) which is developed in all the rocks of the Jutten group. Tight isoclinal folds are also developed with near vertical fold surfaces. On an outcrop scale, these folds vary from 15cm to greater then 1m in wavelength. On a property scale, the two Jutten metachert-iron formations may be a fold repeated sequence of an originally single lithological unit (Plate 1). The fold axes are subvertical and have variable plunges. The folds are developed as folial folds and as more distinct lithological folds.

The orientation of D1 structural elements suggest that the Jutten group had been subjected to an east-westerly compression. This compression caused the rocks to be folded and shortened. The cause of this tectonic event is probably related to the emplacement of both the Fairchild Lake batholith and Dickson Lake stock.

Mapping has revealed that both igneous bodies post-date the Jutten rocks. The Fairchild Lake batholith, furthermore, displays a steeply dipping, northerly trending mineral lineation in the contact zone. This lineation direction parallels the strike direction of the D1 structures in the surrounding supracrustals. This parallelism is more than coincidental; it is the result of the intrusion of the batholith.

Mapping did not reveal similar mineral lineations in the Dickson Lake stock but the contact zone displays similar penetrative foliations and folds as the surrounding Jutten rocks. The orientations of these structural elements are also the same.

D1, therefore, is probably related to the emplacement of these large igneous bodies into the Jutten group supracrustals.

D2 Phase Deformation

The second dominant phase of deformation has been labelled D2. Structures associated with this phase of deformation are oriented between 045-075 degrees azimuth, are subvertical, and are overprinted on D1 fabrics and structures.

The best evidence for D2 deformation is the development of crenulation cleavages (S2). In areas of intense D2, crenulation cleavages have developed into schists. These crenulation cleavages resulted from the microfolding of an original D1 fabric (S1). The intersection of S2 on S1 has produced an intersection lineation (L2). L2 measurements are few, but in general, are subvertical and strike either north or northwest.

As well as microfolding, there are larger D2 folds (F2). These folds vary in shape from very tight, isoclinal folial folds to broad open lithological folds exceeding 30m in wavelength. Also, the tighter the fold, the better developed is S2 as an axial planar fabric.

Where F2 is overprinted on an F1 fold, a refolded F1 fold is produced. A variety of geometrical patterns have been mapped, ranging from simple curved and undulating F1 hinge lines to mushroom patterns. Dome and basin structures have also been observed.

These features are related to compression of the Jutten group along an east-west axis. The compression was caused by the emplacement of the Handy Lake group against the Jutten group. Kashaweogama Lake today, occupies the ancient suture zone between these two supracrustal sequences.

D3 Phase Deformation

The third phase of deformation is significantly less intense then the previous two. The dominant structures associated with it are widely spaced kink bands (shears) and conjugate kink bands. Late cross-cutting fractures and joints are also D3 associated. These structures are oriented approximately 010 and 160 degrees azimuth and are generally steeply dipping to the east.

The weak development of these D3 structures indicate that the D3 tectonic event was not very intense. The cause of D3 is not known but maybe related to late crustal adjustments or settling.

Kashaweogama Lake Deformation Zone (KLDZ)

Examination of any regional map of the Kashaweogama Lake area will reveal the presence of the prominent Kashaweogama Lake deformation zone (KLDZ) centered around the Kashaweogama Lake Fault (Plates 1 and 2). The topographical signature of this feature is a linear low occupied by the Marchington River, which widens intermittently into lakes such as Kashaweogama Lake. This zone has already been described as a suture zone resulting from the emplacement of the Handy Lake group against the Jutten group. There is evidence, however, that this linear was tectonically active before the emplacement of the Handy Lake group.

The evidence lies in the conglomerate, the Savant Narrows formation (SNF). This metasedimentary unit parallels the Marchington River and outcrops in excess of 40km along strike. It is likely that the SNF was deposited as alluvial fans or as fanglomerates (Shegelski, 1978). Rust and Koster (1984) suggest that alluvial fan deposits are localized accumulations that formed adjacent to active fault scarps.

Furthermore, D1 features can be found in the SNF. The best example is on Alteration Island (Plate 1) where a strong north-trending S1 is contorted by an east-west S2. This outcrop is highly altered but distinct relict granitoid clasts with arsenopyrite mineralization can still be recognized.

Bond (1980) concludes that the similar metamorphic grade across the KLDZ indicates that movement on it was strike-slip dominant. The thick nature of the SNF conglomerate accumulations also suggest a strike-slip dominant regime (Rust and Koster, 1984). The gross geometry of the metachert-iron formation as it nears the KLDZ (Plate 1) further indicates that the strike-slip movement was sinistral.

In summary, the KLDZ dates back as early as D1 and was an active fault scarp which localized weathered debris from the Jutten group and associated granitoids forming the SNF. The tectonic regime subsequently became D2 dominated with the emplacement of the Handy Lake group.

Age Dating

Table 2 summarizes the U-Pb zircon dates that various researchers have obtained in their studies of the area. The 2704 Ma date for the SNF is a maximum age and does not represent the actual age of deposition. The age of deposition must also be less then 2675Ma, post-dating the Heron Lake pluton, since the SNF lies unconformably on the pluton.

Table 2. Published U-Pb Zircon Dates

Geological Unit	Age	Reference
Heron Lake Pluton	2675 Ma	Thurston et al. (1987)
Savant Narrows formation (SNF)	2704 Ma (maximum)	Thurston et al. (1987)
Handy Lake group	2745 Ma	Davis and Trowell (1982)
Jutten group	2780 Ma (minimum)	Cortis et al. (1988)

3.4 Geologic History

Interpretation of the geologic history of the Kashaweogama Lake area remains conjectural. The history presented (Figure 4), however, does account for the major geological events that have been defined over a period of two field seasons.

The Jutten group is the oldest sequence of rocks in the area. After its deposition a number of events began; these events were largely related to the D1 deformation event. The intrusion of the granitoids resulted in the deformation and metamorphism of the Jutten group and also resulted in the formation of the early KLDZ. As D1 progressed, the Jutten group was uplifted and eroded. Debris from continued uplift and erosion of the Jutten group and granitoids was deposited along the KLDZ fault scarp to form the SNF conglomerate.

Subsequently, D1 gave way to D2 which involved the tectonic emplacement of the Handy Lake group against the Jutten group. This event also resulted in the folding and shearing of the Jutten group a second time, with sinistral deformation concentrated along the KLDZ. D3, the final deformation event, occurred at an unknown but subsequent time.

The geologic history of Kashaweogama Lake is complex; it is marked by developments related to various tectonic events. In all, metamorphism and three phases of deformation have contributed to shape the rocks of the Kash Lake property.

4.0 Mineralization and Alteration

The 1988 field work uncovered numerous mineralized showings with significant gold numbers. Grab samples ran as high as 50,350 ppb (1.47 oz/t). The best and most significant mineralization and alteration occurs primarily in the rocks and structures adjacent to the Kashaweogama Lake deformation zone (KLDZ) (Plates 1,2,5 and 7). Mineralization and alteration have also been found to the far northwest in the Willie Lake Zone (Plates 3 and 9); though less extensive, it is still significant.

This section will briefly describe the most significant showings. Refer to the larger geology maps (Plates 1,2, and 3) for the location of each showing. Silver and gold geochemistry is plotted on Plates 4 to 9 and on the appropriate figures in the text. Complete geochemical results can be referenced in Appendix 1.

A number of other mineralized areas were also examined. Descriptions of these comprise Appendix 2.

The Hoey Showing

The Hoey Showing at 43+85E, 1+05N is the most extensive of all the showings (Figures 5 and 6 in back pocket). This showing was named after F. Hoey who returned to the area in 1974 and rediscovered this showing. This zone, however, dates back further then 1974; examination of floral growth in the trenches reveal ages exceeding 35 years. The mineralization of the area was probably known as far back as 1950.

Geologically, the Hoey Showing is a complicated zone of alteration and deformation. The Hoey Showing can be divided into upper and lower zones. The Upper Hoey is dominated by intensely bleached chlorite-sericite schists and chlorite-sericite-silica schists. Intercalated with the sericitic schists are three distinct chlorite-Ca-carbonate (+/- Fe-carbonate) schist units. These three chlorite schist units have very sharp contacts and mapping has revealed that these units are chloritized, coarse mafic volcanics.

A thick zone of pillowed mafic volcanics separates the Upper and Lower Hoey Zones. Relict pillow selvages can be observed which appear as more chloritic features within a chlorite-sericite schist.

The Lower Hoey contains the most significant gold mineralization. Detailed surface chip and channel sampling outlined a 1.5m by 18m zone grading 0.18 oz/t Au. Native gold is also locally visible in this zone. This lower zone comprises a sequence of coarse mafic volcanics and pillowed to hyaloclastite mafic volcanics. The coarse mafic volcanics are composed of chlorite and plagioclase and rarely porphyritic plagioclase. These coarse mafic volcanics are also selectively altered to chlorite-carbonate schists. Relict hyaloclastites can be seen in tightly folded structures.

The structural aspects of the Hoey Showing are highly complex. All structural features are more or less parallel, striking 055 to 065 degrees azimuth and dipping very steeply northwest. Deformation is most intense in the Lower Hoey, where shearing has obliterated much of the early structural features as well as making lithological correlation very difficult.

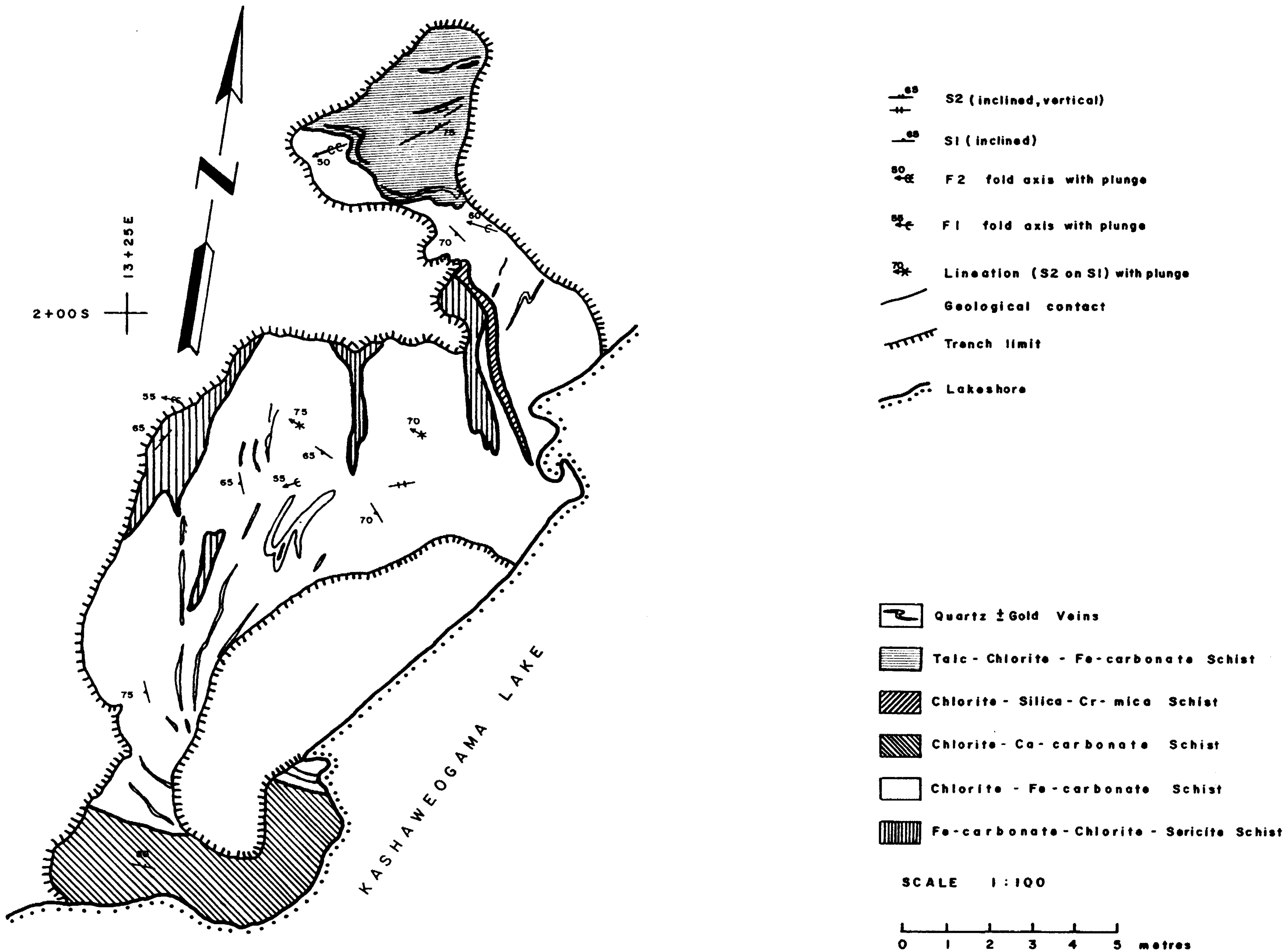
Mineralization in the Lower Hoey is quartz vein associated. These gold-quartz veins display at least two intense phases of deformation. This is evidenced by refolded veins. The dominant sulphide mineral is pyrite with lesser amounts of chalcopyrite, arsenopyrite, and galena, all localized within the quartz veins and disseminated into the immediate host rocks of the quartz veins.

Mineralization in the Upper Hoey is also pyrite dominated and is localized about small shears and fractures in the chlorite-sericite-silica schist. These shears and fractures are oriented at approximately 040 degrees azimuth while the schistosity trends 065 degrees. The thickest chloritized, coarse mafic volcanic unit is also a site of good sulphide development. Pyrite again is dominant but local galena can be found.

Immediately to the east of the showing, an outcrop with a 2-2.5m isoclinal fold was found. An axial planar schistosity was also observed and permeates all stratigraphic units. The axial plane is oriented at approximately 070 degrees and is clearly a F2 fold. The dominant structural elements in the Hoey Showing are D2 parallel and gold quartz vein mineralization has been rotated into parallelism.

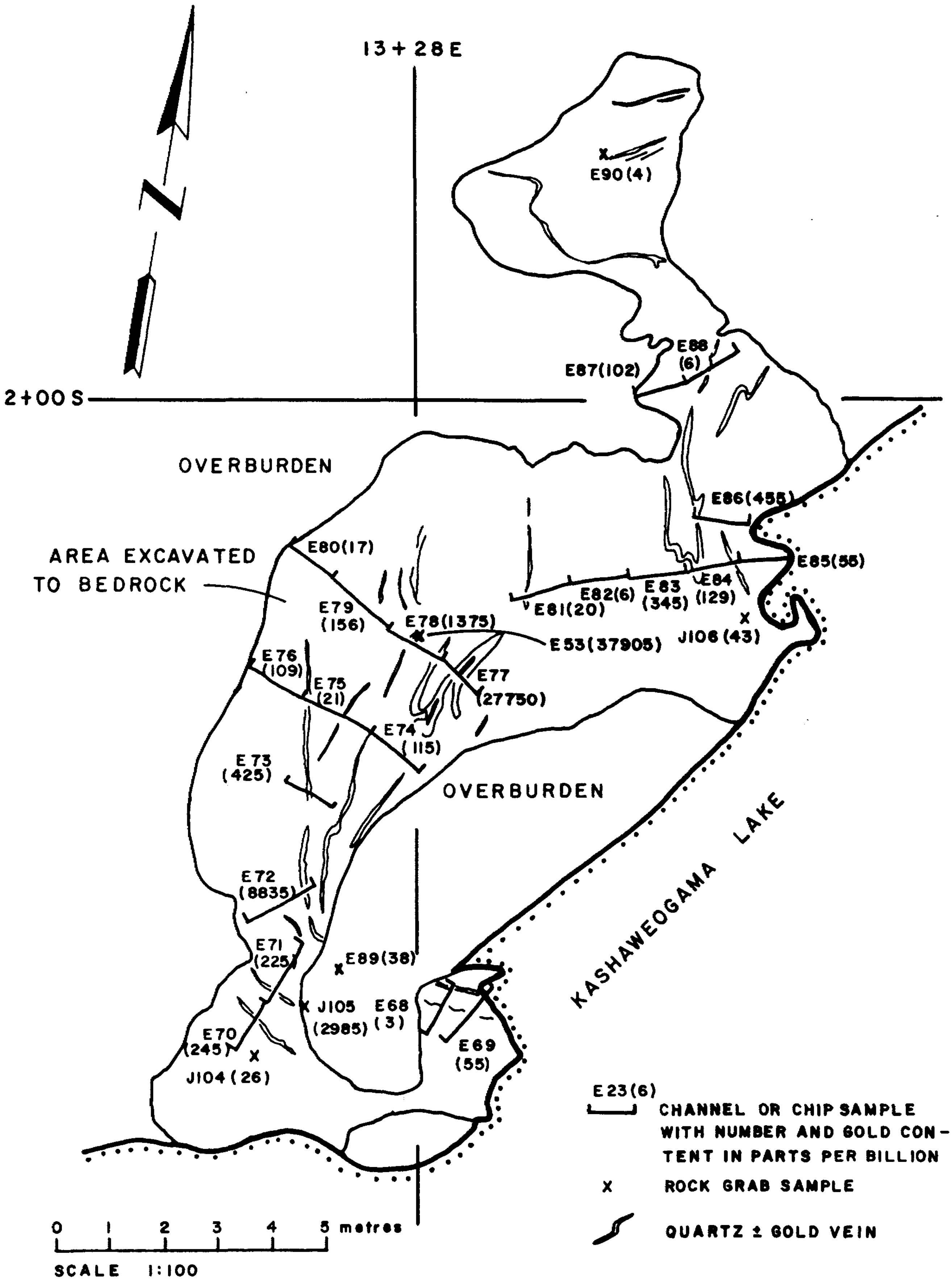
The K.D. Showing Area

The K.D. Showing area in the vicinity of 13+25E, 2+00S comprises three zones; the K.D. Gold Showing (Figures 7 and 8), the Chromium Mica Trench Zone (Figures 9 and 10) and Alteration Island. Mineralization is located at the base of the Jutten group and continues into the overlying Savant Narrows formation. The mineralization and alteration are hosted in both ultramafic volcanics and intercalated mafic volcanics. The best chip sample came from the K.D. Showing: an assay of 27,750 ppb Au (0.809 oz/t) over 1 metre (Figure 8). Surface sampling results for the Chromium Mica Trench Zone were low and are displayed in Figure 10.



K.D. GOLD SHOWING – GEOLOGY

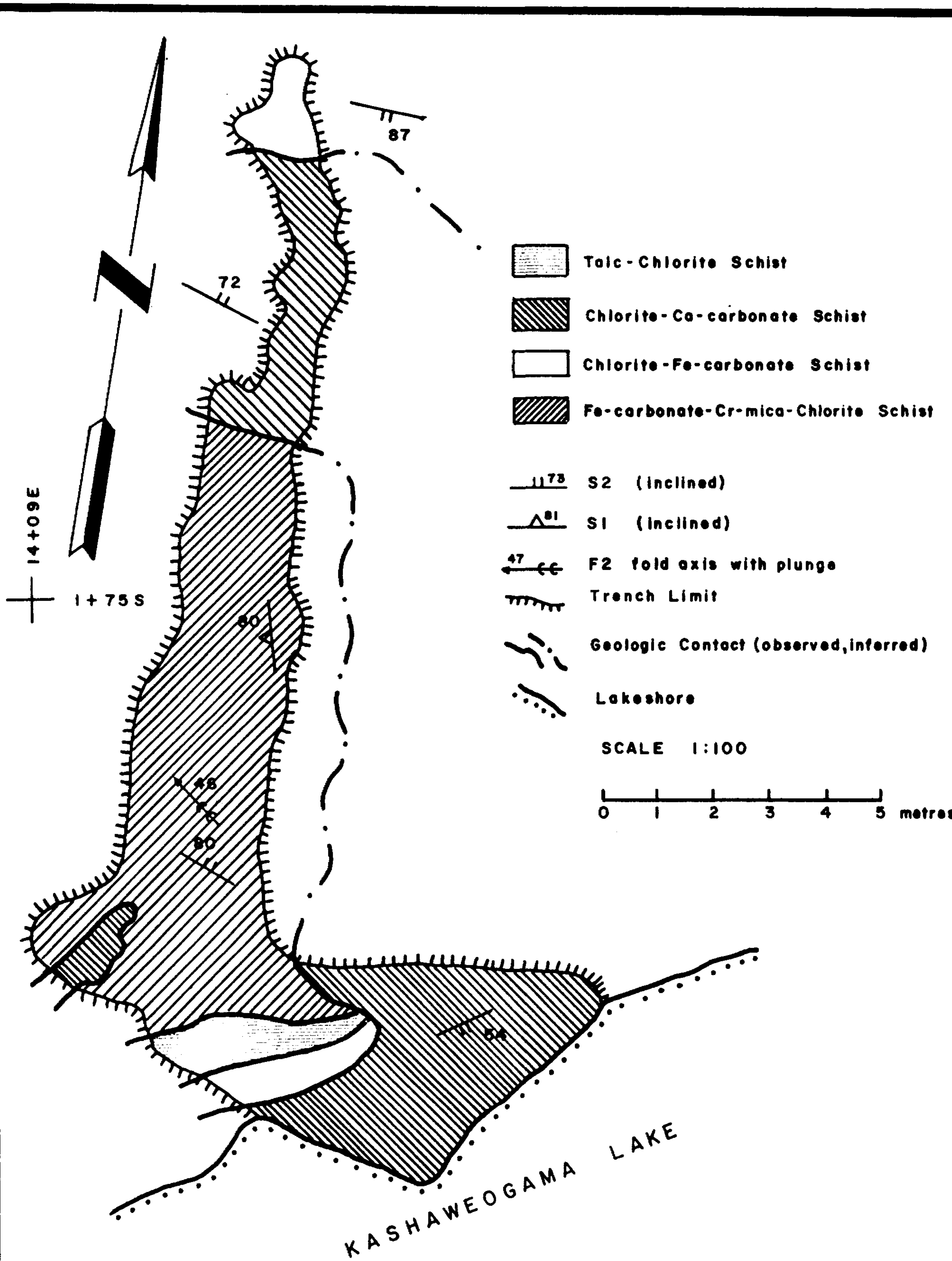
FIGURE 7



K.D. GOLD SHOWING – GEOCHEMISTRY

1988

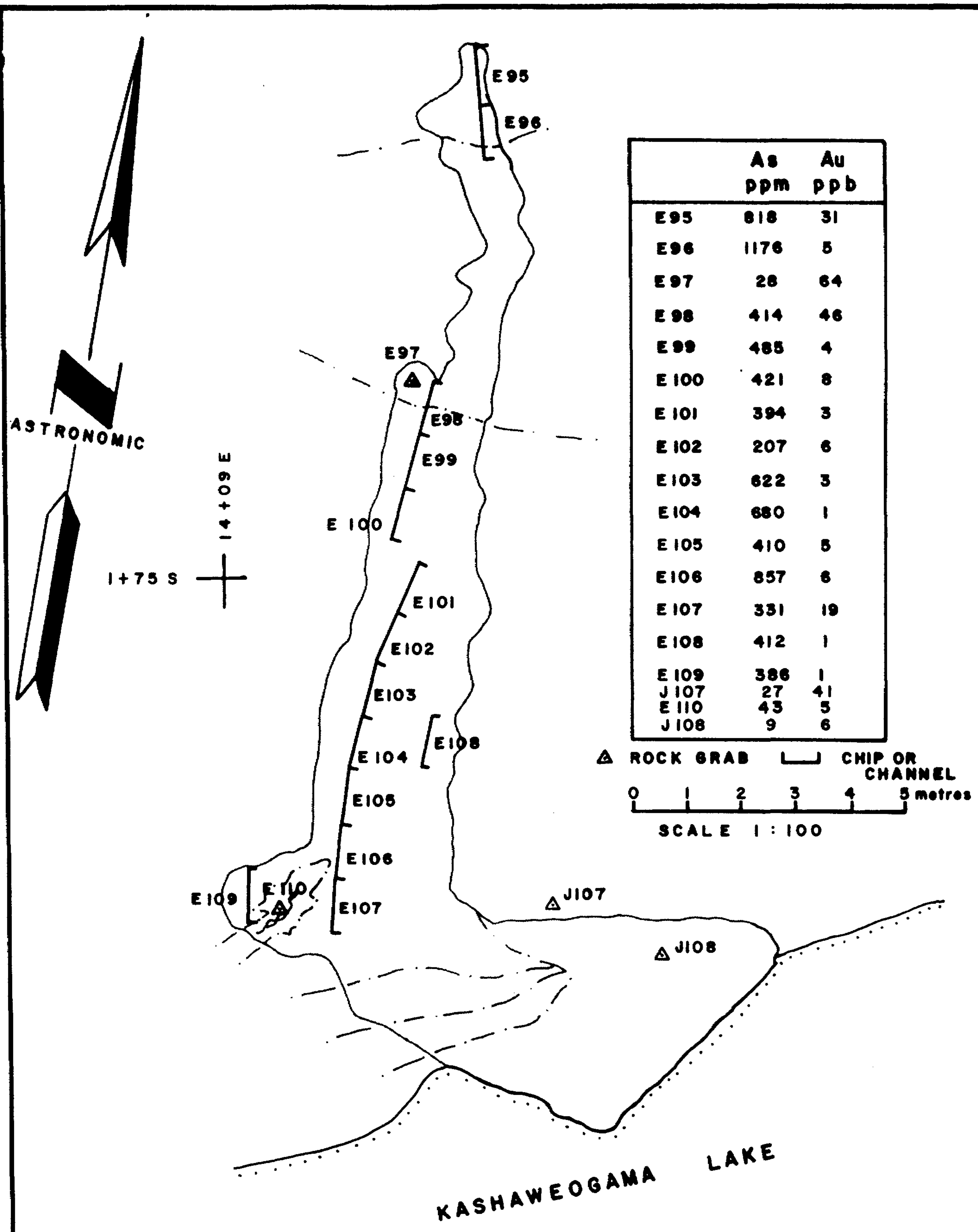
FIGURE 8



CHROMIUM MICA TRENCH – GEOLOGY

KD SHOWING AREA

FIGURE 9



	As ppm	Au ppb
E95	818	31
E96	1176	5
E97	28	64
E98	414	46
E99	485	4
E 100	421	8
E 101	394	3
E 102	207	6
E 103	622	3
E 104	680	1
E 105	410	5
E 106	857	6
E 107	331	19
E 108	412	1
E 109	386	1
J 107	27	41
E 110	43	5
J 108	9	6

CHROMIUM MICA TRENCH
K D SHOWING AREA
GEOCHEMISTRY

1988

FIGURE 10

Mineralization at the K.D. Showing is dominantly pyrite with traces of chalcopyrite and marcasite in Fe-carbonate-quartz veins, as well as pyritic disseminations into the chloritic host rocks. Gold is associated with the sulphide-carbonate-quartz veins.

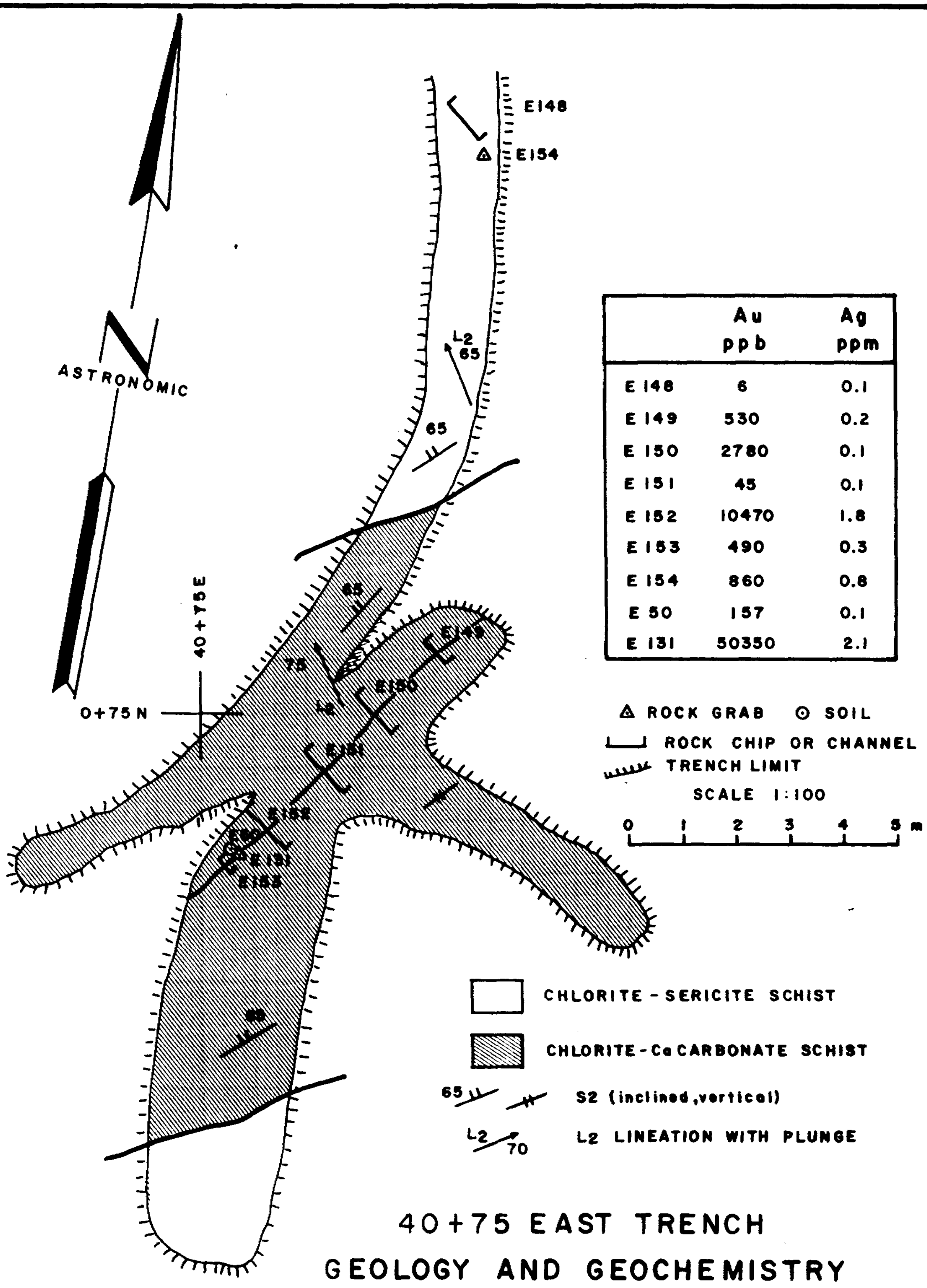
Alteration is quite impressive throughout this entire area. The mafic volcanics have been altered to an assemblage of chlorite-Ca-carbonate schists. The most altered mafic volcanics consist of massive amounts of Fe-carbonate with lesser amounts of chlorite, chromium mica, and silica. Where there is a significant amount of chromium mica (Chromium mica Trench, Figure 9) the rocks take on a spectacular apple-green colour. The K.D. Showing auriferous veins (Figure 7) are hosted in a tightly folded sequence of talc-chlorite-Fe-carbonate schist and Fe-carbonate-chlorite-sericite schist with cross-cutting felsic dikes. Alteration Island comprises a sequence of chlorite-sericite-Fe-carbonate schist, chloritized and iron carbonated conglomerate and chromium mica-silica-Fe-carbonate schist. The intense alteration overprints both the Jutten group volcanics and the overlying conglomerate of the Savant Narrows formation.

The K.D. Showing area is structurally the most enlightening. The number of preserved D1 structures as well as a moderate D2 overprint has allowed for an effective unravelling of the structural geology. Figure 7 displays the numerous tight isoclinal folds of D1 with northwest orientations. It is clear that the fold hinges are curved and readily outline the east-west D2 direction. Also developed are wide spaced crenulation cleavages and tight chevron folds in the more talc-rich rocks. The axial planes of these micro-folds are D2 parallel.

40+75 East Trench

As the name of this zone implies, this mineralization is located at L40+75E, 0+75N. The trench dates back quite a number of years and was cleaned out using a Wajax Mark II water pump when a grab sample assaying 50,350 ppb Au (1.47 oz/t) was returned (Figure 11).

The upper half of the trench is hosted in a sequence of chlorite-sericite schists with thin bands of black chlorite schist. The rest of this newly exposed trench hosts the auriferous-quartz vein. The host rock is a chlorite-Ca-carbonate schist with variable sericitization which overall grades intermittently into mylonitic zones.



	Au ppb	Ag ppm
E 148	6	0.1
E 149	530	0.2
E 150	2780	0.1
E 151	45	0.1
E 152	10470	1.8
E 153	490	0.3
E 154	860	0.8
E 50	157	0.1
E 131	50350	2.1

40+75 EAST TRENCH
GEOLOGY AND GEOCHEMISTRY

1988

FIGURE 11

The limited width of the trench did not allow enough exposure for a detailed structural analysis. The dominant structural feature, never-the-less, is an axial planar schistosity, oriented at 045/65N (S2). There is also a limited view of a folial fold with a highly curved fold hinge (F2).

The gold is hosted in a quartz-carbonate vein with a moderate amount of pyrite. The quartz vein is 2-3cm wide and strikes across the width of the trench. It is boudinaged and may be refolded.

The Willie Lake Zone

The Willie Lake Zone (Plates 3,8, and 9) is a broad area of mineralization and alteration located in the vicinity of claim Pa.1006733. It is located well northwest of the other showings but is still stratigraphically in the Jutten group. To the southeast and on strike is the BBM Showing (B.B.M., 1976) where reported gold assays range over 10 oz/t across widths of <0.7m along a 200m strike length.

Table 2 is a summary of the geochemical results for some selected rock and soil samples from the Willie Lake Zone (plotted on Plates 8 and 9).

Table 3: Selected Geochemistry - Willie Lake Zone.

Sample	Type	Cu(ppm)	Ni(ppm)	Co(ppm)	As(ppm)	Au(ppb)
EK8-R43	rock	264	14381	687	50	102
EK8-R44	rock	195	7694	320	31	47
EK8-R45	rock	331	16335	640	40	49
JK8-R31	rock	254	14200	553	32	38
JK8-R32	rock	222	11301	477	36	73
EK8-S72	soil	737	53709	2607	92	293
EK8-S73	soil	378	3640	164	9	262
EK8-S74	soil	835	20706	1420	405	674
EK8-S75	soil	613	33758	2092	53	482

The mineralogy of this zone is different from any of the previously described mineralized zones which are dominated by pyrite, chalcopyrite, and lesser amounts of arsenopyrite, molybdenite, and galena. The low arsenic and high Ni-Co-Fe values indicate that the dominant metallic species may be a Ni-Co-Fe sulphide such as henglenite.

This Ni-Co-Fe sulphide was found localized in an anastomosing shear system hosted in a volcanic schist (southeast corner of claim Pa.1006733). The shear system averages about 3m in width and is of limited strike length.

Northwest of this zone on claim Pa.1006734, local sections of intense chromium mica alteration in sheared metacherts occur in a package of mafic volcanics, chlorite-actinolite schists and metachert-iron formations.

The relationship between these shear systems and the established regional structural patterns (Section 3.3) is not clear.

Mineralization and Alteration Summary

The results of the 1988 field program are extremely encouraging. Gold mineralization, including free gold, occurs in Fe-carbonate-pyrite-quartz veins and pyritic shears. These veins are hosted in mafic to ultramafic volcanics. Alteration is dominated by iron and calcium carbonatization, sericitization, talc and chromium mica development, and silicification. The nature of the alteration is controlled by host rock lithology. Both auriferous quartz veins and alteration zones are highly deformed.

The best gold values and the most extensive alteration are mainly located close to the Kashaweogama Lake deformation zone. The KLDZ was the focus of deformation and acted as the main conduit for gold mineralizing fluids.

5.0 GEOCHEMICAL REPORT

5.1 Introduction

The 1988 geochemical survey was more limited in scope then the 1987 survey (Ho, 1988A). The latest survey (Plates 4 - 9) was designed to evaluate the extent and grade of surface gold mineralization in the showings prior to further exploration. Therefore, detailed chip sampling and mapping was undertaken to evaluate the mineralization. Results were highly encouraging and the property warrants further exploration.

5.2 Methods

Outcrop surfaces to be chip sampled were first cleared of all debris and overburden; vegetation was cut to the roots and large boulders were manually removed. A Wajax Mark II water pump was then used to remove soil and overburden to expose the outcrop. The mineralized outcrop was chip and channel sampled using a tungsten-carbide-tipped moil. Sampling widths were limited to 1-1.5m widths with variable spacing between samples. A geological rock hammer was used to collect grab and soil samples.

All rock samples were put into plastic bags and labelled. Soil samples were put into kraft paper bags and labelled. Samples were then shipped to Acme Analytical Laboratories in Vancouver for analysis. No further field preparation was done on any of the samples. Appendix 3 outlines sample processing and analytical methods used by Acme Analytical Laboratories.

5.3 Observations

The glacial overburden proved to be an effective barrier against geochemical transport particularly in areas of clay. Therefore the majority of soil samples were collected on top of or at the base of outcrops. These samples varied in texture but were generally fine silt to fine sand with variable amounts of rock fragments from the immediate outcrop. Most samples also contained minor amounts of roots, leaves, and twigs.

Chip sampling was used to get representative samples of the mineralization. Grab samples, however, were taken at the discretion of the sampler.

5.4 Conclusions

Appendix 1 lists the complete geochemical lab results for all rock and soil samples. Locations and Ag-Au geochemistry are plotted on Plates 4-9 (inclusive) and associated figures. Detailed geochemical sampling from the showings and trench zones are discussed in Section 4.0.

A number of important conclusions can be derived from this geochemical survey:

1. The nugget effect plays an important role in gold mineralization. The assay results show that gold occurs in local high grade zones. Variable high grade assays reported by previous researchers (Kelly, 1975) were caused by this nugget effect.

2. The nugget effect also means that geochemical sampling must be thorough. Detailed chip sampling in 1988 produced much more reliable overall grades on the Hoey and K.D. Showings than reconnaissance sampling in 1987.

3. Gold mineralization is only weakly associated with base metals. There are local high Pb values with gold but overall, base metal values are only weakly elevated with gold. Conversely, many areas of high base metal values have insignificant gold values. Chromium, in the form of chromium mica, is also only locally associated with gold. In general, widespread elevated base metal values and alteration are indicative of a large hydrothermal mineralizing system. Gold mineralization is genetically associated with this hydrothermal system.

4. The best pathfinder mineral for gold at the Kash Lake property is gold.

6.0 Conclusions and Discussion

1. Economic grade gold mineralization exists at the Kash Lake property. Mineralization occurs over a strike length in excess of 3km.

2. Gold occurs in quartz-carbonate veins which are hosted in highly altered and deformed metavolcanics.

3. The Kashaweogama Lake deformation zone was the locus for shearing and subsequent mineralization.

4. Deformation is dominated by two intense periods of regional folding and shearing. A third period of weak deformation has also been identified.

The Kash Lake property hosts a favourable combination of economic gold assays, a regional deformation zone, and associated widespread alteration. Two more aspects of the property that make Kash Lake an exceptional exploration target are:

1. The work completed to date is limited to surface examinations. The assessment files in Toronto only record a single diamond drill hole completed on the ground that comprises the Kash Lake property.

2. The regional structural and alteration patterns are very similar to those observed in the Larder Lake area of eastern Ontario. The Savant Narrows formation corresponds to the Timiskaming conglomerate. The Kashaweogama Lake deformation zone plays the same role as the Main Larder Lake Break which hosts the most intense alteration and shearing and more significantly, hosts the Kerr Addison Gold Mine. Overall, the Fe-carbonate and chromium mica (fuchsite) alteration as well as the pyrite-gold-quartz veins are reminiscent of mineralization at the Kerr Addison and other gold mines of the area.

The lack of subsurface exploration, the striking geological similarities to an historical gold camp combined with economical gold assays, make the Kash Lake property an exceptional exploration target.

APPENDIX 2

Mineralization and Alteration

Other Zones

APPENDIX 2

Mineralization and Alteration
Other Zones

A2.1 Lead Occurrence and The Copper Trench

Located at the contact between the Dickson Lake stock and the Jutten group is an extensive zone of alteration, mineralization, and deformation. Mineralization has been observed intermittently over a distance of 1km along this southern contact.

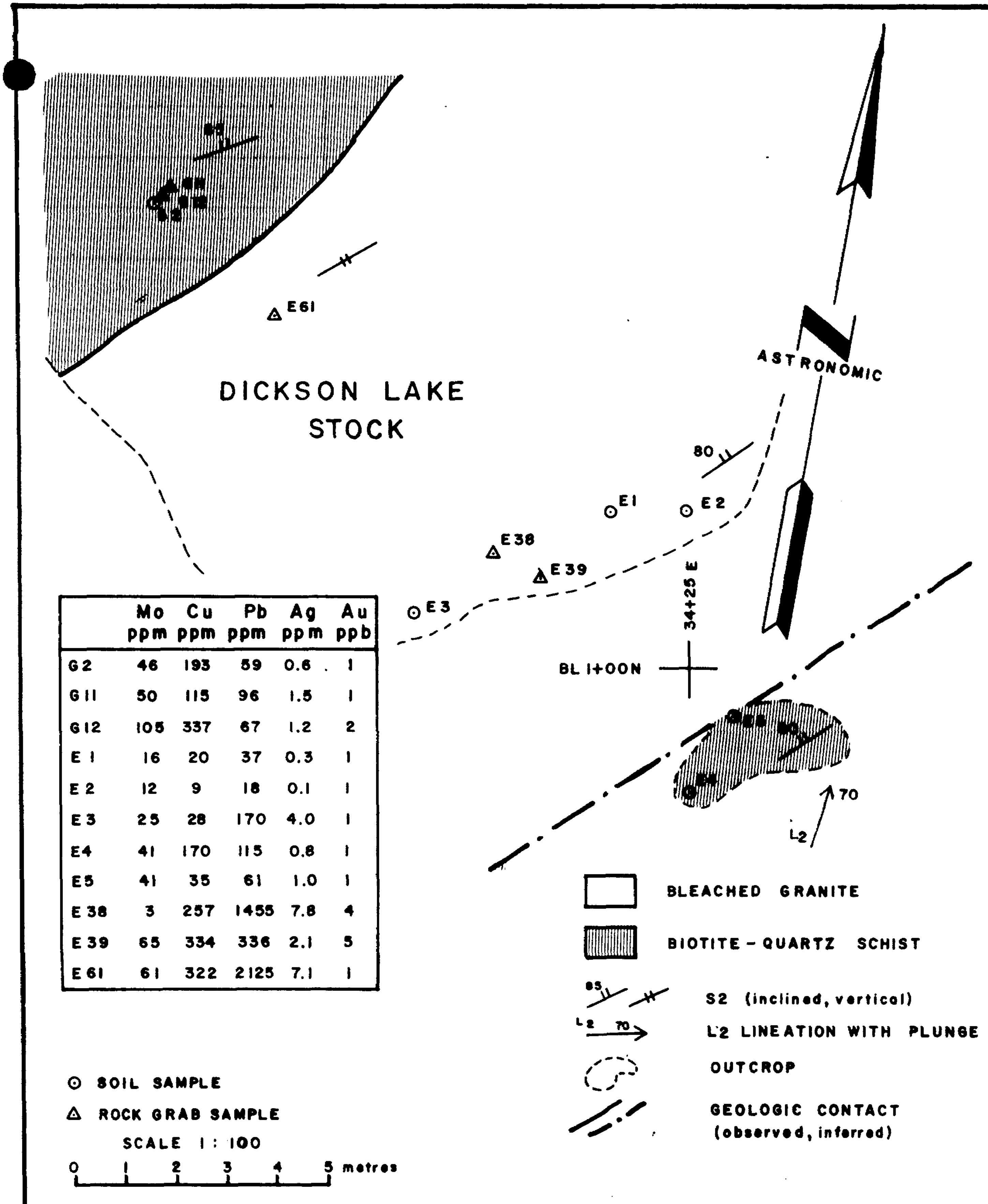
The Lead Occurrence is hosted in the Dickson Lake stock itself at 34+25E, 1+00N (Figure 12). Mineralization is pyrite (+/-chalcopyrite) disseminations (2-3%) with local galena (<2%)-quartz veins. The Dickson Lake stock displays a distinct bleaching, giving it a pervasive grey colour. There is also a weakly developed biotite halo. Structurally, the granitoid displays a widely spaced, weak axial planar crenulation cleavage. This becomes much more pervasive within 1m of the contact but disappears quickly into the stock itself.

The immediate supracrustal host rock is a metagreywacke which has been altered to a biotite-quartz schist. Close examination reveals tightly folded (F2) and boudinaged felsic dikes in the metagreywacke as well as a pervasive crenulation schistosity (S2, 045/80N). A strong intersection lineation is also present dipping 70 deg towards 005 degrees azimuth.

The Copper Trench at 33+25E, 0+70N is so named because of the anomalous copper assays; high grade molybdenite values are also worth noting (Figure 13). This trench, located just west of the Lead Occurrence, occupies the same stratigraphic position as the Lead Occurrence. However, this zone is much more altered and sheared.

Mineralization occurs as disseminations of pyrite, molybdenite, and chalcopyrite (up to 10% combined). The mineralization is hosted in a silicified biotite-sericite-carbonate schist. Intense shearing has obliterated any fold noses (F2) but did leave a pervasive S2 foliation (045/70NE).

The Cu, Mo, and Pb mineralogy in such close proximity to a felsic intrusion (Dickson lake stock) suggests a porphyry-type or associated hydrothermal mineralization event. The relationship between this type of mineralization and the gold mineralization to the south is not known.



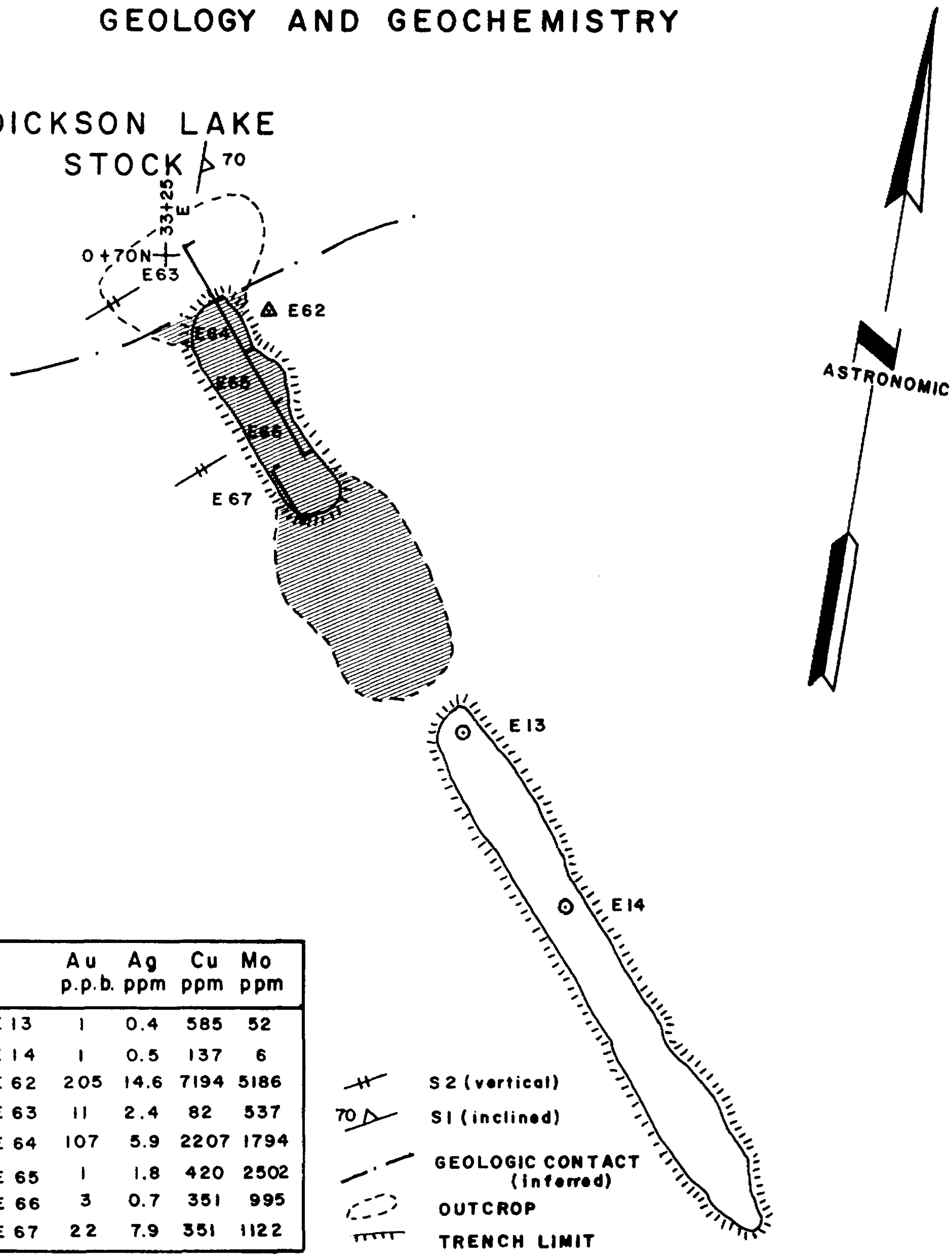
	Mo ppm	Cu ppm	Pb ppm	Ag ppm	Au ppb
G2	46	193	59	0.6	1
G11	50	115	96	1.5	1
G12	105	337	67	1.2	2
E 1	16	20	37	0.3	1
E 2	12	9	18	0.1	1
E 3	25	28	170	4.0	1
E4	41	170	115	0.8	1
E5	41	35	61	1.0	1
E 38	3	257	1455	7.8	4
E 39	65	334	336	2.1	5
E 61	61	322	2125	7.1	1

LEAD OCCURRENCE
GEOLOGY AND GEOCHEMISTRY

1988

FIGURE 12

COPPER TRENCH
GEOLOGY AND GEOCHEMISTRY



	Au p.p.b.	Ag ppm	Cu ppm	Mo ppm
E 13	1	0.4	585	52
E 14	1	0.5	137	6
E 62	205	14.6	7194	5186
E 63	11	2.4	82	537
E 64	107	5.9	2207	1794
E 65	1	1.8	420	2502
E 66	3	0.7	351	995
E 67	22	7.9	351	1122

S 2 (vertical)
S 1 (inclined)
GEOLOGIC CONTACT (inferred)
OUTCROP
TRENCH LIMIT
BLEACHED GRANITE
SILICEOUS-BIOTITE-SERICITE SCHIST

△ ROCK GRAB ⊙ SOIL
ROCK 1 METRE CHIP

SCALE 1 : 100
0 1 2 3 4 5 metres

1988

FIGURE 13

A2.2 The Zinc Trench

Located immediately on the lake shore at 36+90E, 0+20S, this old trench zone has yielded some surprising results (Figure 14). A close examination has revealed a rough systematic zoning about the main mineralization. Pyrite (1-2%) and black sphalerite (locally 3%) are formed as stringers and in quartz veins. The mineralization is hosted immediately in a chlorite-Ca-carbonate schist with intense zones of silicification and chromium mica alteration. Forming a wider halo, approximately 0.75m from the sulphides is a bleached chlorite-silica-sericite schist. Coarse mafic volcanics host the overall alteration.

The dominant structural feature is an intense crenulation cleavage/foliation (S2) oriented at 060/80NW.

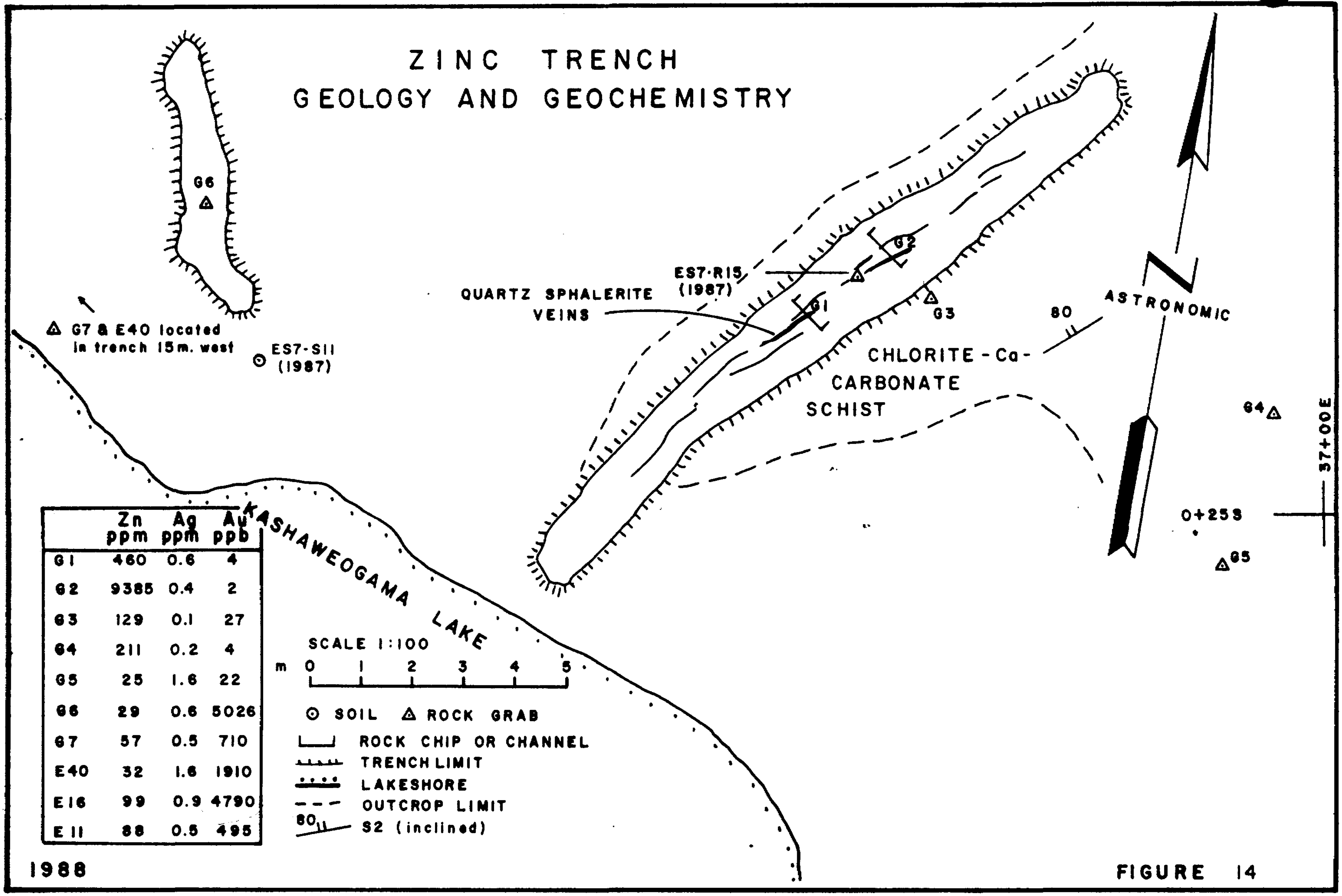
A2.3 32+60 East Trench

Though few anomalous gold values have been returned from this trench at 32+60E, 0+60S (Figure 15), it is of interest because it marks another zone of alteration and quartz veining. In short, there is approximately 1% quartz veining hosted in a chlorite schist which displays variable zones of weak sericitization, silicification, and local pods of intense chromium mica development.

This area hosts the easternmost zones of chromium mica alteration. In total, chromium mica alteration has developed intermittently from here to west of the K.D. Showing, a distance of over two kilometres.

A2.4 FLB Arsenopyrite Zone

A zone of disseminated arsenopyrite occurs within the Fairchild Lake Batholith at its southern contact with the Jutten volcanics at 6+80E, 0+90S. The zone is up to two metres wide and outcrops intermittently over a strike length of 25m with disseminated arsenopyrite ranging in quantity from one to three percent. Though gold values are uniformly low, this mineralization may be genetically related to other gold-bearing arsenopyrite showings in the area such as the Johnson Showing two kilometres east of the property (Leary, 1981 - Showing 'G').

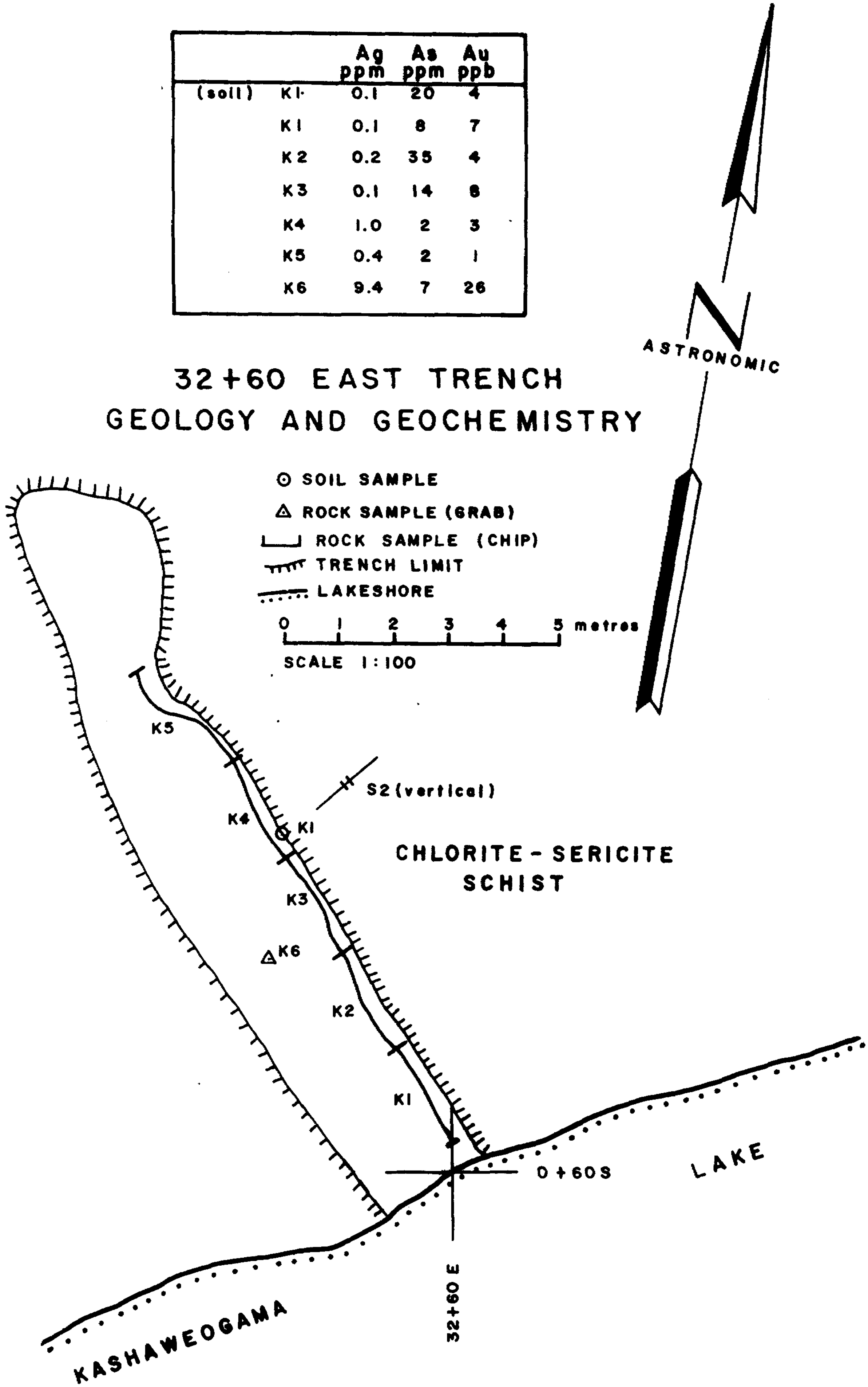


	Zn ppm	Ag ppm	Au ppb
G1	460	0.6	4
G2	9385	0.4	2
G3	129	0.1	27
G4	211	0.2	4
G5	25	1.6	22
G6	29	0.6	5026
G7	57	0.5	710
E40	32	1.6	1910
E16	99	0.9	4790
E11	88	0.5	495

FIGURE 14

		Ag ppm	As ppm	Au ppb
(soil)	K1	0.1	20	4
	K1	0.1	8	7
	K2	0.2	35	4
	K3	0.1	14	8
	K4	1.0	2	3
	K5	0.4	2	1
	K6	9.4	7	26

32+60 EAST TRENCH
GEOLOGY AND GEOCHEMISTRY



1988

FIGURE 15

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APPENDIX 1

Chemical Analyses

SAVANT

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

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 SR 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-P2 ROCK P3 SOIL AU** ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

DATE RECEIVED: JULY 05 1988 DATE REPORT MAILED: July 11/88 ASSAYER. C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPLORATION PROJECT-KASH LAKE File # 88-2471 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
KK8 R1	1	416	612	25	5.5	81	54	183	7.85	26	5	4	2	2	1	3	12	3	.05	.003	3	5	.04	4	.01	3	.07	.01	.03	1	7890
KK8 R2	1	349	63	11	.6	59	31	150	4.44	6	5	ND	1	2	1	2	2	4	.04	.005	2	7	.11	4	.01	2	.15	.01	.03	2	2495
KK8 R3	1	90	13	30	.4	27	13	515	2.58	7	5	ND	6	19	1	2	2	20	1.51	.034	22	2	.51	23	.04	4	.99	.01	.13	2	33
KK8 R4	1	85	21	111	.2	109	39	1154	8.98	8	5	ND	2	6	1	2	2	218	.40	.026	4	149	4.29	28	.12	8	5.27	.01	.03	1	6
KK8 R5	1	42	6	14	.3	35	10	142	1.32	26	5	ND	8	4	1	2	2	14	.15	.030	17	2	.32	40	.04	2	.60	.02	.12	1	260
KK8 R6	1	50	16	28	.2	26	14	633	2.40	28	5	ND	8	4	1	2	2	16	.10	.033	10	2	.42	29	.03	5	.82	.03	.13	2	950
KK8 R7	1	81	16	113	.3	104	40	2610	8.69	17	5	ND	8	10	1	2	2	76	.35	.029	15	204	2.67	69	.07	2	4.04	.01	.24	1	7
KK8 R8	1	83	19	71	.4	48	23	1069	5.15	29	5	ND	8	5	1	2	2	46	.16	.037	10	27	1.22	52	.04	3	2.16	.01	.14	1	183
KK8 R9	1	30	7	9	.2	23	9	143	.78	26	5	ND	9	3	1	2	2	9	.13	.028	17	3	.14	23	.02	9	.42	.03	.14	1	59
KK8 R10	1	472	19	24	.5	31	17	388	2.42	4	5	ND	4	11	1	2	2	9	.65	.025	15	2	.21	19	.03	6	.50	.01	.10	2	425
KK8 R11	1	106	32	119	.3	87	37	1260	8.63	10	5	ND	6	14	1	2	2	115	1.32	.038	29	54	3.44	19	.13	2	4.75	.01	.04	1	100
KK8 R12	1	41	18	71	.2	156	31	807	5.70	7	5	ND	4	5	1	2	2	134	.36	.028	8	436	3.40	17	.10	3	3.53	.01	.05	1	21
KK8 R13	1	166	15	75	.5	50	32	835	5.26	15	5	ND	9	24	1	3	2	39	1.54	.044	29	9	1.13	35	.04	3	2.08	.02	.12	1	74
KK8 R14	1	152	9	47	.4	50	28	605	4.10	22	5	ND	8	11	1	2	2	25	.58	.039	26	6	.57	35	.04	2	1.30	.01	.15	2	395
KK8 R15	1	106	30	84	.3	164	38	969	6.42	11	5	ND	2	4	1	3	2	117	.27	.023	9	612	3.55	12	.06	6	3.61	.01	.02	2	41
KK8 R16	1	227	13597	77	44.1	46	23	659	3.98	19	5	ND	4	37	5	12	37	30	2.86	.029	21	30	1.20	23	.04	5	1.59	.01	.11	10	1950
KK8 R17	1	163	67	70	.7	60	37	752	5.00	18	5	ND	6	37	1	3	2	56	2.72	.038	26	26	1.93	24	.04	2	2.56	.01	.09	3	135
KK8 R18	10	53	31	79	.3	185	39	1326	6.13	12	5	ND	1	28	1	2	2	127	1.90	.016	3	632	3.33	32	.04	2	3.47	.01	.02	1	9
KK8 R19	1	18	72	11	.2	29	10	142	.84	15	5	ND	9	4	1	2	2	16	.15	.038	17	39	.35	27	.02	7	.53	.01	.13	1	31
KK8 R20	1	123	60	31	.2	20	16	292	3.11	30	5	ND	9	8	1	2	2	18	.14	.038	12	7	.40	40	.03	8	.91	.02	.18	3	1390
KK8 R21	1	231	23	84	.5	82	40	1567	6.58	15	5	ND	8	82	1	2	2	46	3.09	.032	30	97	1.74	31	.04	2	2.74	.01	.21	1	450
KK8 R22	1	67	24	67	3.0	79	24	623	4.61	5	5	6	5	23	1	2	2	79	1.53	.033	20	67	2.23	28	.06	10	2.69	.02	.12	2	77
KK8 R23	1	81	16	76	.3	131	25	1481	6.42	144	5	ND	6	46	1	2	2	72	1.88	.026	13	248	2.40	32	.03	8	2.79	.01	.10	2	220
KK8 R24	1	201	16	75	.5	67	30	1487	8.18	32	5	ND	8	36	1	2	2	93	1.65	.037	19	143	1.65	23	.04	3	3.06	.02	.14	2	105
KK8 R25	1	292	35	64	.7	94	30	1501	7.42	26	5	ND	7	24	1	2	2	60	1.15	.027	23	130	1.56	19	.05	8	2.24	.01	.19	1	145
KK8 R26	1	222	319	70	2.5	52	23	975	6.95	256	5	ND	8	13	1	3	3	71	.64	.037	19	138	1.17	27	.04	2	2.12	.01	.16	1	4150
KK8 R27	1	128	136	11	1.1	47	21	606	5.21	13	5	2	1	5	1	3	2	7	.20	.006	4	32	.15	9	.01	5	.19	.01	.03	2	4050
KK8 R28	1	26	20	125	.3	272	40	2225	8.87	308	5	ND	5	6	1	2	2	116	.15	.024	10	437	3.81	62	.05	2	4.67	.01	.22	1	19
KK8 R29	1	51	32	72	.3	106	22	1391	5.84	61	5	ND	9	5	1	3	2	55	.11	.021	11	130	1.92	56	.08	4	2.57	.01	.46	10	76
KK8 R30	1	163	44	44	.6	41	25	671	6.79	26	5	ND	7	5	1	2	2	40	.10	.026	14	81	.89	32	.04	3	1.35	.01	.15	3	1015
KK8 R31	1	126	32	42	.4	42	22	1181	4.43	26	5	ND	5	32	1	2	2	43	1.70	.032	22	73	.85	19	.06	6	1.43	.02	.26	2	157
KK8 R32	1	208	79	52	1.7	57	25	1026	8.04	44	5	2	9	17	1	2	2	68	.72	.035	23	114	1.12	47	.08	2	2.07	.01	.42	2	6670
KK8 R33	1	163	25	21	.3	31	19	949	3.84	15	5	ND	5	15	1	2	2	25	.94	.024	17	56	.53	24	.05	11	.89	.01	.26	1	2495
KK8 R34	1	123	23	32	.4	38	19	933	3.52	13	5	ND	3	21	1	2	2	25	1.37	.020	14	37	.68	19	.05	7	1.00	.01	.24	1	3295
KK8 R35	1	290	127	32	6.0	45	25	892	4.36	29	5	26	5	11	1	2	2	35	.54	.024	14	70	.65	49	.07	3	1.07	.03	.28	1	14650
KK8 R36	1	121	15	51	.4	49	25	1168	5.10	24	5	ND	6	20	1	2	2	54	1.22	.029	22	83	1.03	29	.06	13	1.92	.01	.30	2	89
STD C/AU-R	17	57	39	132	6.6	67	28	1054	4.04	39	18	7	36	48	17	17	19	56	.49	.080	39	55	.92	171	.06	36	1.97	.06	.13	12	525

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
KK8 R37	1	64	18	9	.1	15	7	523	1.76	17	5	ND	1	3	1	2	2	9	.14	.004	2	10	.32	11	.01	6	.36	.01	.06	1	390
KK8 R38	3	257	1455	946	7.8	7	7	584	1.96	8	5	ND	9	34	5	2	18	8	1.83	.033	23	3	.37	48	.09	2	.67	.01	.35	6	4
KK8 R39	65	334	336	119	2.1	6	7	374	2.07	4	5	ND	9	22	1	2	5	7	.70	.032	14	2	.31	58	.10	2	.65	.01	.33	5	5
KK8 R40	1	552	78	32	1.6	105	43	303	9.16	3	5	ND	2	2	1	2	2	14	.08	.008	3	3	.30	19	.01	3	.56	.01	.13	2	1910
KM8 R1	1	44	11	224	.2	51	27	1116	6.19	6	5	ND	4	8	1	2	2	60	.26	.051	11	23	.88	47	.05	17	2.08	.02	.06	1	12
KM8 R2	1	74	6	41	.1	75	17	435	3.88	2	5	ND	1	3	1	2	2	28	.04	.012	2	52	.25	7	.01	6	1.05	.01	.01	1	1
JM8 R1	1	56	38	59	.4	10	22	1042	10.32	18	5	ND	2	2	1	2	2	17	.04	.012	2	9	.27	19	.01	2	.47	.01	.03	1	39
JK8 R1	1	218	15	106	.7	66	25	3593	9.44	108	5	ND	6	196	1	2	2	86	8.50	.034	18	104	3.36	21	.02	2	4.18	.01	.04	1	17
JK8 R2	1	459	15	126	1.2	43	46	1398	8.01	6	7	ND	4	31	1	3	2	99	3.16	.024	7	25	2.34	58	.24	2	3.75	.01	.39	1	4
JK8 R3	4	17	48	14	.2	5	4	135	2.70	8	5	ND	10	7	1	2	2	7	.26	.025	7	3	.28	57	.08	9	.53	.02	.28	2	1
JK8 R4	1	13	12	32	.1	4	3	151	1.29	2	6	ND	9	43	1	2	2	10	.48	.028	11	3	.40	72	.12	5	.88	.03	.39	2	1
JK8 R4A	5	185	17	89	.3	88	22	914	10.82	2	6	ND	4	12	1	2	2	102	.29	.012	2	889	1.51	534	.25	5	3.03	.01	1.09	1	2
JK8 R5	1	463	8	101	.3	240	54	1133	8.51	3	5	ND	3	17	1	2	4	74	.53	.017	3	943	1.28	87	.20	5	2.43	.03	.27	1	5
JK8 R6	1	70	3	16	.2	357	27	402	1.18	3	5	ND	1	28	1	2	2	21	2.36	.013	2	202	.34	35	.15	10	.51	.01	.03	2	1
JK8 R7	1	41	8	86	.1	177	26	1291	6.29	6	5	ND	2	3	1	2	2	63	.53	.010	2	812	1.02	65	.19	2	2.19	.01	.12	1	13
JK8 R8	1	93	9	93	.3	221	31	1260	6.61	6	5	ND	2	5	1	2	2	75	.35	.013	2	813	1.21	116	.14	4	2.41	.01	.17	1	25
JK8 R9	1	192	13	113	.2	40	28	1007	8.52	2	5	ND	8	3	1	2	2	45	.09	.041	16	12	1.22	25	.05	4	2.71	.01	.16	1	470
JK8 R10	3	182	20	91	.3	55	18	1263	11.53	2	5	2	5	10	1	2	2	74	.45	.024	7	533	.96	288	.23	7	2.19	.02	.87	2	1305
JK8 R11	10	213	31	139	.1	39	15	1748	12.70	2	5	ND	7	10	1	2	2	92	.22	.023	7	344	1.40	395	.26	2	3.51	.01	1.27	1	49
JK8 R12	1	103	13	125	.1	222	29	1500	10.10	6	5	ND	2	6	1	2	2	129	.23	.020	2	1540	2.31	240	.28	2	3.98	.01	.61	1	3
JK8 R13	1	29	7	36	.3	40	12	419	2.37	14	5	ND	12	16	1	2	2	59	.90	.072	19	10	.90	34	.29	5	1.43	.03	.07	2	1
JK8 R14	1	110	4	15	.1	158	9	110	2.20	89	5	ND	1	1	1	3	2	35	.11	.008	2	942	1.93	18	.02	3	.94	.01	.02	1	4
JK8 R15	1	97	10	24	.2	35	13	259	1.73	62	5	ND	9	12	1	2	2	14	.52	.035	20	5	.36	49	.01	4	.63	.02	.15	1	78
JK8 R16	1	18	25	29	.1	7	4	198	1.44	2	5	ND	10	29	1	2	2	10	.53	.030	22	9	.36	47	.11	10	.68	.03	.27	1	1
JK8 R17	1	22	20	26	.1	6	4	178	1.54	3	5	ND	10	26	1	2	2	10	.42	.028	19	4	.35	46	.11	27	.67	.04	.20	1	1
JK8 R18	2	21	55	28	2.0	5	5	161	1.41	4	5	ND	10	43	1	2	6	9	.63	.033	21	5	.36	59	.11	8	.75	.04	.28	8	76
JK8 R19	1	103	19	69	.6	60	34	781	6.66	21	5	ND	10	10	1	2	2	96	.53	.050	23	7	2.00	133	.12	3	2.88	.02	.08	6	710
JK8 R20	1	71	14	87	.3	86	49	745	8.51	15	5	ND	9	4	1	2	2	134	.24	.042	9	8	3.92	40	.04	2	4.58	.02	.04	1	49
JK8 R21	1	196	13	67	.3	52	52	531	7.05	44	5	ND	11	5	1	2	2	43	.18	.044	12	3	1.62	71	.03	3	2.44	.01	.19	1	61
JK8 R22	1	64	17	102	.3	62	23	942	7.63	14	5	2	10	5	1	2	2	52	.12	.027	5	94	2.28	57	.04	10	3.22	.03	.17	1	3170
JK8 R22A	1	316	1007	39	12.5	23	11	721	13.08	84	5	27	7	7	1	2	23	91	.02	.033	18	115	.54	68	.11	3	1.22	.02	.52	3	20650
JK8 R23	1	158	22	44	.1	31	17	890	5.41	7	5	ND	8	4	1	2	2	49	.11	.019	10	82	.93	48	.09	7	1.52	.01	.37	1	82
JK8 R24	1	251	39	45	.6	50	23	686	5.97	2	5	ND	11	48	1	2	2	62	1.23	.018	14	85	1.88	61	.03	3	2.02	.02	.24	5	50
JK8 R25	9	152	159	28	2.9	5	3	181	1.87	3	5	ND	8	14	1	2	9	5	.41	.031	12	3	.21	47	.06	9	.54	.02	.29	53	6
JK8 R26	314	59	125	23	3.2	1	2	58	3.53	4	5	ND	1	3	1	2	20	5	.03	.010	2	2	.03	36	.01	9	.16	.02	.13	44	13
STD C/AU-R	17	58	37	132	6.8	67	28	1055	4.07	42	16	7	38	49	17	17	18	57	.49	.082	40	56	.92	173	.07	33	2.00	.06	.13	14	515

NORTHERN DYNASTY EXPLORATION PROJECT-KASH LAKE FILE # 88-2471

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
EK8 S1	16	20	37	44	.3	5	3	164	1.94	5	5	ND	6	21	1	2	2	26	.23	.015	7	5	.32	10	.16	2	.98	.02	.07	3	1
EK8 S2	12	9	18	33	.1	4	3	176	.87	2	5	ND	3	34	1	2	2	12	.33	.008	16	2	.25	29	.11	4	.77	.04	.08	2	1
EK8 S3	25	28	170	42	4.0	4	4	99	1.82	8	5	ND	6	14	1	2	3	18	.21	.019	6	3	.15	38	.08	3	.63	.02	.07	5	1
EK8 S4	41	170	115	74	.8	5	3	331	4.30	7	5	ND	4	16	1	2	2	57	.13	.030	8	6	.39	80	.17	3	1.28	.01	.38	9	1
EK8 S5	41	35	61	36	1.0	5	4	62	1.41	5	5	ND	9	6	1	2	3	25	.07	.011	6	13	.10	63	.09	2	.70	.01	.06	4	1
JK8 S1	1	60	15	69	.1	56	16	647	6.17	19	5	ND	4	19	1	2	2	86	.41	.021	5	95	1.32	49	.24	13	2.88	.02	.09	1	2
JK8 S2	3	16	9	44	.3	23	8	164	2.58	2	5	ND	5	10	1	2	2	42	.20	.024	11	53	.56	32	.13	6	1.25	.04	.07	1	2
JK8 S3	4	33	8	36	.1	22	7	157	2.18	5	5	ND	4	11	1	2	3	39	.21	.016	8	42	.51	31	.12	6	1.24	.01	.06	1	1
JK8 S4	2	19	5	34	.2	25	8	180	2.14	7	5	ND	4	10	1	2	2	36	.22	.011	9	53	.67	29	.11	21	1.44	.02	.06	1	1
JK8 S5	1	9	12	36	.1	19	7	168	2.51	2	5	ND	6	12	1	2	3	40	.22	.079	11	35	.29	33	.08	4	1.96	.01	.05	1	1
JK8 S6	1	8	14	37	.3	19	7	128	2.68	5	5	ND	4	12	1	2	2	43	.20	.046	10	31	.27	43	.09	5	1.50	.01	.06	1	1
JK8 S7	1	9	14	13	.1	7	3	79	1.76	4	5	ND	4	6	1	2	2	26	.11	.015	8	15	.14	18	.09	3	.47	.02	.04	2	1
JK8 S8	1	14	11	25	.1	11	3	99	1.68	4	5	ND	3	6	1	2	2	41	.12	.018	8	42	.20	24	.10	4	.80	.01	.04	1	1
JK8 S9	1	18	8	38	.1	28	8	160	2.61	4	5	ND	4	8	1	2	2	38	.20	.067	9	49	.42	34	.09	6	2.16	.01	.04	1	1
JK8 S10	1	29	9	32	.1	26	7	138	2.22	3	5	ND	6	8	1	2	2	35	.16	.034	12	39	.41	33	.10	2	1.69	.02	.05	1	1
JK8 S11	1	13	11	35	.1	15	5	113	1.59	4	5	ND	3	10	1	2	2	33	.16	.016	11	29	.35	42	.11	12	1.32	.01	.05	1	1
JK8 S12	1	108	7	30	.1	53	15	274	2.14	3	5	ND	2	9	1	2	2	30	.18	.033	14	44	.40	21	.08	4	1.31	.01	.06	1	6
JK8 S13	1	18	8	22	.1	19	5	95	2.42	7	5	ND	3	7	1	2	2	44	.14	.020	8	40	.28	21	.08	2	1.51	.03	.03	1	1
JK8 S14	2	18	13	33	.1	20	6	110	1.89	10	5	ND	3	9	1	2	2	39	.17	.022	8	35	.32	34	.11	3	1.32	.01	.05	1	2
JM8 S1	2	105	25	44	.1	4	4	209	25.41	34	5	ND	4	2	1	2	2	34	.01	.109	2	10	.06	17	.01	3	.25	.03	.04	1	19
STD C/AU-S	17	57	38	131	6.6	68	28	1045	4.02	41	19	6	36	48	17	17	19	56	.49	.087	38	55	.91	175	.06	31	1.96	.06	.13	13	51

SAVANT.

ACME ANALYTICAL LABORATORIES LTD.   852 E. HASTINGS ST. VANCOUVER B.C.   V6A 1R6   PHONE(604)253-3158   FAX(604)253-1716

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 SR 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-P2 ROCK P3 SOIL   AU** ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

DATE RECEIVED: JULY 11 1988   DATE REPORT MAILED: July 15/88   ASSAYER. C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPLORATION PROJECT-KASN LAKE   File # 88-2607   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
EK8-R41	3	14	21	11	.2	5	3	166	1.51	3269	13	ND	39	4	1	2	2	1	.06	.012	46	6	.08	30	.01	16	.39	.05	.19	1	24
EK8-R42	3	11	88	7	.5	4	5	145	1.97	10912	5	ND	33	9	1	2	2	1	.05	.006	31	3	.05	20	.01	8	.25	.05	.09	1	138
EK8-R43	46	264	7	29	.2	14381	687	501	5.02	50	5	ND	1	7	1	2	19	4	2.33	.006	2	78	.52	59	.01	10	.15	.01	.01	10	102
EK8-R44	16	195	5	34	.2	7694	320	484	2.49	31	5	ND	1	10	1	2	8	7	2.64	.007	2	138	.75	101	.03	5	.22	.02	.02	15	47
EK8-R45	8	331	4	45	.2	16335	640	245	2.60	40	5	ND	1	7	1	3	5	5	1.70	.003	2	124	.59	13	.02	7	.15	.02	.02	2	49
EK8-R46	1	269	2	8	.1	257	37	151	2.02	7	5	ND	1	10	1	2	8	18	.30	.009	2	344	.34	318	.09	3	.38	.04	.15	1	12
EK8-R47	1	36	2	3	.3	361	39	70	1.37	14	5	ND	1	2	1	2	2	15	.05	.001	2	364	.17	334	.04	8	.33	.02	.15	1	5
EK8-R48	1	9	132	22	1.8	16	3	133	1.31	2	5	ND	2	59	1	2	2	10	.18	.024	9	13	.15	425	.01	24	.23	.05	.10	1	3
EK8-R49	1	82	56	14	.5	23	7	1675	1.60	3	5	ND	3	95	1	2	2	8	.28	.023	11	17	.15	88	.01	9	.17	.06	.06	1	10
EK8-R50	122	206	4	6	.2	102	19	150	1.48	13	8	ND	21	26	1	2	2	21	1.57	.208	142	106	.24	25	.08	12	.50	.02	.05	3002	3
EK8-R51	1	92	2	7	.3	55	6	139	1.42	39	5	ND	1	3	1	2	2	6	.21	.007	2	49	.12	151	.02	6	.20	.01	.07	13	1
EK8-R52	3	105	3	1681	.2	560	46	327	2.61	4	5	ND	1	6	6	2	2	17	.62	.006	2	404	1.18	103	.04	7	.72	.02	.04	15	2
EK8-R53	1	995	18	29	4.9	176	255	998	17.84	222	5	34	1	28	1	3	2	23	3.53	.005	2	42	1.98	19	.01	7	.78	.05	.08	3	37905
EK8-R54	1	61	43	56	.3	73	27	1296	3.91	331	5	ND	1	28	1	2	2	34	5.84	.014	2	91	1.54	25	.01	2	.70	.05	.04	4	710
EK8-R55	1	13	7	32	.2	208	17	1799	3.98	133	5	ND	1	42	1	2	2	38	9.06	.006	2	771	6.15	5	.01	2	1.18	.02	.01	1	48
EK8-R56	1	40	5	124	.2	99	23	173	.85	17	5	ND	1	16	1	2	2	31	1.22	.012	3	121	.57	15	.06	2	1.75	.11	.07	1	6
EK8-R57	1	219	21	123	.3	15	5	127	.81	2	5	ND	1	6	1	2	2	13	.77	.003	2	14	.11	23	.07	2	.29	.02	.01	1	17
EK8-R58	1	5	193	20	.7	4	1	37	.29	6	5	ND	8	2	1	2	2	2	.08	.002	9	5	.03	42	.01	17	.15	.02	.09	3	1
EK8-R59	43	593	16	50	2.6	29	22	736	7.55	8	5	ND	8	13	1	2	4	63	.39	.055	12	3	.97	43	.23	3	1.84	.04	.87	170	1
EK8-R60	31	69	13	19	2.8	12	1	364	6.33	9	5	ND	7	17	1	2	7	68	.15	.039	12	4	.61	85	.34	14	1.09	.03	.74	68	4
EK8-R61	61	322	2125	910	7.1	8	8	449	2.93	7	5	ND	7	32	5	2	16	7	1.81	.033	13	6	.28	50	.08	14	.61	.03	.29	8	1
EK8-R62	5186	7194	396	481	14.6	24	22	766	3.98	2	8	ND	10	6	5	2	16	35	.25	.011	37	4	.72	30	.20	2	.95	.01	.64	1	205
EK8-R63	537	82	65	34	2.4	4	2	100	2.07	3	5	ND	4	10	1	2	5	4	.12	.022	5	4	.13	38	.03	5	.36	.04	.21	3	11
EK8-R64	1794	2207	218	324	5.9	20	14	462	4.58	2	5	ND	8	8	2	2	8	37	.23	.019	18	4	.60	30	.19	12	.88	.03	.67	8	107
EK8-R65	2502	420	32	57	1.8	26	26	322	6.36	2	5	ND	6	7	1	2	3	35	.34	.035	8	3	.44	32	.22	2	.73	.03	.59	9	1
EK8-R66	995	351	21	57	.7	27	18	650	4.44	2	5	ND	6	7	1	2	2	45	.45	.032	15	3	.65	34	.21	3	.96	.03	.64	1	3
EK8-R67	1122	351	32	28	7.9	12	7	508	4.49	2	5	ND	6	9	1	2	2	38	.07	.021	7	3	.46	31	.16	9	1.20	.03	.57	1	22
JK8-R27	5	39	54	19	.6	213	24	1232	4.07	102	5	ND	1	124	1	2	2	18	8.43	.008	2	237	9.26	7	.01	2	.34	.01	.01	2	36
JK8-R28	6	37	11	20	.3	638	28	2065	4.06	95	5	ND	1	57	1	2	2	23	12.35	.009	2	597	7.38	2	.01	2	.99	.02	.01	2	6
JK8-R29	7	41	30	9	.1	9	4	193	1.61	1151	5	ND	41	5	1	2	2	1	.22	.017	64	8	.12	40	.01	5	.30	.03	.15	1	9
JK8-R30	4	13	46	8	.4	10	4	230	2.04	9566	5	ND	38	7	1	2	2	1	.21	.010	36	8	.11	38	.01	2	.29	.04	.13	1	215
JK8-R31	3	254	3	11	.1	14200	553	486	2.09	32	5	ND	1	12	1	2	11	4	4.10	.003	2	91	.74	13	.01	5	.16	.01	.01	56	38
JK8-R32	4	222	4	16	.1	11301	477	612	2.31	36	5	ND	1	10	1	2	14	4	3.23	.006	2	86	.62	14	.01	5	.14	.01	.01	52	73
JK8-R33	1	133	3	10	.1	943	72	362	3.59	2	5	ND	1	4	1	2	2	18	.55	.008	2	396	.49	128	.07	6	.40	.01	.09	1	1
JK8-R34	1	47	8	56	.1	105	16	599	3.07	5	5	ND	6	162	1	2	2	14	3.13	.059	37	29	1.65	45	.01	7	1.01	.05	.09	1	1
JK8-R35	6	58	22	5	.3	23	3	130	.98	1055	5	ND	29	14	1	2	2	1	.06	.006	47	5	.02	18	.01	2	.14	.04	.34	1	19
STD C/AU-R	17	58	41	133	6.6	66	28	1056	4.16	38	20	6	37	47	17	16	19	56	.51	.089	38	56	.94	176	.06	32	1.99	.06	.13	13	525

NORTHERN DYNASTY EXPLORATION PROJECT-KASN LAKE FILE # 88-2607

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
JK8-R36	1	79	15	84	.1	116	34	1030	7.89	23	5	ND	1	22	1	2	2	235	1.22	.032	3	232	5.22	61	.06	4	4.97	.01	.17	2	1
JK8-R37	1	76	18	100	.1	8	21	299	5.97	18	5	ND	7	11	1	2	2	138	.64	.173	34	4	4.44	158	.12	10	3.85	.01	.74	1	3
JK8-R38	1	83	11	81	.1	58	33	1023	7.70	26	5	ND	1	69	1	2	2	185	5.00	.023	3	101	3.22	30	.04	2	4.16	.01	.12	2	1
JK8-R39	1	50	7	69	.1	172	32	1210	5.80	191	5	ND	1	35	1	2	2	64	5.49	.012	2	473	4.07	24	.01	4	2.40	.01	.04	1	1
JK8-R40	1	126	8	80	.1	43	20	1244	4.93	35	5	ND	1	21	1	2	2	112	4.62	.023	3	142	2.04	17	.01	4	2.85	.02	.05	1	5
JK8-R41	1	135	8	108	.2	95	30	1521	6.16	79	5	ND	1	28	1	9	2	109	6.44	.019	3	223	3.07	8	.01	3	2.05	.01	.02	1	1
JK8-R42	1	173	9	67	.3	95	32	1248	7.22	24	5	ND	1	21	1	2	2	166	3.46	.029	2	139	3.52	34	.02	2	3.10	.02	.03	1	13
JK8-R43	1	679	13	73	.8	114	69	886	3.73	9	5	ND	1	7	1	2	2	28	2.91	.007	2	59	.76	56	.06	5	.88	.01	.26	1	445
JK8-R44	1	6	2	4	.1	4	2	173	2.85	25	5	ND	1	1	1	2	2	2	.04	.030	3	3	.10	49	.01	15	.04	.01	.03	1	1
JK8-R45	1	24	2	4	.1	34	4	295	1.96	9	5	ND	1	1	1	3	2	1	.26	.005	2	3	.09	16	.01	5	.01	.01	.01	1	9
JK8-R46	1	67	2	4	.1	55	7	126	2.50	5	5	ND	1	1	1	2	2	1	.11	.009	2	2	.08	2	.01	2	.01	.02	.01	1	1
STD C/AU-R	17	57	38	132	7.2	68	27	1048	4.01	41	17	6	36	47	17	16	19	55	.49	.086	37	55	.90	175	.06	34	1.94	.06	.14	10	510

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
EK8-S6	1	295	13	31	.2	1943	146	1845	3.49	8	5	ND	1	8	1	2	2	43	.43	.033	3	1197	1.58	134	.08	2	3.12	.01	.18	10	1
EK8-S7	1	8	5	19	.1	27	5	88	1.89	2	5	ND	3	4	1	2	2	28	.08	.018	7	52	.36	18	.07	2	.91	.01	.04	1	1
EK8-S8	1	115	12	48	.1	25	10	256	3.65	2	5	ND	1	4	1	2	2	74	.12	.035	2	275	1.93	63	.12	5	2.27	.02	.15	1	1
EK8-S9	1	127	12	31	.1	15	4	105	4.19	2	5	ND	1	4	1	2	2	60	.10	.031	4	124	.68	40	.08	2	1.26	.01	.05	3	1
EK8-S10	7	38	8	17	.1	12	2	47	2.49	27	5	ND	1	1	1	2	2	26	.03	.026	2	34	.06	15	.03	7	.27	.02	.02	3	1
EK8-S11	1	18	7	37	.1	77	15	340	2.24	2	5	ND	1	4	1	2	2	104	.18	.015	2	243	.87	32	.15	3	2.01	.03	.09	2	5
EK8-S12	24	151	26	30	5.2	16	1	433	11.41	21	5	ND	10	20	1	2	14	90	.06	.047	22	4	.91	127	.34	5	1.67	.02	1.32	142	90
EK8-S13	52	585	20	61	.4	28	7	191	5.04	2	5	ND	10	4	1	2	2	40	.09	.069	35	33	.36	17	.06	6	3.44	.02	.08	3	1
EK8-S14	6	137	14	100	.1	50	15	425	5.16	7	5	ND	4	12	1	2	2	65	.34	.024	15	59	1.07	39	.17	10	2.78	.01	.08	1	1
JK8-S15	1	8	4	25	.1	21	5	147	1.26	7	5	ND	2	9	1	2	2	18	.38	.045	12	29	.37	21	.06	4	.64	.01	.05	1	66
JK8-S16	2	57	30	238	.3	284	43	426	5.70	158	5	ND	4	3	1	2	2	55	.07	.038	7	226	.71	34	.09	7	2.76	.01	.05	1	3
JK8-S17	2	38	23	42	.2	15	5	81	7.16	105	5	ND	4	4	1	2	2	64	.05	.039	9	37	.29	30	.07	2	2.76	.01	.06	1	32
STD C/AU-S	17	58	40	132	6.8	67	28	1069	4.06	42	21	7	36	48	17	17	19	56	.49	.082	39	55	.92	172	.06	34	2.00	.06	.13	12	51

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

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 SR 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-P2 SOIL P3-P6 ROCK AU** ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 23 1988 DATE REPORT MAILED: Sept 2/88 ASSAYER. C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPL. PROJECT KASH LAKE File # 88-3840 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
GK8-S1	1	54	23	123	.1	136	33	895	7.08	20	5	ND	4	21	1	2	3	136	.38	.085	19	461	3.32	33	.34	7	4.08	.01	.22	1	4
GK8-S2	46	193	59	54	.6	14	5	299	2.23	6	5	ND	1	10	1	2	2	62	.15	.030	7	8	.60	45	.15	4	1.23	.01	.29	14	1
GK8-S3	11	135	21	137	.1	66	13	263	3.48	8	5	ND	6	6	1	2	2	60	.14	.040	18	174	.99	58	.14	4	3.45	.01	.08	1	1
GK8-S4	1	41	14	68	.1	54	16	533	3.82	25	5	ND	1	4	1	2	2	53	.08	.035	22	104	.39	55	.02	3	1.83	.01	.05	1	12
GK8-S5	2	33	18	101	.1	52	17	365	3.64	10	5	ND	2	7	1	2	2	72	.10	.031	13	130	.99	65	.13	4	2.49	.01	.04	1	9
GK8-S6	1	55	14	38	.1	41	12	254	2.32	8	5	ND	3	9	1	2	5	35	.19	.031	15	50	.57	47	.08	5	2.02	.01	.06	2	13
GK8-S7	10	58	17	31	.1	36	5	102	1.99	6	5	ND	3	6	1	3	2	27	.19	.046	14	64	.37	19	.05	5	1.76	.01	.04	1	11
GK8-S8	3	153	9	143	.5	102	24	244	9.15	123	5	ND	1	3	1	2	5	104	.11	.021	3	791	2.34	28	.01	4	3.31	.01	.03	1	1
GK8-S9	1	66	16	50	.3	44	10	299	4.34	9	5	ND	2	5	1	2	5	84	.14	.015	6	114	1.29	26	.12	4	2.71	.01	.03	1	1
KK8-S1	1	37	29	127	.1	70	31	979	7.54	2	5	ND	1	6	1	2	2	135	.37	.011	4	98	2.39	129	.42	6	4.50	.01	.46	1	1
KK8-S2	1	127	17	192	.7	34	32	774	9.98	2	5	ND	2	2	1	2	5	221	.07	.020	7	37	2.94	47	.07	4	5.22	.01	.05	1	1
KK8-S3	1	18	41	92	.1	29	11	425	3.64	2	5	ND	1	4	1	2	2	185	.28	.014	3	19	1.56	37	.42	4	2.34	.01	.03	1	1
KK8-S4	1	14	19	63	.1	22	9	201	3.48	2	5	ND	2	5	1	2	2	145	.15	.029	7	46	.91	43	.24	3	2.32	.01	.04	1	1
KK8-S5	1	26	22	34	.2	36	9	312	5.14	4	5	ND	3	5	1	2	6	123	.13	.015	6	105	.98	41	.24	3	2.09	.01	.04	1	1
KK8-S6	3	234	23	225	.1	137	48	618	7.99	22	5	ND	4	7	1	2	2	103	.29	.028	11	233	1.76	68	.30	4	3.79	.01	.15	2	1
KK8-S7	1	37	18	123	.1	64	32	826	6.13	7	5	ND	1	5	1	2	5	290	.34	.013	3	28	3.68	91	.55	4	4.39	.01	.08	1	1
KK8-S50	1	70	18	32	.1	30	12	153	2.36	7	5	ND	2	8	1	2	2	35	.24	.057	11	38	.46	20	.06	4	1.71	.01	.04	1	157
KK8-S51	1	61	17	76	.1	26	10	399	4.52	6	5	ND	1	5	1	3	7	95	.16	.034	4	57	.83	34	.18	2	1.88	.01	.05	1	48
KK8-S52	4	239	73	1009	.4	162	47	849	9.40	7	5	ND	4	17	1	2	2	84	.35	.023	11	256	1.55	233	.25	5	3.41	.01	.63	1	4
KK8-S53	1	110	8	123	.3	85	30	158	2.09	29	5	ND	1	5	1	2	2	42	.14	.041	7	55	.63	22	.06	4	2.46	.01	.06	1	1
KK8-S54	1	38	8	184	.1	53	26	522	1.46	12	5	ND	1	9	1	2	2	34	.19	.017	7	32	.38	46	.06	4	1.30	.01	.06	1	1
KK8-S55	1	34	8	187	.1	52	13	318	2.88	21	5	ND	2	8	1	2	4	67	.18	.017	6	106	.68	101	.13	5	1.65	.01	.06	1	16
KK8-S56	1	65	9	174	.1	426	38	380	3.65	205	5	ND	2	9	1	2	4	59	.18	.027	16	371	1.55	32	.09	6	2.14	.01	.08	1	24
KK8-S57	1	36	13	94	.3	243	26	268	2.79	84	5	ND	2	12	1	2	4	58	.17	.008	7	306	1.14	25	.10	5	1.76	.01	.03	1	7
KK8-S58	1	28	8	47	.1	44	12	173	2.94	14	5	ND	2	6	1	2	5	75	.14	.015	5	87	.70	12	.14	5	1.46	.01	.03	2	8
KK8-S59	1	13	7	24	.1	7	4	42	.77	4	5	ND	1	4	1	2	2	33	.08	.015	6	26	.11	26	.07	3	.63	.01	.04	1	1
KK8-S60	1	40	11	58	.1	62	17	208	2.80	12	5	ND	3	6	1	2	2	56	.15	.014	6	99	.72	20	.11	5	2.31	.01	.04	1	5
KK8-S61	1	37	7	54	.1	61	17	236	2.73	15	5	ND	2	4	1	2	2	64	.12	.019	5	91	.59	18	.10	4	2.05	.01	.04	1	1
KK8-S62	1	25	11	46	.1	45	13	166	2.27	6	5	ND	4	6	1	2	2	70	.12	.011	6	86	.57	25	.14	4	2.09	.01	.03	1	1
KK8-S64	1	4	8	19	.1	12	5	43	.76	6	5	ND	1	4	1	3	2	39	.09	.010	6	22	.13	10	.10	3	.44	.01	.02	1	2
KK8-S65	1	19	17	49	.1	23	5	301	.65	4	5	ND	1	5	1	2	2	22	.08	.033	6	51	.16	46	.02	3	.89	.01	.03	2	1
KK8-S66	1	52	9	44	.1	67	20	210	2.77	9	5	ND	4	5	1	2	2	67	.15	.015	7	96	.70	26	.11	4	2.52	.01	.02	1	270
KK8-S67	1	30	13	37	.1	21	7	103	2.47	2	5	ND	1	6	1	2	2	51	.11	.020	4	78	.56	65	.05	4	.88	.01	.04	2	3
KK8-S68	1	23	11	41	.1	30	7	129	2.38	2	5	ND	1	5	1	5	2	23	.09	.027	5	66	.52	73	.03	4	.86	.01	.04	2	13
KK8-S69	1	5	10	33	.1	21	6	113	2.30	3	5	ND	1	11	1	2	2	43	.15	.024	13	179	.67	37	.09	6	1.43	.01	.09	1	1
KK8-S70	1	5	8	34	.1	23	5	135	2.40	2	5	ND	4	3	1	2	2	36	.12	.019	12	117	.43	31	.08	5	1.52	.01	.37	1	1
STD C/AU-S	18	60	35	132	6.7	56	27	1033	4.06	43	17	8	36	50	13	15	18	50	.46	.087	41	59	.92	179	.07	37	2.00	.06	.13	13	46

NORTHERN DYNASTY EXPL. PROJECT KASH LAKE FILE # 88-3840

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
EK8-S71	1	13	2	21	.2	139	11	342	1.44	2	5	ND	1	13	1	2	2	21	.46	.012	7	406	.58	51	.03	11	.92	.01	.04	1	5
EK8-S72	26	737	23	313	.2	53709	2607	2253	11.62	92	5	ND	2	3	1	2	61	17	.37	.074	5	93	.17	47	.03	16	1.42	.01	.02	12	293
EK8-S73	3	278	9	56	.1	3640	164	989	6.07	9	5	ND	1	6	1	2	5	99	.10	.035	5	1369	1.13	406	.15	14	2.47	.01	.40	1	262
EK8-S74	351	825	26	129	.5	20709	1420	1047	17.22	405	5	ND	1	3	1	2	322	6	.25	.035	2	114	.13	46	.02	14	.33	.01	.05	57	674
EK8-S75	20	613	15	194	.1	33758	2052	3860	4.37	53	5	ND	1	6	1	2	19	16	.92	.055	4	935	1.28	54	.03	3	1.36	.01	.04	3	482
EK8-S76	2	22	4	25	.1	584	30	178	2.50	4	5	ND	3	6	1	2	2	39	.11	.013	8	57	.30	21	.11	17	1.34	.01	.04	3	1
EK8-S77	1	22	10	41	.1	34	8	174	6.08	7	5	ND	2	3	1	2	3	36	.02	.022	24	21	.45	35	.01	3	2.01	.01	.04	1	2
JK8-S100	1	36	23	80	.6	45	13	3547	7.70	155	5	ND	3	14	1	4	2	29	.28	.042	29	32	.21	59	.05	10	1.68	.01	.04	1	24
JK8-S101	2	104	8	44	.1	79	19	496	5.68	57	5	ND	1	5	1	2	3	91	.18	.013	4	111	1.24	39	.21	12	2.43	.01	.15	3	1
JK8-S102	4	69	12	42	.4	36	12	273	3.59	6	5	ND	4	8	1	4	2	46	.17	.017	3	43	.72	33	.14	20	1.95	.01	.13	2	2
JK8-S103	3	11	3	37	.1	23	12	2624	2.27	5	5	ND	3	17	1	2	2	25	.37	.024	12	33	.50	95	.06	21	.86	.02	.07	1	2
JK8-S104	2	913	35	216	.4	131	57	1143	7.16	31	5	ND	2	10	1	2	3	104	.41	.038	6	105	1.64	309	.23	2	3.49	.01	.82	1	1
JK8-S105	21	217	17	47	.2	12	8	191	9.59	8	5	ND	1	6	1	2	2	72	.06	.161	22	7	.19	62	.04	2	1.33	.01	.15	2	4
JK8-S106	1	27	11	54	.1	52	20	130	4.96	8	5	ND	4	15	1	2	2	64	.10	.016	65	95	1.39	97	.01	4	2.70	.01	.05	1	2
STD C/AU-S	18	59	39	129	6.7	71	27	1137	4.02	40	16	6	36	48	17	17	17	57	.46	.084	40	57	.90	175	.06	35	1.95	.06	.14	12	53

NORTHERN DYNASTY EXPL. PROJECT KASH LAKE FILE # 88-3840

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
GK8-R1	1	84	14	460	.6	141	57	539	2.56	353	5	ND	1	6	2	3	2	18	.99	.013	6	156	.58	30	.01	2	1.16	.01	.08	1	4
GK8-R2	1	188	9	9385	.4	93	38	1142	5.59	49	5	ND	1	14	18	2	2	93	2.23	.020	8	125	1.94	16	.01	2	3.06	.01	.04	2	2
GK8-R3	1	45	5	129	.1	26	8	484	4.64	75	5	ND	3	4	1	3	2	27	.03	.016	7	47	.78	35	.01	7	1.85	.01	.08	1	37
GK8-R4	1	78	5	211	.2	28	8	300	3.76	59	5	ND	4	3	1	3	3	20	.06	.015	6	73	.74	22	.01	4	1.55	.01	.10	1	4
GK8-R5	1	41	11	29	1.6	44	21	855	1.74	18	5	ND	2	24	1	2	23	29	6.66	.013	8	75	.80	10	.01	5	1.14	.01	.04	2	22
GK8-R6	1	425	15	29	.6	39	16	282	4.74	3	5	2	1	3	1	2	2	10	.14	.014	2	3	.25	17	.01	13	.46	.01	.07	1	5026
GK8-R7	1	661	12	57	.5	148	122	380	10.18	3	5	ND	1	3	1	2	2	35	.09	.019	4	10	.82	24	.01	10	1.55	.01	.10	1	710
GK8-R8	1	95	27	76	.1	125	35	1062	5.21	34	5	ND	6	109	1	2	2	88	4.74	.028	22	331	2.39	180	.09	5	1.94	.01	.55	1	416
GK8-R9	1	797	7	87	1.5	87	36	937	5.64	9	5	ND	1	10	1	2	2	77	1.72	.017	2	72	2.12	31	.12	2	2.83	.01	.12	1	26
GK8-R10	1	43	6	41	.1	38	14	953	4.14	2	5	ND	5	12	1	2	5	54	.59	.018	12	100	1.15	138	.15	3	1.95	.01	.59	2	1
GK8-R11	50	115	96	70	1.5	21	7	673	5.65	3	5	ND	7	22	1	2	2	84	.22	.051	13	6	.95	117	.30	2	1.76	.01	.94	4	1
GK8-R12	105	337	67	68	1.2	16	8	380	3.80	8	5	ND	5	9	1	2	2	73	.19	.045	9	5	.57	75	.26	7	.91	.02	.48	1	2
GK8-R13	29	563	38	48	.3	15	6	199	1.25	2	5	ND	9	11	1	2	2	10	.21	.026	27	3	.20	75	.05	4	.52	.01	.24	10	1
GK8-R14	3	68	6	54	.1	69	24	855	4.31	19	5	ND	8	12	1	2	2	35	.63	.020	38	119	.93	32	.03	3	1.67	.01	.13	1	43
GK8-R15	1	55	28	71	.1	110	34	1144	4.72	26	5	ND	4	73	1	2	2	93	3.99	.027	16	317	2.33	86	.04	5	1.52	.01	.17	1	3350
GK8-R16	1	38	11	10	.2	18	5	460	1.06	4	5	ND	1	45	1	3	3	11	2.03	.006	4	22	.32	38	.01	3	.31	.01	.09	1	23
GK8-R17	1	1444	243	102	17.8	119	259	474	22.41	207	5	6	4	21	1	2	8	50	1.05	.055	4	103	1.73	8	.01	2	2.54	.01	.03	6	8396
GK8-R18	1	92	10	81	.1	74	35	1135	7.76	2	5	ND	1	6	1	2	2	149	.40	.020	8	94	3.23	50	.03	3	4.28	.01	.13	1	62
GK8-R19	14	231	23	51	.7	35	21	598	3.69	7	5	ND	6	17	1	2	2	45	.25	.036	11	7	.73	34	.21	4	1.45	.01	.74	2	360
GK8-R20	1	59	6	55	.1	198	37	1138	5.13	152	5	ND	1	44	1	2	2	114	6.07	.007	2	1726	5.48	28	.01	3	2.53	.01	.04	1	1
GK8-R21	6	41	7	29	.1	4	2	58	2.97	22	5	ND	2	1	1	3	3	14	.05	.007	2	26	.38	44	.01	6	.46	.01	.04	3	15
GK8-R22	1	98	5	63	.1	69	18	857	5.85	7	5	ND	1	10	1	2	2	74	.56	.011	2	126	2.62	10	.13	6	3.27	.03	.03	1	2
KK8-R1	1	91	6	56	.1	156	23	397	3.13	8	5	ND	1	12	1	2	2	45	.34	.016	6	174	1.85	247	.12	2	2.25	.01	.86	1	7
KK8-R2	1	14	32	71	.2	740	31	762	3.01	35	5	ND	1	14	1	2	3	53	1.58	.006	3	1805	3.01	275	.13	8	2.82	.01	1.13	1	4
KK8-R3	1	30	9	95	.1	498	44	1140	4.85	14	5	ND	3	13	1	2	2	78	.65	.018	9	872	2.68	274	.20	2	3.34	.01	.94	1	8
KK8-R4	1	1	54	87	1.0	56	28	1116	5.22	2	5	ND	1	14	1	2	2	94	.73	.027	4	93	2.09	219	.29	2	3.01	.01	.67	1	3
KK8-R5	1	85	17	66	.4	37	17	729	3.98	2	5	ND	1	8	1	2	3	70	.67	.024	3	77	1.53	111	.29	7	2.13	.02	.33	1	1
KK8-R6	1	5	503	46	9.5	458	17	628	1.83	7	5	ND	1	24	1	2	10	25	4.21	.006	3	985	1.59	125	.07	4	1.55	.01	.45	1	26
KK8-R7	1	16	6	24	.1	16	7	96	1.33	2	5	ND	1	1	1	2	2	55	.13	.021	5	13	.90	44	.04	3	1.05	.01	.14	1	1
KK8-R8	1	3	12	41	.1	31	22	274	4.63	2	5	ND	1	2	1	2	4	101	.17	.024	2	30	2.19	43	.08	4	2.70	.01	.19	1	1
KK8-R9	1	6	6	13	.2	12	3	114	.82	2	5	ND	1	2	1	2	5	59	.27	.035	2	13	.54	28	.19	2	.63	.01	.12	1	86
KK8-R10	1	3	5	43	.1	19	10	397	2.62	2	5	ND	1	1	1	2	2	128	.29	.020	3	12	1.50	11	.22	3	1.57	.02	.07	1	2
KK8-R11	1	193	12	92	.1	133	33	521	5.03	2	5	ND	8	13	1	2	2	55	.47	.033	31	229	1.90	197	.20	2	2.61	.01	1.02	1	5
KK8-R12	1	161	9	69	.1	84	25	409	4.44	2	5	ND	8	20	1	2	2	45	.95	.035	24	130	1.13	314	.22	9	1.91	.01	.68	1	17
KK8-R13	1	1	10	15	.1	9	4	166	.93	2	5	ND	1	3	1	3	2	60	.31	.027	3	15	.54	22	.21	4	.57	.02	.05	1	2
KK8-R14	1	7	6	17	.2	4	4	251	1.37	2	5	ND	1	3	1	2	2	93	.48	.007	4	20	.72	57	.43	2	.94	.02	.25	3	1
STD C/AU-R	18	57	41	132	6.8	70	28	1038	4.10	39	18	7	37	49	18	17	20	60	.47	.087	41	58	.92	180	.07	37	1.97	.06	.13	12	510

NORTHERN DYNASTY EXPL. PROJECT KASH LAKE FILE # 88-3840

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
KK8-R15	1	8	7	36	.1	342	15	456	1.44	74	5	ND	1	30	1	2	5	40	1.74	.009	4	1031	.97	239	.14	5	1.30	.02	.69	2	9
JK8-R100	4	7	1530	10	23.9	79	6	214	1.30	83	5	ND	1	19	1	3	80	4	.56	.001	2	102	1.23	21	.01	2	.11	.03	.01	1	115
JK8-R101	1	29	26	3	.1	5	2	67	.54	771	5	ND	4	2	1	2	4	1	.01	.001	10	15	.01	8	.01	2	.07	.03	.01	1	39
JK8-R102	8	113	11	75	.1	52	24	1047	7.02	6	5	ND	10	25	1	2	3	88	.86	.048	31	8	1.81	371	.31	7	3.60	.02	1.51	1	1
JK8-R103	1	34	8	59	.1	155	20	1103	5.58	40	5	ND	3	32	1	2	3	118	3.79	.014	12	353	4.11	38	.01	5	2.93	.01	.03	1	17
JK8-R104	1	409	10	46	.1	49	44	869	6.58	61	5	ND	5	30	1	3	2	70	4.10	.038	15	7	2.20	16	.03	3	1.40	.02	.05	2	26
JK8-R105	1	528	2	25	.1	43	41	1001	6.65	74	5	ND	3	27	1	2	2	52	3.53	.079	7	14	1.56	19	.01	2	.76	.02	.02	1	2985
JK8-R106	1	191	7	57	.1	108	35	1054	7.68	53	5	ND	1	24	1	2	2	79	4.12	.017	2	131	3.98	20	.01	10	3.27	.01	.06	1	43
JK8-R107	1	369	10	59	.5	106	40	1469	5.68	27	5	ND	1	18	1	2	2	179	3.51	.025	2	146	3.89	29	.02	6	3.84	.01	.03	1	41
JK8-R108	1	81	14	59	.1	114	33	1251	6.56	9	5	ND	1	40	1	2	2	126	5.35	.017	2	210	3.76	30	.01	5	4.66	.01	.03	1	6
JK8-R109	1	22	2	9	.1	16	4	572	3.15	44	5	ND	1	3	1	5	6	6	.63	.021	2	22	.17	54	.01	3	.12	.01	.04	1	8
JK8-R110	3	31	2	7	.1	33	5	267	2.66	310	5	ND	1	2	1	6	5	4	.21	.005	2	11	.10	36	.01	20	.08	.01	.01	1	25
JK8-R111	1	12	2	10	.1	14	3	1025	1.42	21	5	ND	1	14	1	2	4	2	2.05	.032	4	25	.15	62	.01	2	.06	.01	.03	1	1
KK8-R68	9	63	2	13	.1	48	12	492	2.57	11	5	ND	1	16	1	2	4	21	1.51	.004	2	47	1.08	19	.01	7	.58	.02	.01	2	3
KK8-R69	4	165	5	57	.1	142	49	1192	8.69	43	5	ND	1	11	1	3	2	130	1.19	.017	2	187	2.41	22	.01	3	2.75	.01	.04	1	55
KK8-R70	1	218	11	46	.1	58	41	1026	7.17	42	5	ND	5	15	1	2	7	101	2.02	.044	15	10	2.05	38	.01	4	2.23	.01	.04	1	245
KK8-R71	6	225	11	50	.2	226	82	1028	7.35	176	5	ND	1	18	1	2	2	120	1.82	.014	5	148	2.87	20	.01	2	2.84	.01	.02	1	225
KK8-R72	1	320	8	44	.6	141	47	1132	7.81	78	5	5	1	24	1	2	4	92	2.78	.013	3	121	2.64	32	.01	4	2.19	.01	.02	1	8835
KK8-R73	2	182	6	49	.2	133	38	1123	7.34	77	5	ND	1	26	1	2	2	133	3.14	.036	2	169	3.29	16	.01	2	2.61	.01	.02	1	425
KK8-R74	13	69	2	17	.2	91	46	221	2.69	87	5	ND	1	2	1	2	2	37	.20	.005	2	54	.79	37	.01	4	.84	.01	.01	1	115
KK8-R75	1	139	8	55	.1	122	41	1161	8.18	68	5	ND	1	22	1	2	2	138	2.77	.016	2	194	3.10	38	.01	6	2.84	.01	.04	1	21
KK8-R76	1	61	8	68	.1	208	45	999	8.59	223	5	ND	1	15	1	2	2	158	1.68	.008	4	466	4.60	36	.01	2	4.67	.01	.03	1	109
KK8-R77	1	222	5	45	.1	124	40	1144	8.12	60	5	ND	1	32	1	2	2	84	4.32	.014	2	145	3.08	11	.01	7	2.10	.01	.04	1	27750
KK8-R78	2	198	8	51	.1	128	40	1235	7.76	51	5	ND	1	33	1	2	2	92	4.76	.019	2	133	3.27	24	.01	2	2.31	.01	.05	1	1375
KK8-R79	1	134	22	60	.1	123	43	1157	8.25	56	5	ND	1	21	1	3	2	141	2.98	.019	2	185	3.21	41	.01	2	2.82	.01	.05	1	156
KK8-R80	2	24	12	37	.1	414	47	1351	5.51	261	5	ND	1	35	1	2	2	104	3.50	.001	5	1690	5.12	40	.01	3	2.95	.01	.01	1	17
KK8-R81	1	95	9	76	.1	133	40	999	9.14	52	5	ND	1	8	1	2	2	158	1.32	.013	3	271	3.44	32	.01	2	4.59	.01	.04	1	20
KK8-R82	1	32	13	89	.1	161	37	894	9.75	45	5	ND	1	5	1	2	2	186	.90	.003	4	333	4.34	25	.01	2	5.42	.01	.03	1	6
KK8-R83	1	184	10	55	.6	112	36	1210	7.60	51	5	ND	1	30	1	3	2	98	5.22	.021	2	136	3.85	16	.01	13	2.85	.01	.06	1	345
KK8-R84	1	125	10	65	.2	153	42	1175	8.22	81	5	ND	1	25	1	2	2	114	3.71	.015	2	235	4.38	21	.01	8	3.80	.01	.04	1	129
KK8-R85	1	127	7	81	.1	131	44	1036	9.02	56	5	ND	1	15	1	2	2	104	2.21	.018	2	174	3.12	41	.01	2	3.34	.01	.06	1	55
KK8-R86	4	45	14	62	1.0	614	50	1752	7.15	794	5	ND	1	66	1	2	2	143	8.01	.006	2	1510	6.90	21	.01	5	3.61	.01	.02	1	455
KK8-R87	1	60	9	66	.1	129	39	1147	8.16	56	5	ND	1	29	1	3	2	117	4.70	.016	2	238	4.34	14	.01	2	3.62	.01	.04	1	102
KK8-R88	1	36	13	88	.1	157	47	998	9.79	80	5	ND	1	16	1	2	2	107	2.59	.018	3	234	4.17	45	.01	4	4.74	.01	.08	1	6
KK8-R89	11	138	5	15	.2	86	29	990	3.35	45	5	ND	1	33	1	3	2	12	3.19	.005	2	38	1.48	16	.01	2	.34	.02	.03	1	38
KK8-R90	1	11	7	26	.1	388	47	1076	3.80	598	5	ND	1	12	1	2	2	62	1.12	.001	2	1861	3.89	51	.01	5	1.93	.01	.01	1	4
STD C/AU-R	18	59	39	132	6.6	71	27	1039	4.04	41	17	8	37	49	18	18	21	59	.46	.089	41	59	.91	182	.07	32	2.01	.06	.14	13	530

SAMPLE#	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au**
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPB
KK8-R91	1	123	8	40	.1	432	72	1023	5.37	302	5	ND	1	8	1	2	2	76	.34	.004	2	2289	6.57	32	.01	2	2.50	.01	.07	1	4
KK8-R92	1	62	28	56	.1	43	32	331	6.43	42	5	ND	4	29	1	2	2	115	1.24	.121	12	47	3.34	33	.02	2	2.05	.02	.14	1	2
KK8-R93	1	47	7	15	.1	71	15	707	2.54	44	5	ND	10	32	1	5	2	44	2.42	.039	21	50	2.17	28	.01	4	.45	.03	.08	1	1
KK8-R94	1	28	3	42	.1	335	51	1209	5.45	144	5	ND	2	21	1	2	2	71	1.61	.008	5	1415	6.27	42	.01	2	2.35	.01	.07	1	1
KK8-R95	1	5	5	45	.1	679	59	2498	5.45	818	5	ND	1	31	1	2	2	66	6.14	.007	8	2174	5.64	107	.01	4	2.58	.01	.05	1	31
KK8-R96	1	16	6	45	.1	585	68	2683	5.61	1176	5	ND	1	28	1	2	2	79	5.44	.009	2	1821	5.00	129	.02	2	2.43	.01	.07	1	5
KK8-R97	1	75	5	54	.1	178	39	1090	6.43	128	5	ND	1	10	1	2	2	83	2.23	.025	3	183	2.89	59	.01	2	2.68	.01	.04	2	64
KK8-R58	1	128	9	44	.1	466	53	2268	5.65	414	5	ND	1	27	1	2	2	55	6.66	.014	4	1147	4.58	54	.01	2	1.69	.01	.02	1	46
KK8-R59	1	68	10	54	.1	681	46	1631	5.69	485	5	ND	1	19	1	2	2	85	4.68	.004	6	3001	5.49	39	.01	2	2.96	.01	.02	1	4
KK8-R100	1	69	10	44	.1	532	41	2195	4.62	421	5	ND	1	32	1	2	2	40	8.75	.005	3	1158	5.48	46	.01	2	1.65	.01	.03	1	8
KK8-R101	1	32	4	36	.1	522	46	2684	4.48	394	5	ND	1	34	1	2	2	28	9.13	.006	3	850	4.93	56	.01	2	1.13	.01	.03	1	3
KK8-R102	1	29	6	33	.2	464	30	1511	3.59	207	5	ND	1	43	1	2	2	38	10.45	.004	2	1099	5.92	10	.01	3	1.23	.01	.01	1	6
KK8-R103	1	23	6	31	.1	699	37	1562	3.67	622	5	ND	1	44	1	3	3	35	11.29	.004	2	1343	6.20	18	.01	4	1.25	.01	.02	1	3
KK8-R104	1	12	2	28	.1	641	35	1816	3.41	680	5	ND	1	53	1	2	2	25	12.33	.003	2	1111	6.28	16	.01	2	.98	.01	.02	1	1
KK8-R105	1	40	4	30	.1	513	30	2594	3.99	410	5	ND	1	54	1	2	2	23	13.38	.007	2	514	6.49	17	.01	2	.98	.01	.03	1	5
KK8-R106	1	82	2	51	.1	1050	57	2130	5.01	857	5	ND	1	42	1	2	2	47	9.98	.004	2	2429	6.37	21	.01	2	2.19	.01	.04	1	6
KK8-R107	1	155	15	74	.1	787	63	1266	5.89	331	5	ND	1	18	1	2	2	104	3.70	.011	5	2308	5.79	15	.01	6	3.92	.01	.02	1	19
KK8-R108	1	21	2	29	.1	528	28	1962	3.61	412	5	ND	1	53	1	2	2	25	12.22	.005	2	618	6.17	13	.01	6	1.09	.01	.02	1	1
KK8-R109	1	3	2	21	.1	422	27	2528	2.81	368	5	ND	1	61	1	3	2	23	13.48	.002	2	855	6.82	8	.01	4	.84	.01	.01	1	1
KK8-R110	1	10	5	28	.1	100	13	511	2.40	43	5	ND	1	7	1	2	3	52	1.30	.015	2	123	2.69	5	.01	4	1.83	.01	.01	5	5
KK8-R111	1	89	13	75	.1	103	34	1142	6.23	64	5	ND	12	7	1	2	2	60	.32	.028	25	137	2.05	51	.05	6	3.07	.01	.31	1	14
KK8-R112	1	104	10	58	.2	69	30	1381	6.24	24	5	ND	10	6	1	2	2	92	.33	.037	22	160	1.27	81	.14	2	2.66	.01	.53	1	4
KK8-R113	1	105	12	59	.1	57	26	1140	5.30	17	5	ND	11	14	1	2	2	107	.47	.036	27	190	1.18	159	.25	6	2.49	.01	1.13	2	5
KK8-R114	1	92	53	60	.1	58	23	965	5.67	16	5	ND	8	3	1	2	2	70	.11	.027	12	132	1.27	62	.10	6	2.16	.01	.42	1	128
KK8-R115	1	116	13	74	.1	73	36	1440	6.38	16	5	ND	11	13	1	2	4	103	.41	.032	26	200	1.66	151	.24	6	3.18	.01	1.25	1	2
KK8-R116	2	42	23	14	.2	35	7	360	1.46	24	5	ND	1	2	1	3	2	22	.05	.008	6	77	.71	9	.01	5	.58	.01	.03	1	41
KK8-R117	2	85	8	44	.1	70	23	847	4.61	41	5	ND	9	5	1	2	2	70	.18	.029	23	149	1.66	24	.03	4	2.06	.01	.09	3	141
KK8-R118	1	80	50	66	.2	99	32	1455	5.64	254	5	ND	11	8	1	2	2	94	.30	.050	27	329	2.56	43	.07	3	2.89	.01	.17	1	490
KK8-R119	1	110	14	80	.1	87	37	1341	6.20	18	5	ND	10	24	1	2	3	83	.46	.022	25	154	2.36	193	.19	2	3.48	.01	.72	1	5
KK8-R120	1	80	12	78	.1	102	34	1305	6.18	11	5	ND	8	36	1	2	3	73	1.05	.030	20	187	2.36	112	.22	2	3.57	.01	.88	1	4
KK8-R121	1	60	14	83	.1	108	31	1486	7.24	15	5	ND	7	18	1	2	2	83	.55	.029	17	184	2.28	113	.17	2	3.76	.01	.65	1	1
KK8-R122	1	97	20	123	.1	150	44	2318	9.54	35	5	ND	6	7	1	2	2	117	.48	.025	17	256	2.52	102	.16	2	4.65	.01	.64	1	21
KK8-R123	2	80	19	73	.2	47	14	881	5.83	19	5	ND	12	9	1	2	2	40	.10	.028	12	83	1.41	88	.06	2	2.08	.01	.33	1	245
KK8-R124	1	124	37	76	.5	117	18	1248	7.14	259	5	ND	8	34	1	2	2	74	.94	.034	14	220	1.62	62	.06	2	2.28	.01	.33	1	1520
KK8-R125	1	54	23	80	.4	65	20	1157	6.67	43	5	ND	10	6	1	2	2	65	.22	.030	9	114	2.13	60	.09	4	3.03	.01	.43	1	315
KK8-R126	1	68	2	52	.1	24	15	507	3.83	6	5	ND	6	5	1	2	2	23	.17	.035	10	4	.50	39	.03	4	1.14	.01	.11	3	380
STD C/AU-R	18	60	39	132	6.9	70	27	1056	4.04	38	18	8	38	49	18	17	18	59	.47	.091	41	58	.92	182	.07	35	1.97	.06	.13	12	490

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
EK8-R127	1	31	5	42	.2	37	17	418	3.00	10	5	ND	5	4	1	2	2	47	.30	.033	7	32	.83	29	.10	2	1.44	.02	.15	4	12
EK8-R128	1	39	16	111	.2	114	44	1245	9.65	7	5	ND	2	3	1	2	2	227	.22	.032	2	195	4.33	24	.17	2	4.75	.01	.11	1	1
EK8-R129	1	58	43	6	.1	8	4	307	1.39	4	5	ND	2	3	1	2	2	7	.14	.003	2	18	.13	14	.01	2	.25	.01	.06	6	1320
EK8-R130	1	207	1305	8	14.1	45	54	758	4.61	2322	5	13	2	2	1	2	26	5	.14	.002	5	9	.12	6	.01	8	.19	.01	.03	2	6350
EK8-R131	1	493	49	40	2.1	48	19	543	7.60	28	5	17	2	5	1	3	2	42	.10	.017	2	46	1.19	71	.08	2	1.43	.01	.18	20	50350
EK8-R132	1	74	10	19	.2	11	6	293	1.68	5	5	ND	1	4	1	2	2	26	.28	.006	2	24	.48	38	.09	10	.74	.01	.12	8	54
EK8-R133	1	74	13	48	.3	77	24	664	3.62	13	5	ND	8	20	1	2	2	47	.80	.015	16	104	1.43	69	.19	7	2.24	.01	1.49	2	133
EK8-R134	3	288	31	64	1.1	34	16	1264	7.09	3	5	ND	8	20	1	3	2	67	1.16	.033	16	121	1.27	96	.14	2	2.33	.02	.52	1	21
EK8-R135	4	206	3499	1250	3.4	25	6	264	13.25	5	5	ND	7	12	1	2	16	25	.27	.021	8	64	.29	146	.14	2	.57	.02	.72	1	22
EK8-R136	1	282	31	85	1.1	253	36	852	5.29	19	5	ND	9	42	1	2	2	70	1.41	.046	29	351	2.22	780	.30	2	3.12	.02	3.55	1	9
EK8-R137	2	30	401	343	.9	33	11	157	1.73	28	5	ND	15	3	1	2	4	12	.10	.005	4	23	.46	32	.02	12	.67	.02	.10	1	1
EK8-R138	1	329	11	43	.5	70	25	704	3.68	11	5	ND	1	13	1	2	2	46	1.03	.006	3	91	.89	34	.24	2	1.50	.01	.09	1	3
EK8-R139	1	9	15	26	.1	35	6	52	.43	5	5	ND	1	3	1	2	2	11	.15	.002	2	45	.19	6	.02	2	.58	.02	.04	13	1
EK8-R140	1	132	8	63	.1	27	28	365	5.57	2	5	ND	2	6	1	2	2	102	.60	.039	5	35	1.31	338	.15	2	1.83	.07	1.00	1	2
EK8-R141	1	45	8	12	.1	3	2	339	9.41	4	5	ND	2	1	1	2	2	5	.15	.019	2	8	.10	15	.01	2	.06	.01	.03	3	1
EK8-R142	1	144	6	11	.2	12	5	240	6.29	4	5	ND	2	3	1	2	2	3	.17	.011	2	3	.13	24	.01	2	.10	.01	.04	1	8
EK8-R143	1	11	8	9	.1	29	4	67	1.00	6	5	ND	1	1	1	2	2	4	.03	.002	2	75	.11	11	.01	2	.20	.01	.06	3	6
EK8-R144	42	420	7	21	.4	1636	97	142	3.74	38	5	ND	2	4	1	2	31	6	.28	.003	2	101	.22	22	.03	3	.15	.01	.01	1	290
STD C/AU-R	18	58	37	133	6.6	67	28	1043	3.99	42	17	7	37	47	17	17	19	56	.46	.089	38	60	.89	176	.06	33	1.87	.06	.15	11	470

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

GEOCHEMICAL ANALYSIS CERTIFICATE

SAV

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H20 AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR 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: ROCK AU** ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

DATE RECEIVED: AUG 24 1988 DATE REPORT MAILED: Aug 31/88 ASSAYER. C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPL. PROJECT KASN LAKE File # 88-3851

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	
RK8-R145	2	182	57	19	1.1	57	30	270	4.71	143	5	ND	3	4	1	4	2	11	.05	.010	7	24	.24	49	.03	2	.42	.01	.18	1	1610	.050
RK8-R146	1	298	368	17	2.5	45	33	715	4.13	151	5	6	2	7	1	2	15	15	.37	.013	9	30	.30	18	.03	2	.50	.01	.16	1	2460	.072

ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716

SAV

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 SR 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: SEP 23 1988 DATE REPORT MAILED: Oct 3/88 ASSAYER. C. Leong .D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPL. LTD. PROJECT SAVANT File # 88-4737 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
EK8-R147	4	35	13259 ✓	74	26.0	10	2	89	.75	5	5	ND	1	3	1	12	13	2	.04	.003	2	8	.02	12	.01	2	.06	.01	.02	1	1250
EK8-R148	2	39	30	10	.1	38	24	351	.39	27	5	ND	8	5	2	2	2	9	.17	.051	26	7	.09	22	.01	4	.47	.01	.16	1	6
EK8-R149	1	62	61	64	.2	39	19	763	4.04	10	5	ND	6	7	1	2	3	55	.48	.044	12	28	1.82	52	.13	2	2.18	.01	.29	1	330
EK8-R150	1	55	18	85	.1	45	25	1083	5.38	3	5	ND	6	7	1	2	2	77	.49	.042	10	35	2.31	43	.10	2	2.83	.01	.27	1	2780
EK8-R151	1	77	30	107	.1	66	31	1355	7.31	5	5	ND	6	9	1	6	4	119	.66	.042	20	62	3.33	34	.12	2	3.97	.01	.20	1	45
EK8-R152	1	60	23	96	1.8	60	28	1187	6.86	7	5	26	5	8	1	2	2	95	.56	.042	12	59	2.67	48	.10	2	3.27	.01	.22	2	10470
EK8-R153	3	194	50	47	.3	58	32	1021	5.01	9	5	ND	2	12	1	2	3	48	.90	.030	10	41	1.46	36	.08	2	1.80	.01	.23	10	490
EK8-R154	2	26	115	9	.8	21	13	332	.57	15	5	ND	2	5	2	2	2	5	.17	.053	19	8	.09	7	.01	8	.24	.01	.04	3	860
EK8-R155	2	120	121	101	.2	40	20	856	6.33	90	5	ND	7	4	1	2	2	70	.11	.030	9	107	.81	46	.09	2	1.69	.01	.26	3	840
EK8-R156	3	124	220	21	.9	28	17	207	2.76	29	5	ND	1	2	1	2	2	8	.09	.004	3	16	.13	28	.01	2	.23	.01	.04	1	650
EK8-R157	2	126	90	59	.5	66	29	1050	6.98	35	5	ND	8	6	1	2	2	82	.36	.031	16	136	1.61	66	.14	2	2.53	.02	.40	1	82
EK8-R156	2	137	266	20	1.7	22	14	505	4.70	20	5	ND	3	2	1	2	2	20	.04	.010	9	38	.38	19	.03	5	.70	.01	.10	3	410
EK8-R159	1	64	23	106	.1	175	33	1036	5.63	6	5	ND	15	563	1	2	2	99	4.83	.235	92	351	5.63	123	.02	2	2.69	.01	.09	1	10
EK8-R160	1	48	26	55	.1	36	14	690	3.02	2	5	ND	5	325	1	2	2	19	2.83	.157	47	28	1.73	55	.01	2	1.00	.01	.13	1	1
EK8-R161	2	110	3	144	.2	61	8	807	6.83	36	5	ND	2	10	1	2	3	10	.53	.010	4	23	.52	26	.01	4	.64	.01	.03	1	36
EK8-R162	1	19	3	997	.5	10	5	28	.34	96	5	ND	1	5	4	2	2	5	.02	.002	2	44	.02	424	.01	5	.21	.01	.10	3	3
EK8-R163	1	20	7	416	.7	9	3	25	.44	56	5	ND	1	4	1	2	2	7	.02	.001	2	63	.01	777	.03	4	.26	.01	.13	1	4
EK8-R164	2	153	4	27	.3	240	29	453	1.73	10	5	ND	1	7	1	2	2	5	1.47	.005	3	37	.18	156	.03	2	.17	.01	.02	1	1
EK8-R165	2	14	2	5	.1	11	3	120	.55	3	5	ND	1	1	1	2	2	1	.01	.001	2	9	.07	89	.01	4	.10	.01	.01	1	1
GK8-R100	1	20	17	28	.1	17	8	368	1.38	3	5	ND	2	184	1	2	2	4	1.73	.045	19	14	.52	49	.01	4	.25	.02	.12	1	1
JK8-R112	1	280	9	99	.3	25	16	1496	14.31	22	5	ND	2	3	1	3	2	190	.07	.034	3	45	1.42	195	.30	3	4.25	.01	1.61	1	2
JK8-R113	1	253	10	151	.4	36	24	2174	17.38	23	5	ND	3	4	1	2	2	172	.10	.034	3	29	2.28	66	.23	2	5.54	.01	.40	1	1
JK8-R114	1	28	7	47	.1	59	18	804	3.55	9	5	ND	4	500	1	2	3	9	4.51	.059	28	22	1.91	59	.01	5	.40	.02	.10	1	24
JK8-R115	1	10	4	29	.2	47	18	822	3.52	2	5	ND	3	365	1	2	2	8	5.38	.048	21	21	1.95	31	.01	2	.27	.02	.10	1	46
JK8-R116	1	36	10	36	.1	43	21	603	2.74	5	5	ND	9	205	1	2	2	5	2.44	.077	50	15	.89	68	.01	11	.43	.01	.18	1	54
JK8-R117	1	39	2	14	.1	11	5	577	1.30	2	5	ND	5	124	1	2	2	2	2.24	.045	32	7	.53	58	.01	6	.21	.02	.12	1	2
JK8-R118	1	8	6	43	.1	37	13	619	2.37	2	5	ND	3	90	1	2	2	5	1.11	.049	26	12	.51	75	.01	2	.46	.02	.13	1	55
JK8-R119	1	26	10	20	.1	22	6	476	1.32	2	5	ND	2	99	1	2	2	6	2.27	.042	20	17	.74	41	.01	6	.32	.03	.09	1	2
JK8-R120	1	11	10	37	.1	49	17	652	2.87	11	5	ND	4	297	1	2	2	6	3.31	.070	27	15	1.30	64	.01	2	.43	.02	.15	1	30
STD C/AU-R	19	61	41	132	7.2	71	31	1024	4.21	42	18	8	39	50	20	16	19	61	.49	.094	41	57	.94	179	.07	34	2.07	.06	.15	12	480

✓ ASSAY REQUIRED FOR CORRECT RESULT

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
EK8-S78	1	19	9	59	.1	44	15	327	3.31	3	5	ND	5	48	2	2	2	41	.31	.029	62	37	.84	180	.01	2	1.81	.01	.08	1	2
KK8-S79	1	30	12	72	.1	61	22	590	4.80	5	5	ND	4	76	1	5	2	138	.45	.036	22	157	2.88	205	.19	2	2.50	.01	.08	1	1
EK8-S80	1	65	21	84	.3	156	29	414	6.46	3	5	ND	8	93	3	4	2	170	.54	.125	42	340	4.35	127	.15	2	3.51	.01	.05	1	1
KK8-S81	1	14	21	67	.2	45	17	169	5.06	4	5	ND	5	29	2	2	2	119	.16	.042	40	123	1.56	126	.04	3	2.87	.01	.07	1	1
EK8-S81A	1	177	2	68	.2	113	26	225	4.61	35	5	ND	4	4	2	2	2	50	.11	.012	6	81	.61	33	.10	2	2.64	.01	.05	1	7
KK8-S82	1	14	11	16	.1	9	2	47	1.20	2	5	ND	3	7	1	2	3	35	.09	.009	11	16	.14	47	.10	2	.72	.01	.03	1	1
EK8-S83	1	25	7	59	.1	60	6	55	.74	2	5	ND	1	16	1	2	2	13	.31	.037	42	21	.14	168	.05	2	1.27	.01	.04	1	1
KK8-S84	1	50	7	30	.3	37	9	222	2.70	10	5	ND	3	7	1	2	2	48	.09	.023	8	27	.22	102	.08	3	.64	.01	.04	2	2
EK8-S85	1	37	9	18	.1	79	14	261	1.36	17	5	ND	1	11	1	2	2	23	.21	.015	6	46	.07	166	.06	2	.42	.01	.03	2	2
KK8-S86	1	21	9	28	.1	33	8	129	2.89	2	5	ND	6	8	1	2	2	42	.18	.040	16	40	.39	60	.11	2	1.79	.01	.06	1	4
EK8-S87	1	18	10	48	.2	72	17	300	2.99	2	5	ND	3	16	1	2	2	74	.29	.013	10	100	.83	97	.19	2	3.02	.02	.08	1	1
GK8-S100	1	4	6	23	.1	14	3	10	.54	2	5	ND	1	8	1	2	2	7	.06	.006	18	7	.09	27	.01	2	.63	.01	.03	1	2
JK8-S112	1	42	6	44	.2	33	10	169	3.65	7	5	ND	6	17	1	2	2	49	.23	.070	17	62	.59	23	.11	5	2.77	.01	.06	1	325
STD C/AU-S	18	60	37	131	7.0	67	30	1026	4.15	40	17	7	38	49	19	17	18	61	.48	.095	40	56	.92	181	.07	32	1.90	.06	.15	11	53

APPENDIX 3

Technical Data Statements, Procedure Records and Supporting Documents

INVOICES AND CANCELLED CHEQUES for geochemical analyses on samples collected from the Kash Lake Property in 1988.

Total = $ 5,228.75

NOTE - The above amount includes only samples collected within the boundaries of the property; samples plotted on maps beyond these boundaries are not included.

ACME AN ... ORIES LTD.

PHONE: 253-3158 852 ... Hastings St., Vancouver, B.C. ... A 1R6

File: 88-2471

Date: JULY 9 1988

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER, BC
V6C 1C8

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

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : KASH LAKE		
91	30 ELEMENT ICP ANALYSIS @	6.25	568.75
91	GEOCHEM AU ANALYSIS BY FA+AA FROM 10 GM SAMPLE @	6.00	546.00
91	ROCK SAMPLE PREPARATION @	3.00	273.00

			1387.75
	KINGSWAY (KITL) W/B #THB-310286		74.57

	TOTAL		1462.32

MIS. ORV. $62 (659)
SAV (KASH $1400.32 (659)

Pd. July 18/88
886

PLEASE PAY LAST AMOUNT

CROSS DOCK CONTROL

COLUMN 3 COLUMN 2 COLUMN 1

... Hastings St., Vancouver, B.C. ... Inc

File: [illegible]

Date: JULY 15 [illegible]

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER, BC
V6C 1C8

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

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : KASH LAKE		
59	30 ELEMENT ICP ANALYSIS @	6.25	368.75
59	GEOCHEM AU ANALYSIS BY FA+AA FROM 10 GM SAMPLE @	6.00	354.00
47	ROCK SAMPLE PREPARATION @	3.00	141.00
12	SOIL SAMPLE PREPARATION @	0.85	10.20
	TOTAL		873.95

SAJ 659

APPROVED FOR PAYMENT

PLEASE PAY LAST AMOUNT

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

File: 8-1212

Date: AUG 31 1988

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER, BC
V6C 1C8

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

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : KASH LAKE		
2	30 ELEMENT ICP ANALYSIS @	6.25	12.50
2	GEOCHEM AU ANALYSIS BY FA+AA FROM 10 GM SAMPLE @	6.00	12.00
2	ROCK SAMPLE PREPARATION @	3.00	6.00
			30.50
	SURCHARGE FOR UNDER 20 SAMPLES PER BATCH		5.00
	TOTAL		35.50

SAV. 659

PLEASE PAY LAST AMOUNT

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

File: 88-3840

Date: SEPT 2 1988

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER, BC
V6C 1C8

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

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : KASH LAKE		
176	30 ELEMENT ICP ANALYSIS @	6.25	1100.00
176	GEOCHEM AU ANALYSIS BY FA+AA FROM 10 GM SAMPLE @	6.00	1056.00
50	SOIL SAMPLE PREPARATION @	0.85	42.50
126	ROCK SAMPLE PREPARATION @	3.00	378.00

			2576.50
	KINGSWAY (KITL) W/B #DRY-119073		119.95

	TOTAL		2696.45

$2347.35

APPLICABLE TO KASH LAKE PROJECT!

PLEASE PAY LAST AMOUNT

ACME A TORIES LTD.

PHONE: 253-3158 852 B.C. V[redacted]1R6

File: 88-4737

Date: Oct 3 1988

NORTHERN DYNASTY EXPLORATION
844 W. HASTINGS ST.
VANCOUVER, BC
V6C 1C8

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

NUMBER	ASSAY	PRICE	AMOUNT
	PROJECT : SAVANT		
42	30 ELEMENT ICP ANALYSIS @	6.25	262.50
42	GEOCHEM AU ANALYSIS BY FA+AA FROM 10 GM SAMPLE @	6.00	252.00
29	ROCK SAMPLE PREPARATION @	3.00	87.00
13	SOIL SAMPLE PREPARATION @	0.85	11.05

			612.55
	TNT ALLTRANS EXPRESS W/B #WG 2455374		66.61

	TOTAL		679.16

$ 584.20

APPLICABLE TO KASH LAKE PROPERTY

SAVANT.

APPROVED FOR PAYMENT

Pd. Oct 20/88 #1037

PLEASE PAY LAST AMOUNT

\# 5228.75

TOTAL # ~~5~~

Re July 9 & 15/88
Invoices

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

0886

July 18 19 88

PAY TO THE ORDER OF ACME ANALYTICAL $ 2,671.32

Two thousand, six hundred and seventy-one -------------- 32/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

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

PER
PER

⑈0000886⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑈0000267132⑈

JY '88 20
ROYAL BANK
BRITISH COLUMBIA
PC

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

Re. Aug 31 & Sept. 2/88
INVOICES

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

0973

Sept. 12 19 88

PAY TO THE ORDER OF ACME ANALYTICAL $ 2,788.20

Two thousand, seven hundred and eight-eight ------------- 20/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

PER

PER

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

⑈0000973⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑈0000278820⑈

SE '88 13
ROYAL BANK
BRITISH COLUMBIA PC

BANK OF CANADA
CHINATOWN BRANCH
VANCOUVER, B.C.
00 - 003

Re: Oct 3/88 invoice

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

1037

October 20 19 88

PAY TO THE ORDER OF ACME ANALYTICAL $ 1,606.83

One thousand, six hundred and six ---------------------- 83/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

PER

PER

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

⑈0001037⑈ ⑆00020⑉016⑆ 30632⑉6⑉02⑈ ⑈0000160683⑈

OT '88' 21
ROYAL BANK
BRITISH COLUMBIA
PC

APPENDIX 4

Addresses of Personnel

ADDRESSES OF PERSONNEL

H. ERIC EWEN
3239 Ganymede Drive
Burnaby, British Columbia
V3J 1A5

GEORGE GORZYNSKI
3836 West 16th Avenue
Vancouver, British Columbia
V6R 3C7

JERRY W. HO
1334 Woodbine Avenue
Toronto, Ontario
M4C 4G2

APPENDIX 5

Author's Certification

AUTHOR'S CERTIFICATION

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 wrote this report based on the 1988 field program on the Kash Lake property.

Jerry W. Ho, B.Sc.

Ontario | Ministry of Northern Development and Mines

DOCUMENT No [redacted]03.271

Report of Work
(Geophysical, Geological, Geochemical and Expenditures) KAS4

MINING LANDS 2.Mi

52J07NW8931 2.12077 ARMIT LAKE 900

Type of Survey(s): GEOCHEMICAL EXPENDITURES | 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): 13 06 88 | 17 11 88 (Day Mo. Yr. | 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, ~~VANCOU~~ TORONTO, ONTARIO, M4C 4G2

Credits Requested per Each Claim in Columns at right

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

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

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

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE
FEB 2 1989
RECEIVED

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
Pa	1006724	10.9	Pa	1007133	10.9
[redacted]	1006725	20	[redacted]	1007135	20
	1006726	10.9		1007136	10.9
	1006728	10.9		1007137	20
	1006729	10.9		914053	1.48
	1006732	10.9			
	~~1006733~~	~~1.48~~			
	1006736	10.9			
	1006737	10.9			
	1006738	10.9			
	1006739	10.9			
	1006741	10.9			
	1006743	10.9			
	1006744	20			
	1006745	20			
	1006746	20			
	1007116	10.9			
	1007125	10.9			
	1007126	10.9			
	1007127	10.9			
	1007130	10.9			
	1007131	10.9			
	1007132	20			

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NOV 22 1988
PATRICIA MINING DIVISION

RECEIVED
NOV 28 1988
MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed: GEOCHEMICAL ANALYSES / SECTION 77-19

Performed on Claim(s): Pa. 903326, 903327, 903329, 903332, 903333, 912876, 912881, 912882, 912885, 912886, 912887, 912888, 913986, 913941, 913944, 913995, 913996, 914052, 1006723, 1006727, 1006733, 1006734, 1006735, 1006740, 1007134, 1008623

Calculation of Expenditure Days Credits

Total Expenditures $ 5228.75 ÷ 15 = Total Days Credits 348.58

Total number of mining claims covered by this report of work: 27

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 (Acting)
348.58	NOVEMBER 22 / 88	[signature]
	Date Approved as Recorded	Branch Director
	30 Jan 89	[signature]

Date: Nov. 18/88 **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. V6C 1C8

Date Certified: Nov. 18/88 **Certified by (Signature):** [signature]

PROVINCE ... G. A. GORZYNSKI ... COLUMBIA ... ENGINEER

1362 (85/12)

Ontario — Ministry of Northern Development and Mines

DOCUMENT No. W[illegible]3-270

MINING LANDS

Jan 11

Report of Work

(Geophysical, Geological, Geochemical and Expenditures) KASH LAKE PROPERTY

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.

2.12077

Type of Survey(s): GEOLOGICAL	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): 13 06 88 – 17 11 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	9.1
	Geochemical	
Airborne Credits		**Days per Claim**
Note: Special Provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

RECEIVED NOV 28 1988 MINING LANDS SECTION

RECEIVED NOV 22 1988 PATRICIA MINING DIVISION

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.

Date	Recorded Holder or Agent (Signature)
Nov. 18/88	G. Gorzynski

Mining Claims Traversed (List in numerical sequence)

Prefix	Number	Expend. Days Cr.	Prefix	Number	Expend. Days Cr.
Pa	903324		Pa	913990	
	903326			913991	
	903327			913992	
	903329			913993	
	903330			913994	
	903331			913995	
	903332			913996	
	903333			913998	
	912878			914052	
	912879			914053	
	912880			914054	
	912881			914055	
	912882			914056	
	912883			1006723	
	912884			1006724	
	912885			1006726	
	912886			1006727	
	912887			1006728	
	912888			1006729	
	913986			1006732	
	913987			1006733	
	913988			1006734	
	913989			1006735	

continued on page 2

Total number of mining claims covered by this report of work: 79

For Office Use Only		
Total Days Cr. Recorded: 718.9	Date Recorded: NOVEMBER 22/88	Acting Mining Recorder: (signature)
	Date Approved as Recorded: 30 Jan 89	Branch Director: (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. V6C

Date Certified	Certified by (Signature)
Nov. 18/88	G. Gorzynski

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. GORZYNSKI

1362 (85/12)

GEOLOGICAL SURVEY
ARMIT LAKE / G-1933
NORTHERN DYNASTY EXPLORATIONS LTD.

NOVEMBER 18, 1988

Mining Claims Traversed (List in numerical sequence)

continued →

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
Pa	1006736		Pa	1008625	
	1006737			1008626	
	1006738			1008627	
	1006739			1008628	
	1006740			1008629	
	1006741			1008630	
	1006743			1008631	
	~~1006~~			1008632	
	1007116			1008633	
	1007125			1008635	
	1007126			1008636	
	1007127				
	1007128				
	1007129				
	1007130				
	1007131				
	1007133				
	1007134				
	1007136				
	1008621				
	1008622				
	1008623				
	1008624				

Total number of mining claims covered by this report of work. **79**

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NOV 22 1988
PATRICIA MINING DIVISION

G. Gorzynski

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
G. A. GORZYNSKI

Jan 11

Ministry of Northern Development and Mines
Ontario

DOCUMENT No.
W[redacted]·269

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

KASH LAKE PROPERTY

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.

2.12077

Type of Survey(s): GEOCHEMICAL	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): 13 06 88 (Day Mo. Yr.) – 17 11 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	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Man Days	**Geophysical**	**Days per Claim**
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	18.2
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)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
Pa	903326	
	912878	
	912881	
	912887	
	912888	
	913991	
	914052	
	1006723	
	1006727	
	1006733	
	1006734	
	1006735	
	1006740	
	1007134	
	1008623	

RECEIVED
NOV 21 1988
MINING LANDS SECTION

NOV 22 1988
PATRICIA MINING DIVISION

Total number of mining claims covered by this report of work: 15

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: 273	Date Recorded: NOVEMBER 22/88	ACTING Mining Recorder: [signature]
	Date Approved as Recorded: 30 Jan 89	Branch Director: [signature]

Date: Nov. 18/88
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. V6C 1C8

Date Certified: NOV. 18, 1988
Certified by (Signature): [signature]

PROFESSIONAL ENGINEER

1362 (85/12)

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.

Page 1 of 3

Type of Survey(s) GEOLOGY
Township or Area ARMIT LAKE G-1933
Claim Holder(s) NORTHERN DYNASTY EXPLORATIONS LTD
844 WEST HASTINGS ST., VANCOUVER, B.C.
Survey Company SUPERIOR VENTURES
Author of Report JERRY W. HO
Address of Author 1334 WOODBINE AVE. TORONTO, ONTARIO
Covering Dates of Survey SEPT. 24/87 → JANUARY 18/89
(linecutting to office)
Total Miles of Line Cut ~28.5 MILES

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	

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

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

DATE: JAN. 19/89 SIGNATURE: [signature]
Author of Report or Agent

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA GORZYNSKI

OFFICE USE ONLY

Res. Geol. ____________ Qualifications 2.11263

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
Pa	903324
	903326
	903327
	903329
	903330
	903331
	903332
	903333
	912878
	912879
	912880
	912881
	912882
	912883
	912884
	912885
	912886
	912887
	912888
	913986
	913987

CONTINUED ON ATTACHMENTS

If space insufficient, attach list

TOTAL CLAIMS ____________

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 ______________________

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken ______________________

Total Number of Samples ______________

Type of Sample ______________
(Nature of Material)

Average Sample Weight ______________

Method of Collection ______________

Soil Horizon Sampled ______________

Horizon Development ______________

Sample Depth ______________

Terrain ______________

Drainage Development ______________

Estimated Range of Overburden Thickness ______________

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis ______________

General ______________

ANALYTICAL METHODS

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

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

Others ______________

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 ______________

Extraction Method ______________

Analytical Method ______________

Reagents Used ______________

General ______________

TECHNICAL DATA STATEMENT
GEOLOGICAL SURVEY

JAN. 19/89
KASH LAKE PROPERTY

CONTINUED FROM PAGE 1

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
Pa	913988		Pa	1006734	
	913989			1006735	
	913990			1006736	
	913991			1006737	
	913992			1006738	
	913993			1006739	
	913994			1006740	
	913995			1006741	
	913996			1006743	
	913998			1007116	
	914052			1007125	
	914053			1007126	
	914054			1007127	
	914055			1007128	
	914056			1007129	
	1006723			1007130	
	1006724			1007131	
	1006726			1007133	
	1006727			1007134	
	1006728			1007136	
	1006729			1008621	
	1006732			1008622	
	1006733			1008623	

Total number of mining claims covered by this report of work.

CONTINUED ON Page 3

G. Gorzynski

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. A. GORZYNSKI

JAN. 19/89
KASH LAKE
PROPERTY

TECHNICAL DATA STATEMENT

GEOLOGICAL SURVEY

CONTINUED FROM PAGE 2

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.	Mining Claim Prefix	Mining Claim Number	Expend. Days Cr.
Pa	1008624				
	1008625				
	1008626				
	1008627				
	1008628				
	1008629				
	1008630				
	1008631				
	1008632				
	1008633				
	1008635				
	1008636				

Total number of mining claims covered by this report of work. 79

G. Gorzynski

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — G. A. GORZYNSKI

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
844 WEST HASTINGS ST., VANCOUVER, B.C.

Survey Company SUPERIOR VENTURES

Author of Report JERRY W. HO

Address of Author 1334 WOODBINE AVE., TORONTO, ONTARIO

Covering Dates of Survey SEPT. 24/87 → JANUARY 18/89 (linecutting to office)

Total Miles of Line Cut ~28.5 MILES

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	

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

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

DATE: JAN. 19/89 SIGNATURE: [signature] Author of Report or Agent

[Stamp: PROFESSIONAL ENGINEER, PROVINCE OF ONTARIO, ... GORZYNSKI]

OFFICE USE ONLY

Res. Geol. ____________ Qualifications ____________

Previous Surveys

File No.	Type	Date	Claim Holder

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
Pa.	903326
	912878
	912881
	912887
	912888
	913991
	914052
	1006723
	1006727
	1006733
	1006735
	1006734
	1006740
	1007134
	1008623

If space insufficient, attach list

TOTAL CLAIMS 15

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 ____________

GEOCHEMICAL SURVEY – PROCEDURE RECORD

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

Total Number of Samples: 370 → LARGELY CHANNEL SAMPLES

Type of Sample (Nature of Material): 275 ROCKS, 95 SOILS

Average Sample Weight: 0.3 kg

Method of Collection: MOIL, ROCK HAMMER, MATTOCK

Soil Horizon Sampled: B_2

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

Sample Depth: 1 - 40 cm

Terrain: BEDROCK, GLACIAL TILL

Drainage Development: POOR

Estimated Range of Overburden Thickness: 0 - 20 m

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 (ICP) 30 ELEMENT ANALYSIS - 0.5g sample digested in 3ml of 3-1-2 $HCl-HNO_3-H_2O$ at 95°C FOR ONE HOUR, then diluted to 10ml 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) — all circled

Others: SEE BELOW

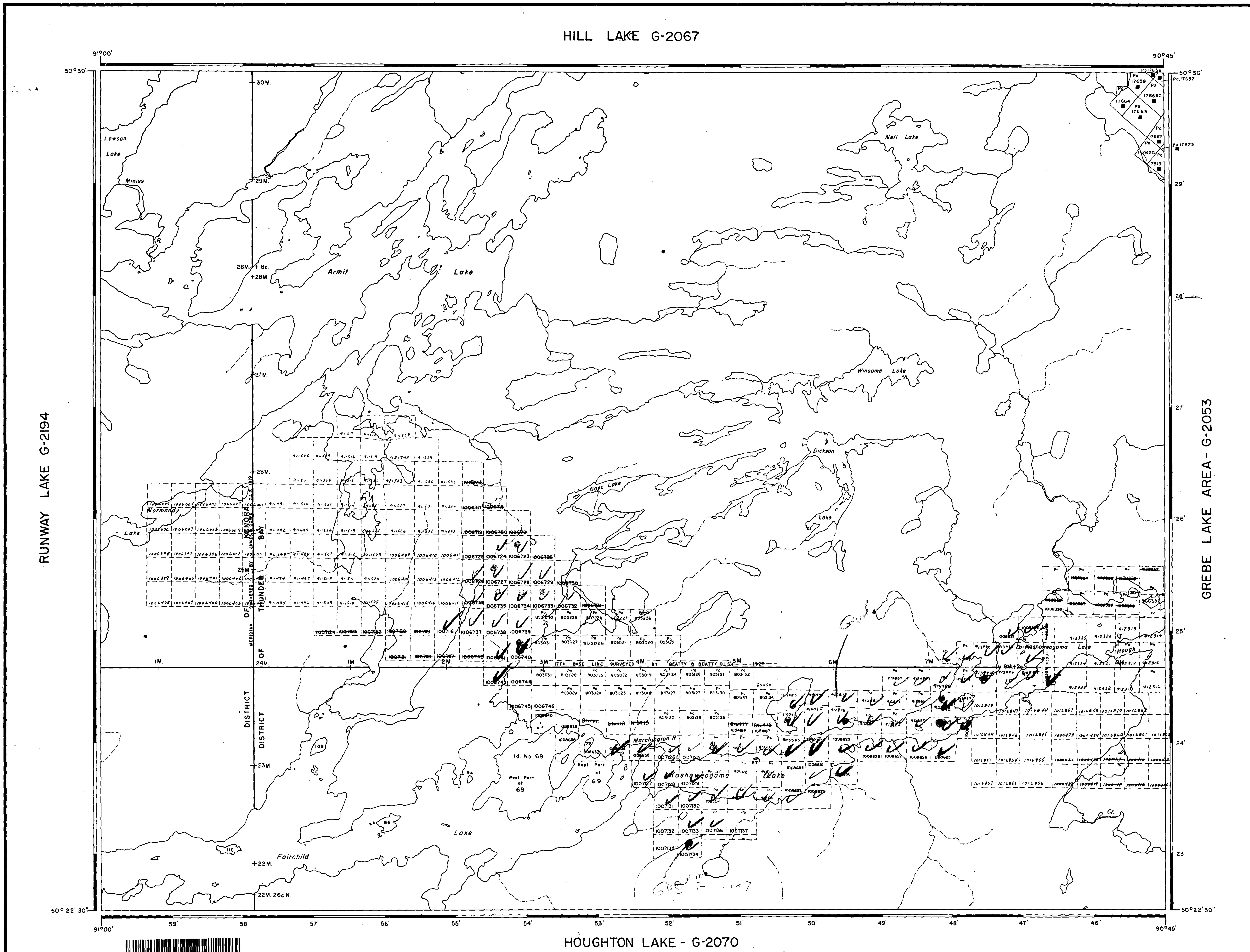
Field Analysis (______ tests)
Extraction Method
Analytical Method
Reagents Used

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 grams sample - Fire assay with atomic absorption finish.



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 25/86
July 31/86

Apr 17/86
Nov 21/86
APR 13/87
Apr 15/87
Sept 1/87
Oct 20/87
Nov 5/87
Nov 26/87
87/12/18

SCALE: 1 INCH = 40 CHAINS

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

AREA

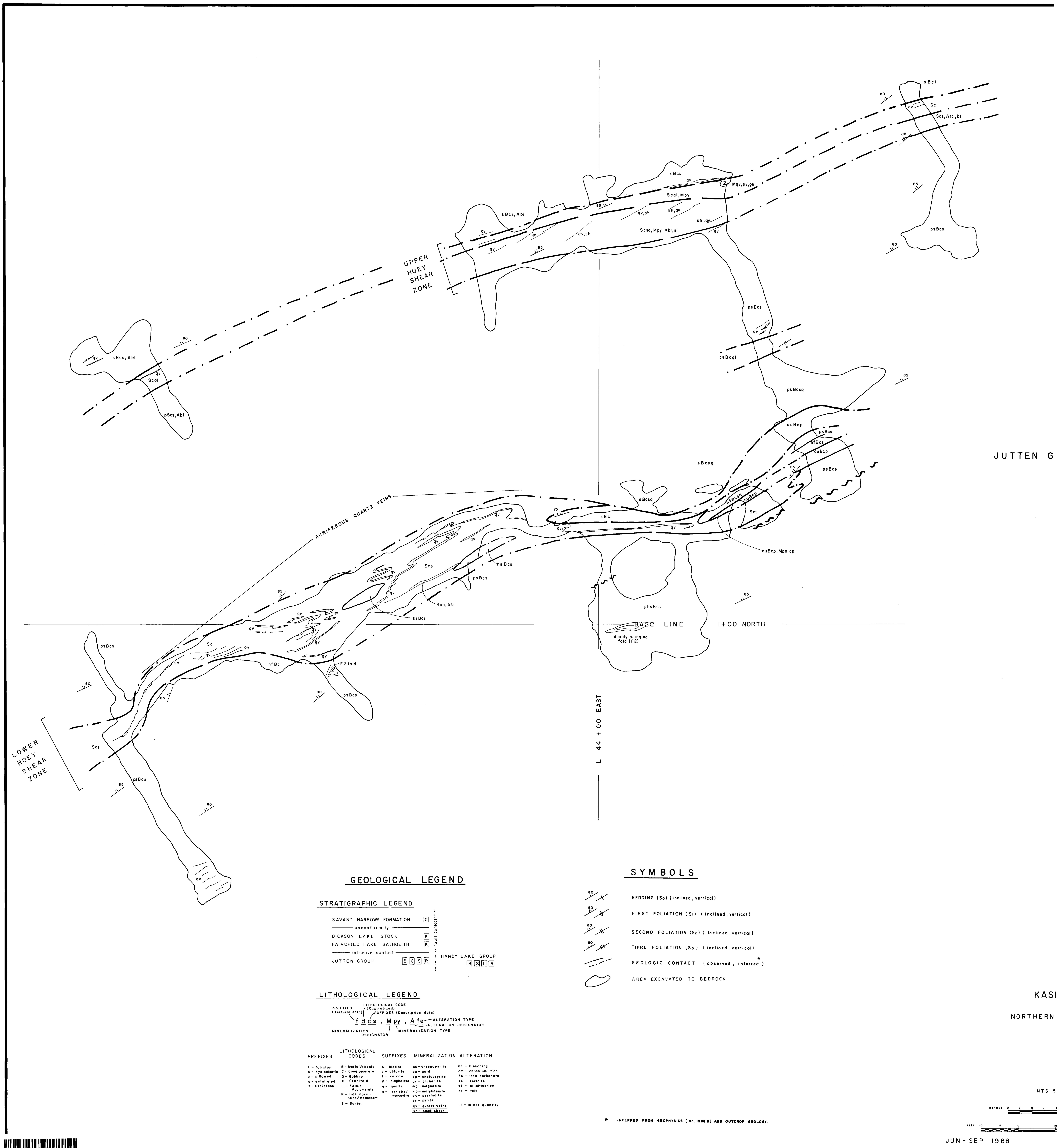
ARMIT LAKE

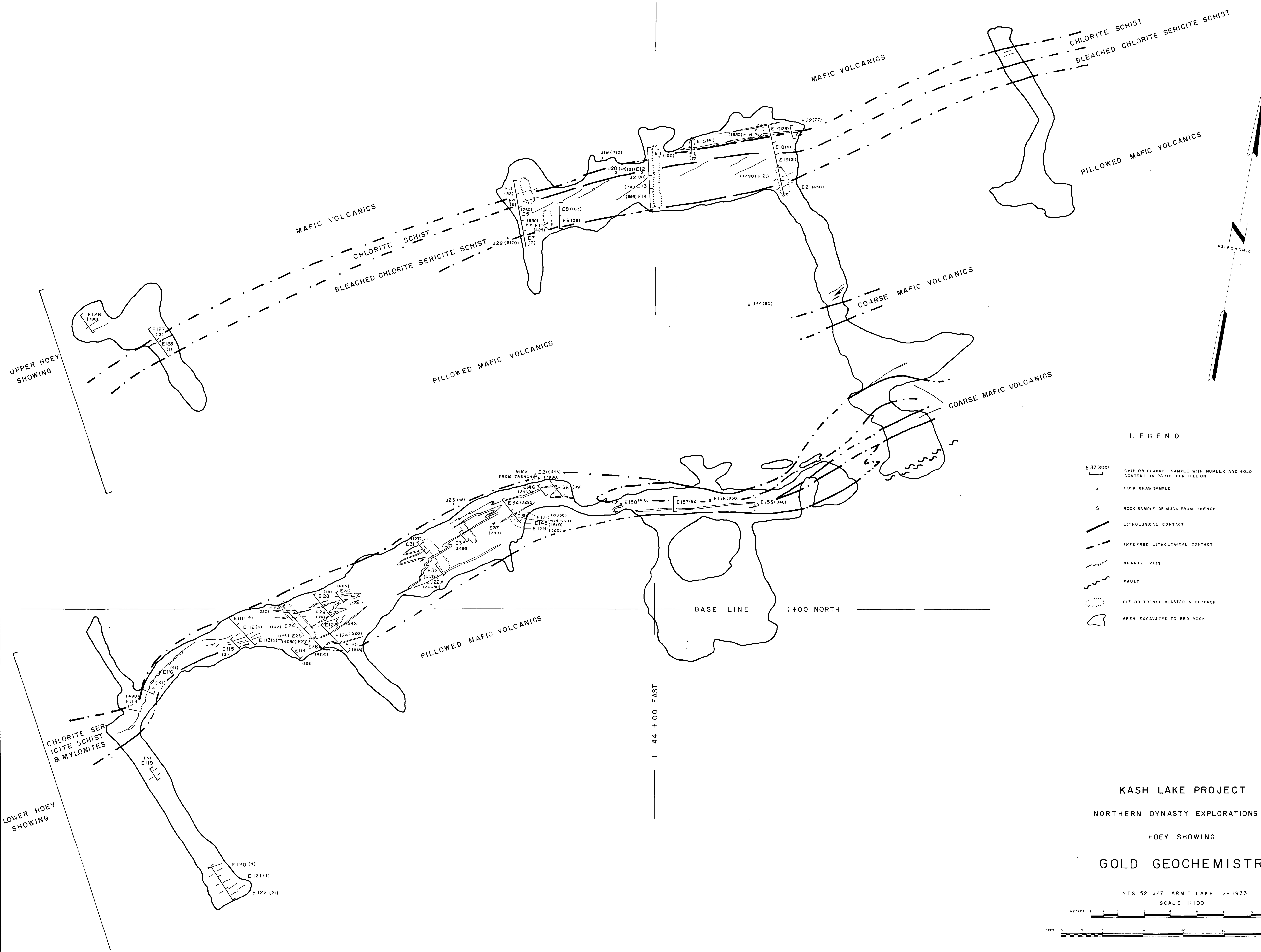
M.N.R. ADMINISTRATIVE DISTRICT
SIOUX LOOKOUT
MINING DIVISION
PATRICIA
LAND TITLES / REGISTRY DIVISION
KENORA / THUNDER BAY

Ministry of Natural Resources Ontario — Land Management Branch

Date JANUARY, 1984 Number

52J07NW8931 2.12077 ARMIT LAKE 200


UPPER HOEY SHEAR ZONE
LOWER HOEY SHEAR ZONE
AURIFEROUS QUARTZ VEINS
BASE LINE 1+00 NORTH
L 44+00 EAST
JUTTEN G
sBcs, Abl
Scql
pScs, Abl
sBcs, Abl
Scql, Mpy
Scsq, Mpy, Abl, si
Mqv, py, gn
sBcl
Scl
Scs, Atc, bl
psBcs
csBcql
psBcsq
cuBcp
hfBcs
sBcsq
sBcl
Scs
hs Bcs
Scq, Afe
hfBc
F2 fold
phsBcs
doubly plunging fold (F2)
cuBcp, Mpo, cp
GEOLOGICAL LEGEND
STRATIGRAPHIC LEGEND
SAVANT NARROWS FORMATION C
unconformity
DICKSON LAKE STOCK K
FAIRCHILD LAKE BATHOLITH K
intrusive contact
JUTTEN GROUP B G S R
fault contact
HANDY LAKE GROUP B S L R
LITHOLOGICAL LEGEND
PREFIXES (Textural data)
LITHOLOGICAL CODE (Capitalized)
SUFFIXES (Descriptive data)
fBcs, Mpy, Afe
ALTERATION TYPE
ALTERATION DESIGNATOR
MINERALIZATION DESIGNATOR
MINERALIZATION TYPE
PREFIXES
f - foliation
h - hyaloclastic
p - pillowed
u - unfoliated
s - schistose
LITHOLOGICAL CODES
B - Mafic Volcanic
C - Conglomerate
G - Gabbro
K - Granitoid
L - Felsic Agglomerate
R - Iron Formation/Metachert
S - Schist
SUFFIXES
b - biotite
c - chlorite
l - calcite
p - plagioclase
q - quartz
s - sericite/muscovite
MINERALIZATION
as - arsenopyrite
au - gold
cp - chalcopyrite
gr - grunerite
mg - magnetite
mo - molybdenite
po - pyrrhotite
py - pyrite
qv - quartz veins
sh - small shear
ALTERATION
bl - bleaching
cm - chromium mica
fe - iron carbonate
se - sericite
si - silicification
tc - talc
( ) = minor quantity
SYMBOLS
BEDDING (So) (inclined, vertical)
FIRST FOLIATION (S1) (inclined, vertical)
SECOND FOLIATION (S2) (inclined, vertical)
THIRD FOLIATION (S3) (inclined, vertical)
GEOLOGIC CONTACT (observed, inferred*)
AREA EXCAVATED TO BEDROCK
* INFERRED FROM GEOPHYSICS (Ho, 1988 B) AND OUTCROP GEOLOGY.
KASI
NORTHERN
NTS 5
METRES
FEET
JUN-SEP 1988
210



LEGEND

E33(630)	CHIP OR CHANNEL SAMPLE WITH NUMBER AND GOLD CONTENT IN PARTS PER BILLION
x	ROCK GRAB SAMPLE
△	ROCK SAMPLE OF MUCK FROM TRENCH
	LITHOLOGICAL CONTACT
	INFERRED LITHOLOGICAL CONTACT
	QUARTZ VEIN
	FAULT
	PIT OR TRENCH BLASTED IN OUTCROP
	AREA EXCAVATED TO BED ROCK

KASH LAKE PROJECT

NORTHERN DYNASTY EXPLORATIONS LTD.

HOEY SHOWING

2.12077

GOLD GEOCHEMISTRY

NTS 52 J/7 ARMIT LAKE G-1933

SCALE 1:100

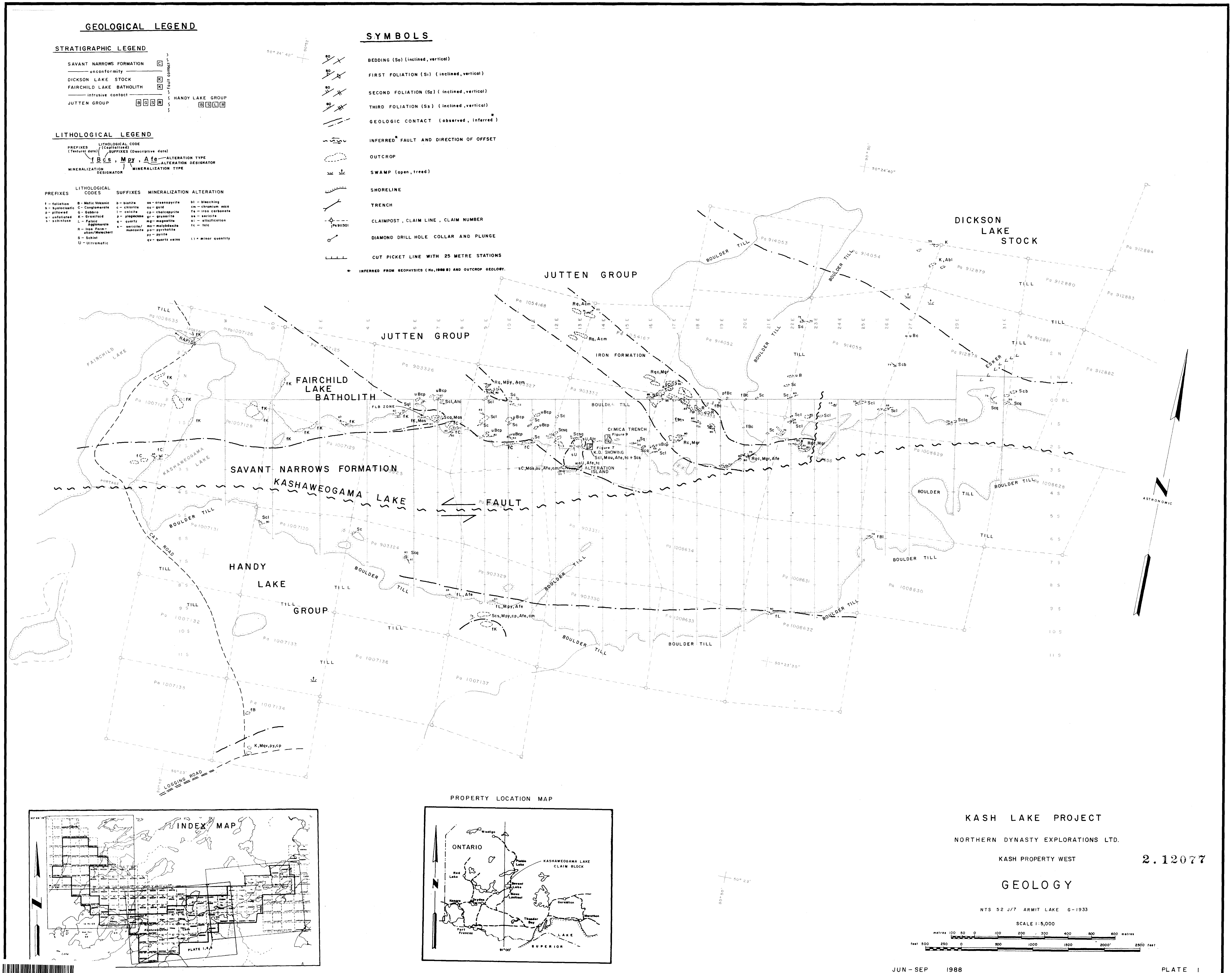
METRES 2 0 2 4 6 8 10 12 METRES

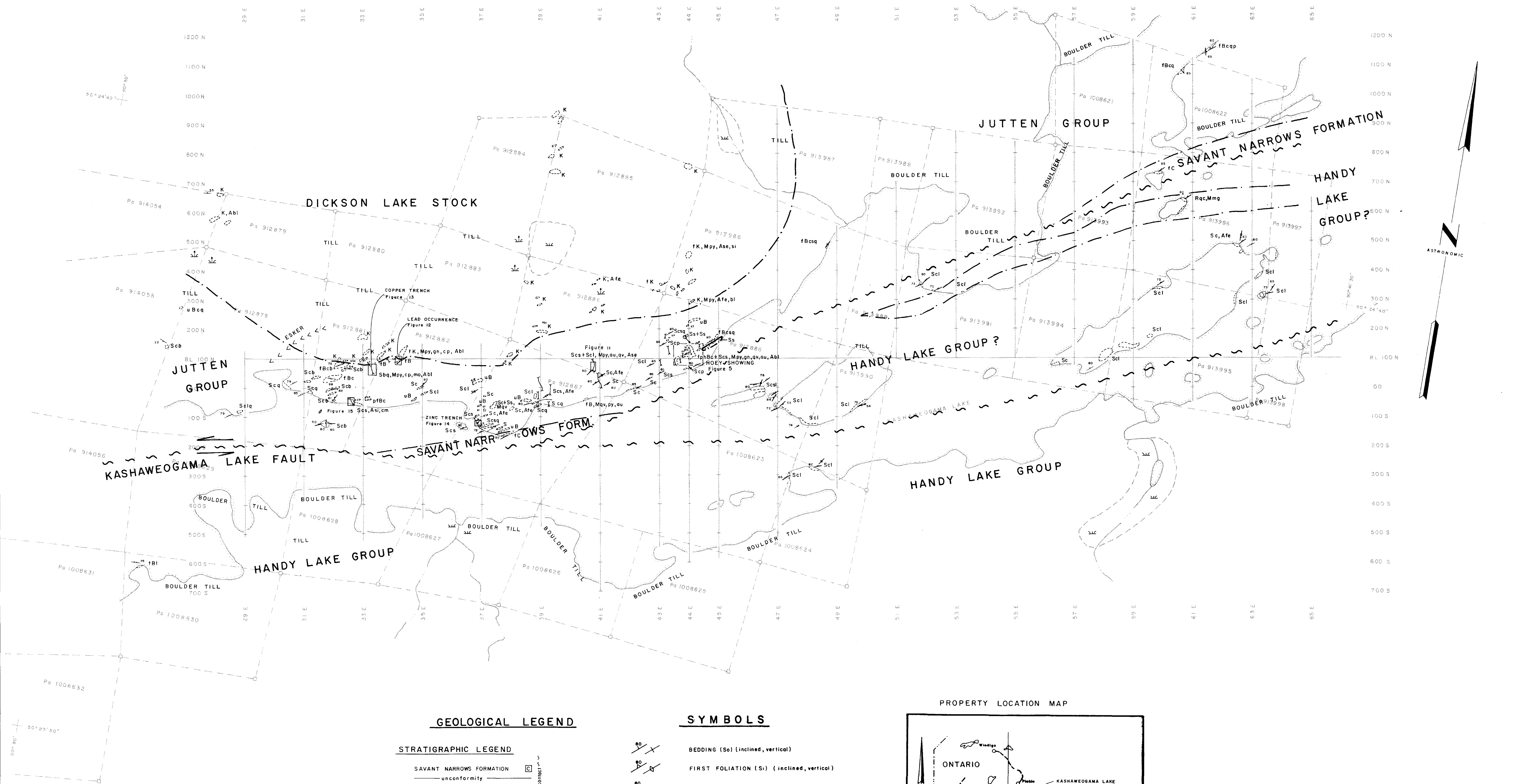
FEET 10 5 0 10 20 30 40 50 FEET

JUN – NOV 1988

FIGURE 6

220


GEOLOGICAL LEGEND
STRATIGRAPHIC LEGEND
SAVANT NARROWS FORMATION C
unconformity
DICKSON LAKE STOCK K
FAIRCHILD LAKE BATHOLITH K
intrusive contact
JUTTEN GROUP B G S R
fault contact
HANDY LAKE GROUP B S L R
LITHOLOGICAL LEGEND
PREFIXES (Textural data)
LITHOLOGICAL CODE (Capitalized)
SUFFIXES (Descriptive data)
f Bcs , Mpy , Afe
ALTERATION TYPE
ALTERATION DESIGNATOR
MINERALIZATION DESIGNATOR
MINERALIZATION TYPE
PREFIXES
f - foliation
h - hyaloclastic
p - pillowed
u - unfoliated
s - schistose
LITHOLOGICAL CODES
B - Mafic Volcanic
C - Conglomerate
G - Gabbro
K - Granitoid
L - Felsic Agglomerate
R - Iron Formation/Menchert
S - Schist
U - Ultramafic
SUFFIXES
b - biotite
c - chlorite
l - calcite
p - plagioclase
q - quartz
s - sericite/muscovite
MINERALIZATION
as - arsenopyrite
au - gold
cp - chalcopyrite
gr - graphite
mg - magnetite
mo - molybdenite
po - pyrrhotite
py - pyrite
qv - quartz veins
ALTERATION
bl - bleaching
cm - chromium mica
fe - iron carbonate
ss - sericite
si - silicification
tc - talc
( ) - minor quantity
SYMBOLS
BEDDING (So) (inclined, vertical)
FIRST FOLIATION (S1) (inclined, vertical)
SECOND FOLIATION (S2) (inclined, vertical)
THIRD FOLIATION (S3) (inclined, vertical)
GEOLOGIC CONTACT (observed, inferred*)
INFERRED* FAULT AND DIRECTION OF OFFSET
OUTCROP
SWAMP (open, treed)
SHORELINE
TRENCH
CLAIMPOST, CLAIM LINE, CLAIM NUMBER
DIAMOND DRILL HOLE COLLAR AND PLUNGE
CUT PICKET LINE WITH 25 METRE STATIONS
* INFERRED FROM GEOPHYSICS (Ho, 1988 B) AND OUTCROP GEOLOGY.
DICKSON LAKE STOCK
JUTTEN GROUP
JUTTEN GROUP
IRON FORMATION
FAIRCHILD LAKE BATHOLITH
FLB ZONE
SAVANT NARROWS FORMATION
KASHAWEOGAMA LAKE
FAULT
HANDY LAKE GROUP
Cr MICA TRENCH
Figure 9
Figure 7
K.D. SHOWING
ALTERATION ISLAND
FAIRCHILD LAKE
KASHAWEOGAMA LAKE
RAPIDS
PORTAGE
CAT ROAD
LOGGING ROAD
ESKER
BOULDER TILL
TILL
ASTRONOMIC
N
INDEX MAP
PLATE 1,4,5
PROPERTY LOCATION MAP
ONTARIO
KASHAWEOGAMA LAKE CLAIM BLOCK
Red Lake
Pickle Lake
Savant Lake
Sioux Lookout
Kenora
Dryden
Geraldton
Marathon
Thunder Bay
Fort Frances
LAKE SUPERIOR
KASH LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD.
KASH PROPERTY WEST
2.12077
GEOLOGY
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1:5,000
JUN-SEP 1988
PLATE 1
230



GEOLOGICAL LEGEND

STRATIGRAPHIC LEGEND

SAVANT NARROWS FORMATION [C]
——— unconformity ———
DICKSON LAKE STOCK [K]
FAIRCHILD LAKE BATHOLITH [K]
——— intrusive contact ———
JUTTEN GROUP [B][G][S][R]
(fault contact)
HANDY LAKE GROUP [B][S][L][R]

LITHOLOGICAL LEGEND

PREFIXES (Textural data) — LITHOLOGICAL CODE (Capitalized) — SUFFIXES (Descriptive data)
fBcs, Mpy, Afe — ALTERATION TYPE, ALTERATION DESIGNATOR, MINERALIZATION TYPE, MINERALIZATION DESIGNATOR

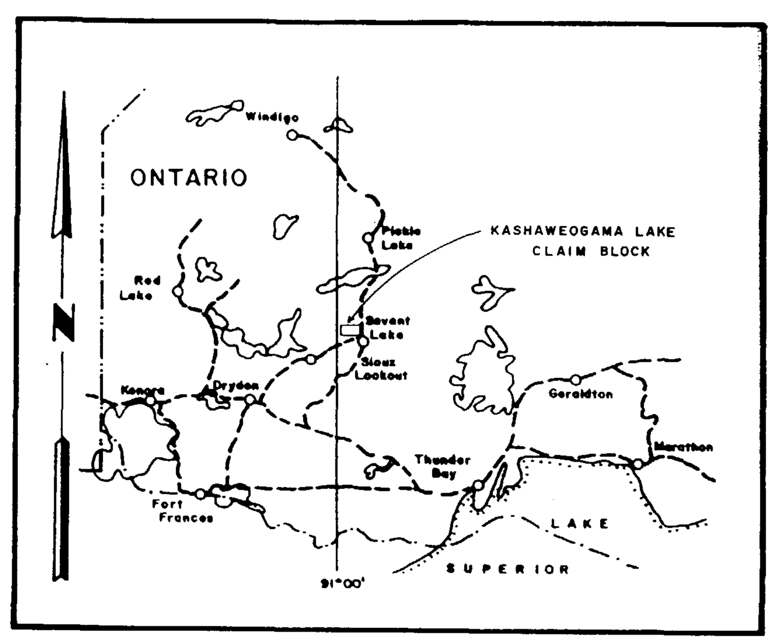
PREFIXES	LITHOLOGICAL CODES	SUFFIXES	MINERALIZATION	ALTERATION
f - foliation	B - Mafic Volcanic	b - biotite	as - arsenopyrite	bl - bleaching
h - hyaloclastic	C - Conglomerate	c - chlorite	au - gold	cm - chromium mica
p - pillowed	G - Gabbro	l - calcite	cp - chalcopyrite	fe - iron carbonate
u - unfoliated	K - Granitoid	p - plagioclase	gr - greenstite	se - sericite
	L - Felsic Agglomerate	q - quartz	mg - magnetite	si - silicification
	R - Iron Formation/Metechert	s - sericite/muscovite	mo - molybdenite	tc - talc
	S - Schist		po - pyrrhotite	
			py - pyrite	
			qv - quartz veins	
			( ) - minor quantity	

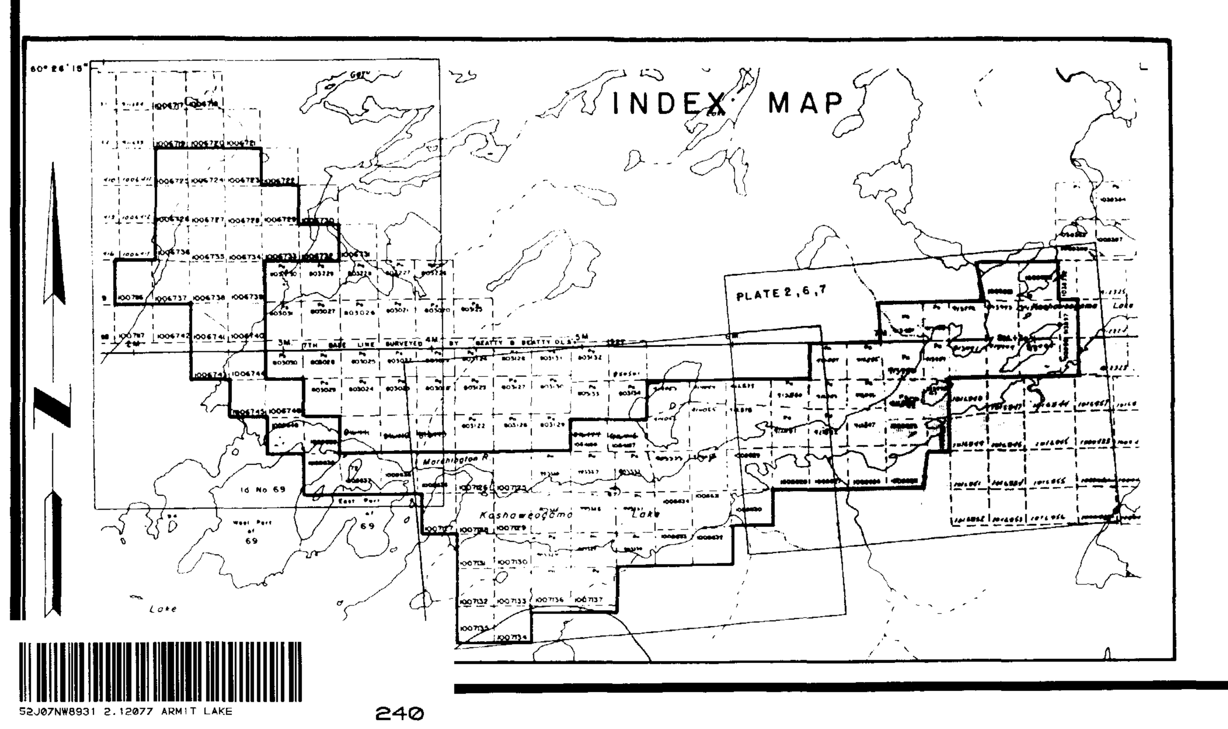
SYMBOLS

- BEDDING (So) (inclined, vertical)
- FIRST FOLIATION (S1) (inclined, vertical)
- SECOND FOLIATION (S2) (inclined, vertical)
- THIRD FOLIATION (S3) (inclined, vertical)
- GEOLOGIC CONTACT (observed, inferred*)
- INFERRED* FAULT AND DIRECTION OF OFFSET
- OUTCROP
- SWAMP (open, treed)
- SHORELINE
- TRENCH
- CLAIMPOST, CLAIM LINE, CLAIM NUMBER
- DIAMOND DRILL HOLE COLLAR AND PLUNGE
- CUT PICKET LINE WITH 25 METRE STATIONS

* INFERRED FROM GEOPHYSICS (Ho, 1988 B) AND OUTCROP GEOLOGY.

PROPERTY LOCATION MAP





KASH LAKE PROJECT

NORTHERN DYNASTY EXPLORATIONS LTD.

KASH PROPERTY EAST

GEOLOGY

2.12077

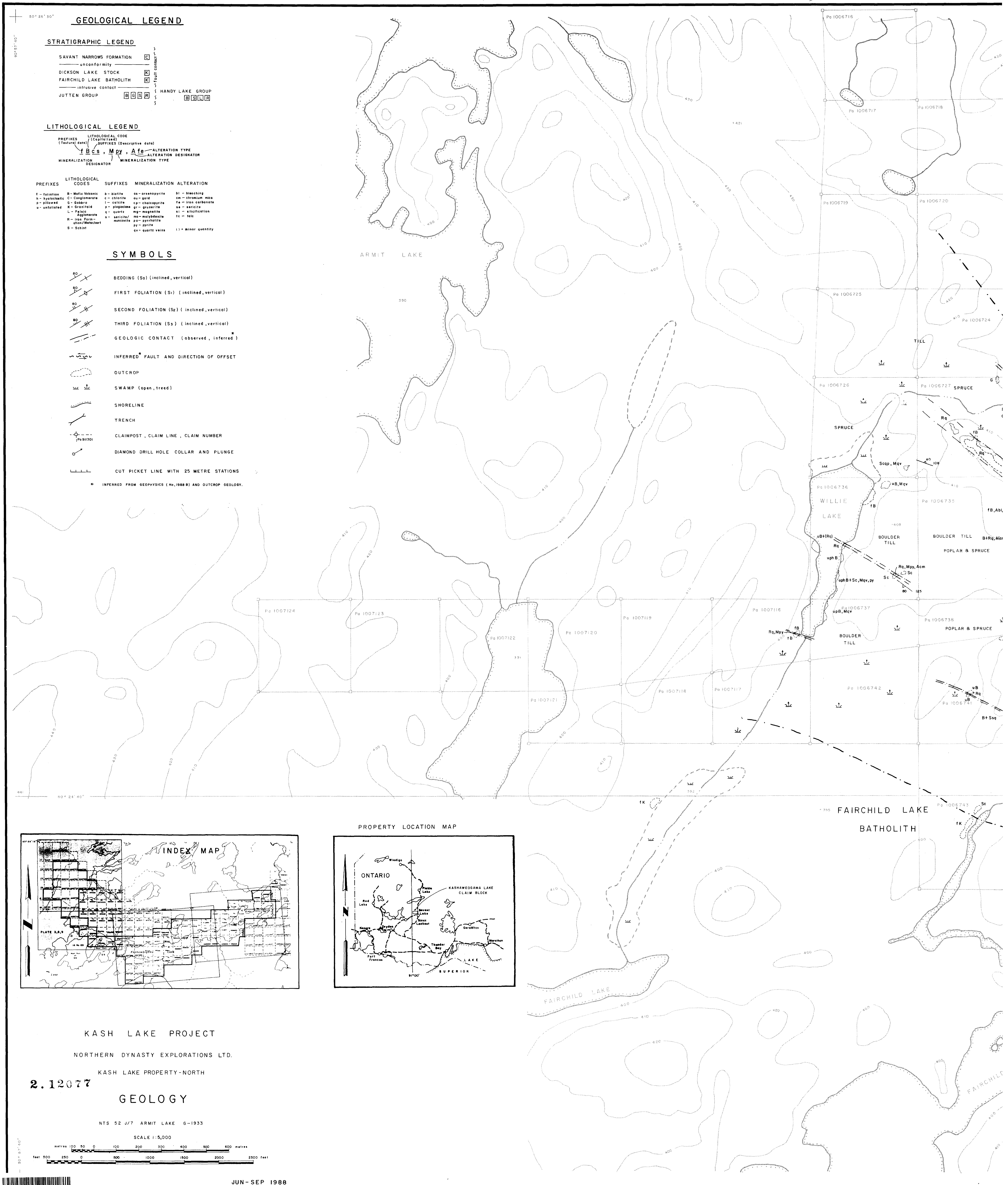
NTS 52 J/7 ARMIT LAKE G-1933

SCALE 1:5,000

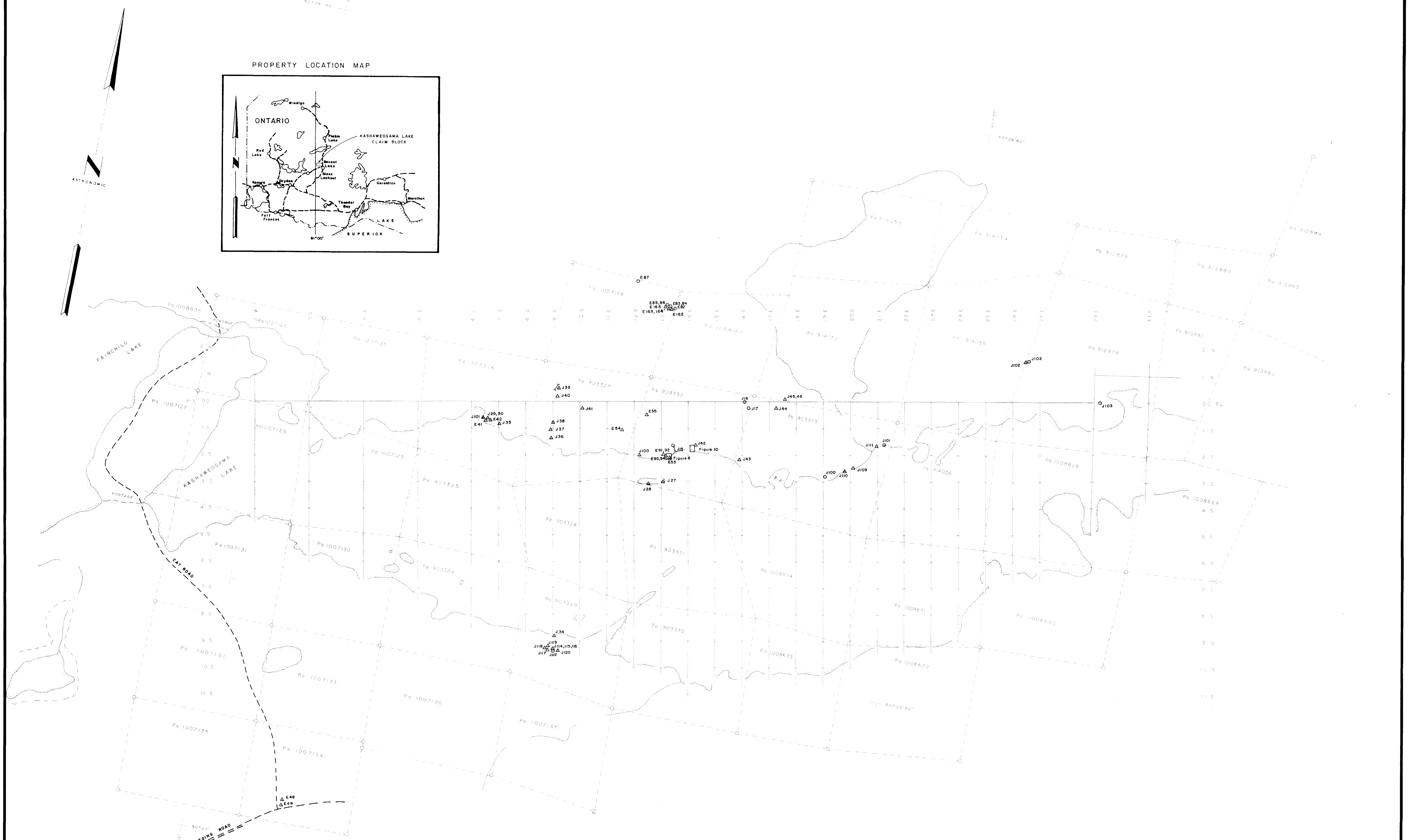
JUN-SEP 1988

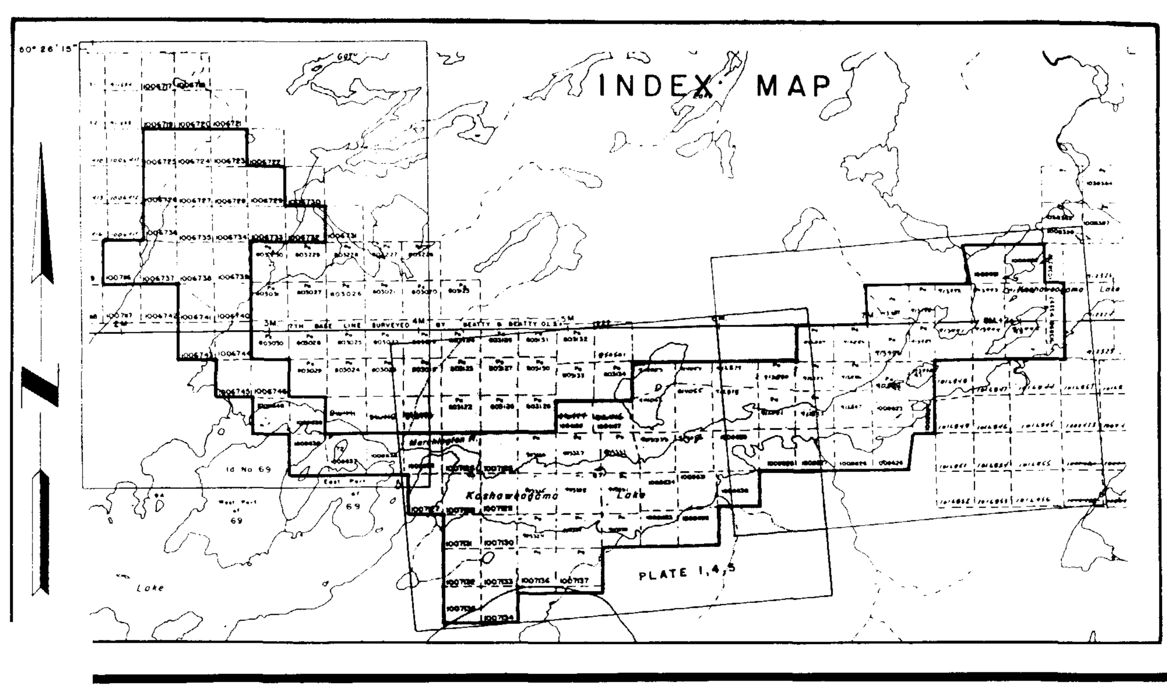
PLATE 2

240



GEOLOGICAL LEGEND
STRATIGRAPHIC LEGEND
SAVANT NARROWS FORMATION C
unconformity
DICKSON LAKE STOCK K
FAIRCHILD LAKE BATHOLITH K
intrusive contact
JUTTEN GROUP B G S R
fault contact
HANDY LAKE GROUP B S L R
LITHOLOGICAL LEGEND
PREFIXES (Textural data)
LITHOLOGICAL CODE (Capitalized)
SUFFIXES (Descriptive data)
fBcs, Mpy, Afe
ALTERATION TYPE
ALTERATION DESIGNATOR
MINERALIZATION DESIGNATOR
MINERALIZATION TYPE
PREFIXES
f - foliation
h - hyaloclastic
p - pillowed
u - unfoliated
LITHOLOGICAL CODES
B - Mafic Volcanic
C - Conglomerate
G - Gabbro
K - Granitoid
L - Felsic Agglomerate
R - Iron Formation/Metachert
S - Schist
SUFFIXES
b - biotite
c - chlorite
l - calcite
p - plagioclase
q - quartz
s - sericite/muscovite
MINERALIZATION
as - arsenopyrite
au - gold
cp - chalcopyrite
gr - grunerite
mg - magnetite
mo - molybdenite
po - pyrrhotite
py - pyrite
qv - quartz veins
ALTERATION
bl - bleaching
cm - chromium mica
fe - iron carbonate
se - sericite
si - silicification
tc - talc
( ) = minor quantity
SYMBOLS
BEDDING (So) (inclined, vertical)
FIRST FOLIATION (S1) (inclined, vertical)
SECOND FOLIATION (S2) (inclined, vertical)
THIRD FOLIATION (S3) (inclined, vertical)
GEOLOGIC CONTACT (observed, inferred*)
INFERRED* FAULT AND DIRECTION OF OFFSET
OUTCROP
SWAMP (open, treed)
SHORELINE
TRENCH
CLAIMPOST, CLAIM LINE, CLAIM NUMBER
DIAMOND DRILL HOLE COLLAR AND PLUNGE
CUT PICKET LINE WITH 25 METRE STATIONS
* INFERRED FROM GEOPHYSICS (Ho, 1988 B) AND OUTCROP GEOLOGY.
ARMIT LAKE
WILLIE LAKE
SPRUCE
TILL
BOULDER TILL
POPLAR & SPRUCE
FAIRCHILD LAKE BATHOLITH
FAIRCHILD LAKE
INDEX MAP
PROPERTY LOCATION MAP
ONTARIO
KASHAWEOGAMA LAKE CLAIM BLOCK
Thunder Bay
LAKE SUPERIOR
KASH LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD.
KASH LAKE PROPERTY-NORTH
2.12077
GEOLOGY
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1:5,000
JUN-SEP 1988





LEGEND

- LAKE SHORE
- CREEK
- SWAMP
- CLAIM POST AND LINE
- AREA OF 1:100 ENLARGEMENT
- TRENCH
- CUT GRID LINE
- O J45 SOIL SAMPLE SITE AND NUMBER
- △ J50 ROCK SAMPLE SITE AND NUMBER

KASH LAKE PROJECT

NORTHERN DYNASTY EXPLORATIONS LTD.

KASH PROPERTY WEST

SAMPLE LOCATION MAP

2.12077

NTS 52 J/7 ARMIT LAKE G-1933

SCALE 1:5,000

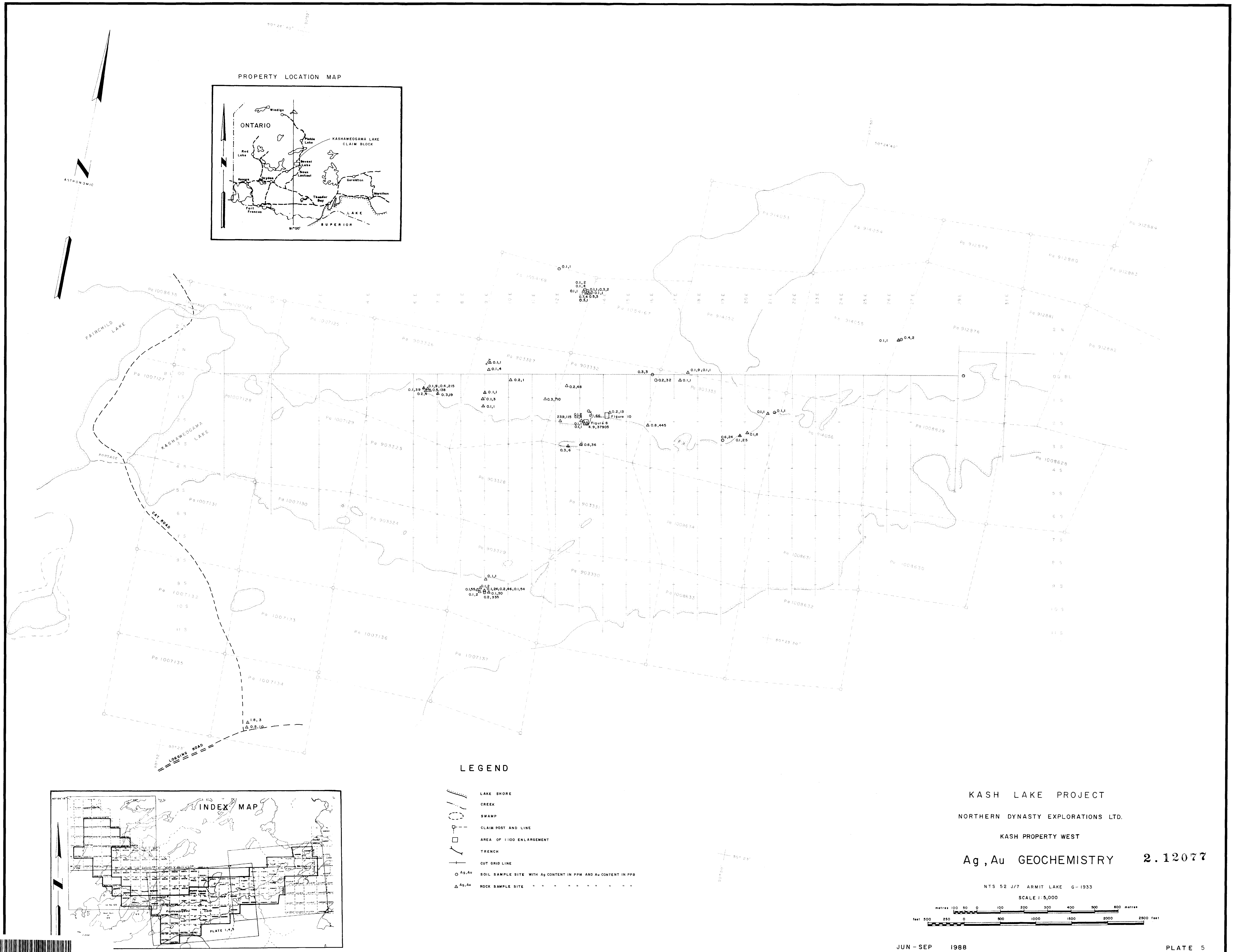
metres 100 50 0 100 200 300 400 500 600 metres

feet 500 250 0 500 1000 1500 2000 2500 feet

JUN-SEP 1988

PLATE 4

260



LEGEND

- LAKE SHORE
- CREEK
- SWAMP
- CLAIM POST AND LINE
- AREA OF 1:100 ENLARGEMENT
- TRENCH
- CUT GRID LINE
- ○ Ag, Au SOIL SAMPLE SITE WITH Ag CONTENT IN PPM AND Au CONTENT IN PPB
- △ Ag, Au ROCK SAMPLE SITE " " " " " " " " "

KASH LAKE PROJECT

NORTHERN DYNASTY EXPLORATIONS LTD.

KASH PROPERTY WEST

Ag, Au GEOCHEMISTRY

2.12077

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

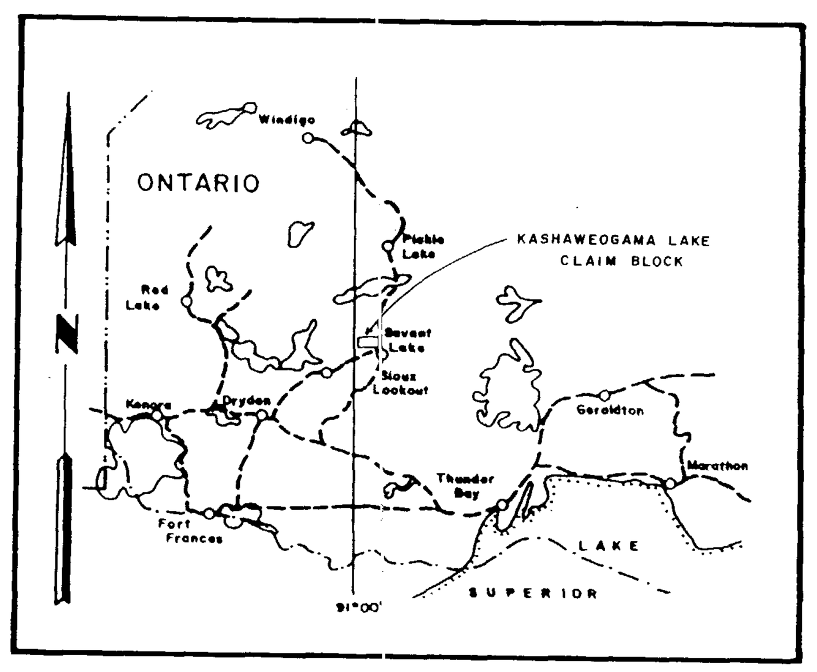
JUN-SEP 1988

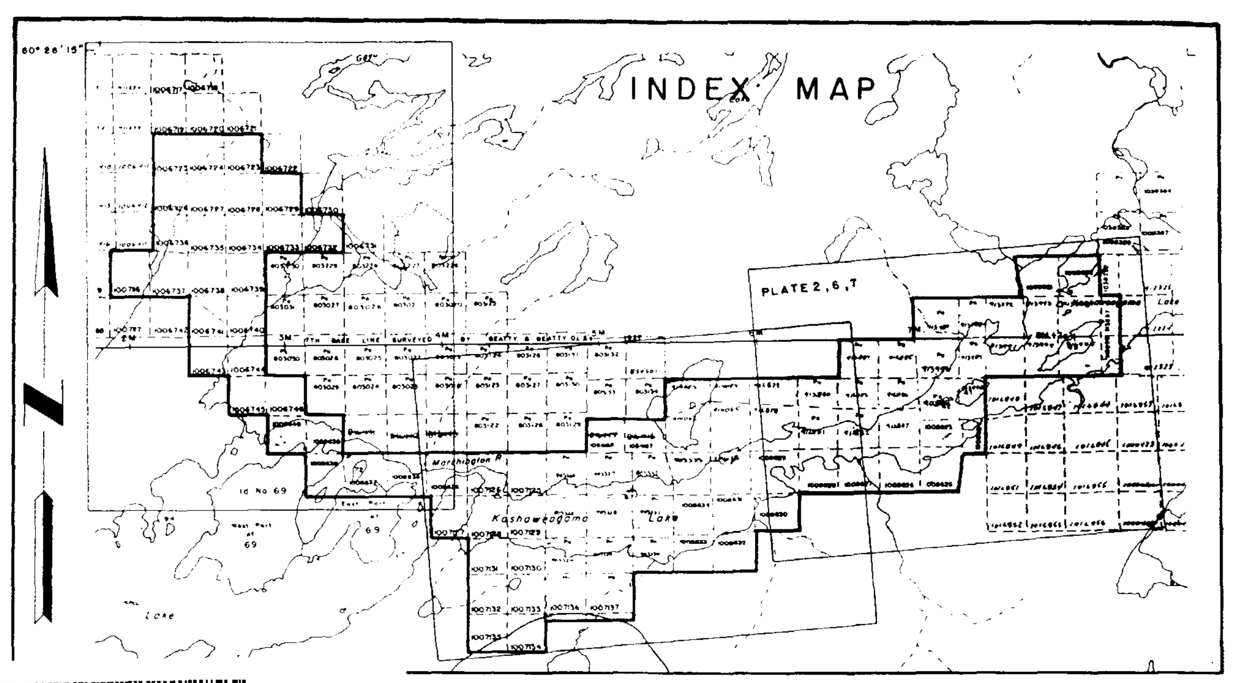
PLATE 5

270

KASH LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD.
KASH PROPERTY EAST
2.12077
SAMPLE LOCATION MAP
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1:5,000
JUN-SEPT 1988
PLATE 6
280
LEGEND
LAKE SHORE
CREEK
SWAMP
CLAIM POST AND LINE
AREA OF 1:100 ENLARGEMENT
TRENCH
CUT GRID LINE
SOIL SAMPLE SITE WITH NUMBER
ROCK SAMPLE SITE WITH NUMBER
PROPERTY LOCATION MAP
ONTARIO
KASHAWEOGAMA LAKE CLAIM BLOCK
LAKE SUPERIOR
INDEX MAP
PLATES 5,6,7
ASTRONOMIC
KASHAWEOGAMA LAKE
CAMP
Figure 6
Figure 11
Figure 12
Figure 13
Figure 14
Figure 15

PROPERTY LOCATION MAP





LEGEND

- LAKE SHORE
- CREEK
- SWAMP
- CLAIM POST AND LINE
- AREA OF 1:100 ENLARGEMENT
- TRENCH
- CUT GRID LINE
- ○ Ag, Au SOIL SAMPLE SITE WITH Ag CONTENT IN PPM, AND Au CONTENT IN PPB
- △ Ag, Au ROCK SAMPLE SITE " " " " " " " " "

KASH LAKE PROJECT

NORTHERN DYNASTY EXPLORATIONS LTD.

KASH PROPERTY EAST

Ag, Au GEOCHEMISTRY

2.12077

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

JUN-SEPT 1988

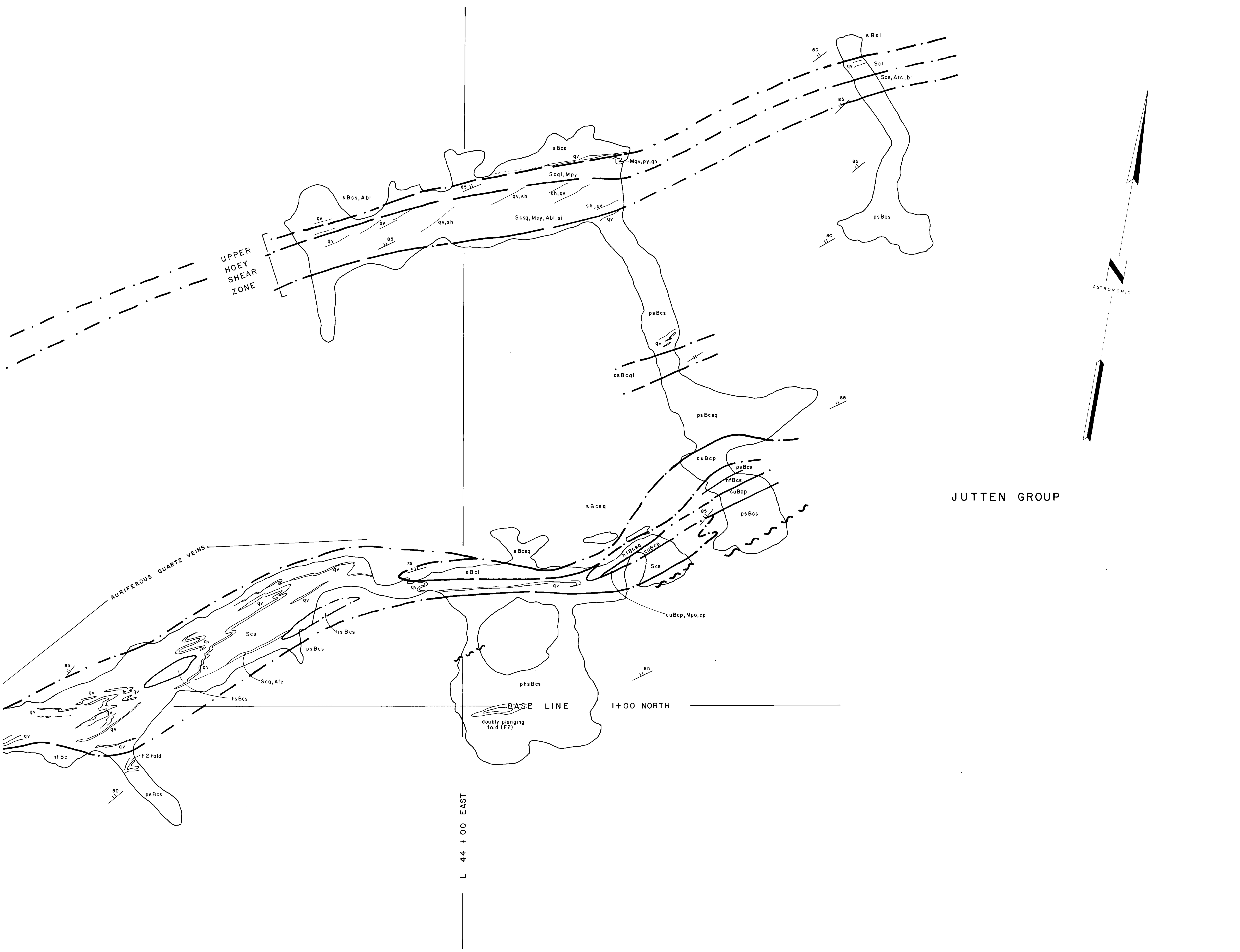
PLATE 7

52J07NW8531 2.12077 ARMIT LAKE

290


Pa 1006732
Pa 1006733
Pa 803230
Pa 803229
SCALE 1:1250
E206(87)
E6
E47
J33
E73
E46
E72
E43,44,45 (E5205,ER197) 1987
J31,32,33
E144
E74,75
E76
ASTRONOMIC
N
DEAD CHICKEN LAKE
WILLIE
E11
E51
E10
E193(87)
E194(87)
E52
G110,J409(87)
G109(87)
G113(87)
G120(87)
G122(87)
G111(87)
LS 23(87)
G195(87)
E204(87)
G121(1987)
E8,9
E50
E197(87)
E205(87)
E196(87)
E7
E71
E68
E141
E67
E140
E69
E70
INDEX MAP
LEGEND
CONTOUR LINES, ELEVATION IN METRES
SPOT ELEVATION IN METRES
OPEN SWAMP (MUSKEG)
TREED SWAMP (MUSKEG)

Pa 1006732
ASTRONOMIC
SCALE 1:1250
Pa 1006733
Pa 803230
Pa 803229
DEAD CHICKEN LAKE
INDEX MAP
LEGEND
CONTOUR LINES, ELEVATION IN METRES
SPOT ELEVATION IN METRES
OPEN SWAMP (MUSKEG)
TREED SWAMP (MUSKEG)



GEOLOGICAL LEGEND

STRATIGRAPHIC LEGEND

SAVANT NARROWS FORMATION [C]

——— unconformity ———

DICKSON LAKE STOCK [K]

FAIRCHILD LAKE BATHOLITH [K]

——— intrusive contact ———

JUTTEN GROUP [B] [G] [S] [R]

(fault contact) HANDY LAKE GROUP [B] [S] [L] [R]

LITHOLOGICAL LEGEND

f Bcs , Mpy , Afe

- PREFIXES (Textural data): f
- LITHOLOGICAL CODE (Capitalized): B
- SUFFIXES (Descriptive data): cs
- MINERALIZATION DESIGNATOR: M
- MINERALIZATION TYPE: py
- ALTERATION DESIGNATOR: A
- ALTERATION TYPE: fe

PREFIXES	LITHOLOGICAL CODES	SUFFIXES	MINERALIZATION	ALTERATION
f – foliation	B – Mafic Volcanic	b – biotite	as – arsenopyrite	bl – bleaching
h – hyaloclastic	C – Conglomerate	c – chlorite	au – gold	cm – chromium mica
p – pillowed	G – Gabbro	l – calcite	cp – chalcopyrite	fe – iron carbonate
u – unfoliated	K – Granitoid	p – plagioclase	gr – grunerite	se – sericite
s – schistose	L – Felsic Agglomerate	q – quartz	mg – magnetite	si – silicification
	R – Iron Formation/Metachert	s – sericite/muscovite	mo – molybdenite	tc – talc
	S – Schist		po – pyrrhotite	
			py – pyrite	
			qv – quartz veins	( ) = minor quantity
			sh – small shear	

SYMBOLS

BEDDING (So) (inclined, vertical)

FIRST FOLIATION (S1) (inclined, vertical)

SECOND FOLIATION (S2) (inclined, vertical)

THIRD FOLIATION (S3) (inclined, vertical)

GEOLOGIC CONTACT (observed, inferred*)

AREA EXCAVATED TO BEDROCK

* INFERRED FROM GEOPHYSICS (Ho, 1988 B) AND OUTCROP GEOLOGY.

KASH LAKE PROJECT

NORTHERN DYNASTY EXPLORATIONS LTD.

HOEY SHOWING

2.12077

GEOLOGY

NTS 52 J/7 ARMIT LAKE G-1933

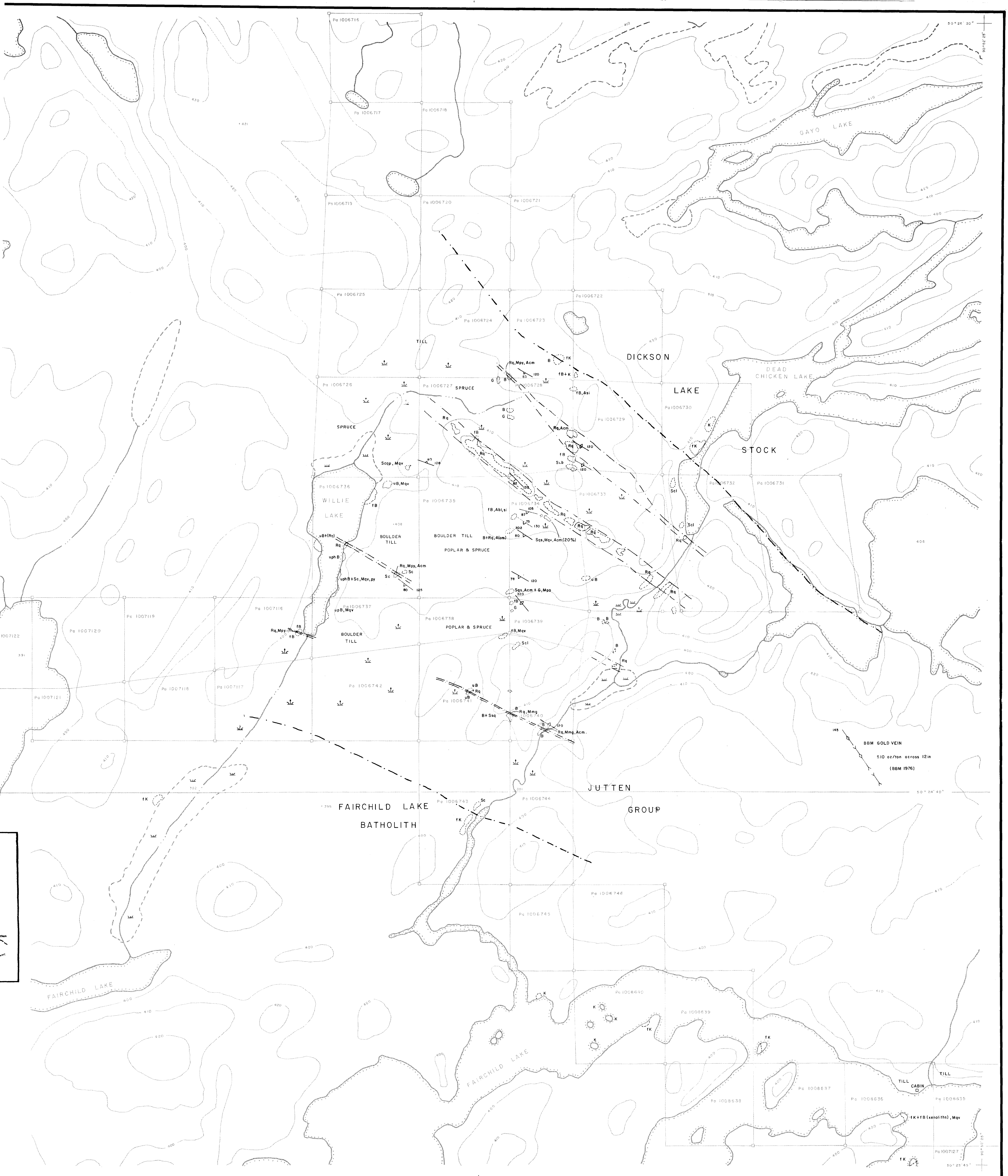
SCALE 1:100

METRES 2 1 0 2 4 6 8 10 12 METRES

FEET 10 5 0 10 20 30 40 50 FEET

JUN-SEP 1988

FIGURE 5


DICKSON
LAKE
STOCK
DEAD CHICKEN LAKE
GAYO LAKE
WILLIE LAKE
FAIRCHILD LAKE
BATHOLITH
JUTTEN
GROUP
FAIRCHILD LAKE
TILL
SPRUCE
BOULDER TILL
POPLAR & SPRUCE
BBM GOLD VEIN
.510 oz/ton across 12in
(BBM 1976)
TILL
CABIN
fK+fB (xenoliths), Mqv
Pa 1006716
Pa 1006717
Pa 1006718
Pa 1006719
Pa 1006720
Pa 1006721
Pa 1006722
Pa 1006723
Pa 1006724
Pa 1006725
Pa 1006726
Pa 1006727
Pa 1006728
Pa 1006729
Pa 1006730
Pa 1006731
Pa 1006732
Pa 1006733
Pa 1006734
Pa 1006735
Pa 1006736
Pa 1006737
Pa 1006738
Pa 1006739
Pa 1006740
Pa 1006741
Pa 1006742
Pa 1006743
Pa 1006744
Pa 1006745
Pa 1006746
Pa 1007116
Pa 1007117
Pa 1007118
Pa 1007119
Pa 1007120
Pa 1007121
Pa 1007122
Pa 1007127
Pa 1008635
Pa 1008636
Pa 1008637
Pa 1008638
Pa 1008639
Pa 1008640
50°26'30"
50°24'40"
50°23'45"


Pa 1006733
Pa 803230
Pa 803229
DEAD CHICKEN LAKE
FAIRCHILD LAKE
E197(87)
E205(87)
E196(87)
INDEX MAP
PLATE 3,8,9
LEGEND
420 CONTOUR LINES, ELEVATION IN METRES
· 420 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 (Ho 1988 A)
PIT OR TRENCH
E141 ROCK SAMPLE LOCATION AND NUMBER
E13 SOIL SAMPLE LOCATION AND NUMBER
(87) SAMPLES TAKEN IN 1987 (Ho 1988 A)
PROPERTY LOCATION MAP
ONTARIO
KASHAWEOGAMA LAKE CLAIM BLOCK
LAKE SUPERIOR
SAVANT LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD.
2.12077
KASH LAKE PROPERTY-NORTH
SAMPLE LOCATION MAP
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1:5,000
JUN-SEPT 1988
300

Pa 1006733
Pa 803230
Pa 803229
DEAD CHICKEN LAKE
WILLIE BAY
FAIRCHILD LAKE
INDEX MAP
PLATE 3,8,9
PROPERTY LOCATION MAP
ONTARIO
KASHAWEOGAMA LAKE CLAIM BLOCK
LAKE SUPERIOR
Thunder Bay
Fort Frances
Kenora
Dryden
Red Lake
Pickle Lake
Savant Lake
Sioux Lookout
Geraldton
Marathon
91°00'
LEGEND
420 CONTOUR LINES, ELEVATION IN METRES
· 420 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 (Ho 1988A)
PIT OR TRENCH
Ag Au ROCK SAMPLE LOCATION AND SILVER CONTENT IN PPM, GOLD CONTENT IN PPB
Ag Au SOIL SAMPLE LOCATION " " " " " " " " "
SAVANT LAKE PROJECT
NORTHERN DYNASTY EXPLORATIONS LTD.
KASH LAKE PROPERTY-NORTH
Ag, Au GEOCHEMISTRY
NTS 52 J/7 ARMIT LAKE G-1933
SCALE 1:5,000
2.12077
JUN-SEPT 1988
310