DIAMOND DRILLING

AREA: KEEYASK LAKE REPORT NO: 19

WORK PERFORMED FOR: Northern Dynasty Explorations

RECORDED HOLDER: Same as Above [xx]
: Other [ ]

Claim No.	Hole No.	Footage	Date	Note
Pa 818441	88-1	261.8m	June/88	(1)
	88-2	350.2m	June/88	(1)
Pa 816719	88-3	237.4m	June/88	(1)
Pa 816720	88-4	274m	June/88	(1)
Pa 818442	88-5	341m	July/88	(1)

NOTES: (1) W8903.092, date filed June/89

ONTARIO GOLD JOINT VENTURE

Arseno Lake Property

1988 Diamond Drill Assessment Report

VOLUME I

Prepared for:

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Patricia Mining Division
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Claim Maps - Keeyask Lake/G-2085; Seeseep Lake/G-2204

N.T.S. 53B 14/15
91°06'W Longitude; 52°58.5'N Latitude

February, 1989

ARSENO LAKE DEPOSIT

Abstract

The Arseno Lake property is located within the North Caribou greenstone belt, northwestern Ontario. It covers an east-west trending area approximately 13 km long and 2.5 km wide characterized by extensive base metal massive-sulphide and locallized precious metal mineralization.

Mineralization is principally contained within deformed-metamorphosed banded iron formations situated within a prominent 700 meter wide ductile shear zone. The deformation zone is oriented sub-parallel to the general stratigraphy and contains an anastomosing horizon of sericite altered meta-volcaniclastics and mafic metavolcanics which flank the iron formations. Deformation within and surrounding the shear zone comprises up to three fold generations of which the second-phase event produced prominent flattening and subvertical extension. Base metal sulphide distribution may be partially controlled through this geometry. Metamorphism appears syn to post kinematic to phase-two deformation and attained the lower amphibolite facies.

Two types of mineralization occur within the Arseno Lake Deposit. Disseminated to massive base-metal primary sulphide mineralization is hosted within grunerite-iron formations and adjacent volcanic-volcaniclastic wall rocks. Sulphide bodies in the iron formations consist of both brecciated mineralization, reflecting the brittle response of this lithology to deformation, and banded massive mineralization in which secondary gold-bearing sulphides have replaced the oxide layers of the original rocks. This mineralization is often accompanied by quartz-tourmaline veining and chromium-mica alteration.

The principal base metal sulphide mineralization was emplaced as a result of partial remobilization of primary syngenetic exhalative sulphides into areas of prominent dilation associated with second-phase deformation and accompanying metamorphism. A later overprint of epigenetic gold mineralization was deposited throughout the shear zone along compositional layers present within the oxide iron formations. The exact timing of this event is not certain.

Overall, syngenetic processes and stratigraphy resemble features within the Geco Base-Metal Deposit held by Noranda Mines while epigenetic gold mineralization at Castor Lake shows similarities to the Musselwhite and Snoppy Lake Deposits held by Placer Dome (3.4 million tons at 0.15 ounces/ton gold and 6 million tons at 0.203 ounces/ton gold, respectively) located within the southeastern extension of the North Caribou greenstone belt.

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Arseno Lake Property

SUMMARY

A 1,464 meter phase-three diamond drill program was completed by Northern Dynasty along a 1,000 meter strike length on the Arseno Lake property in 1988. Previous exploration and drilling conducted in 1987 outlined a horizon of highly deformed and metamorphosed grunerite iron formations contained within a major ductile shear zone. These iron formation-metacherts are host to an extensive and continuous body of deformed polymetallic massive sulphide. Drilling in 1987 encountered significant base and precious metal values in brecciated zones and intersected steeply east-plunging boudinage geometries within the iron formation horizon.

The 1988 drill program tested several down-plunge projections of the near-surface mineralization and yielded results similar to the 1987 program. Drilling also revealed a more pervasive sub-vertical extensional geometry which may control distribution of the mineralization.

Exploration of the continuous and persistent nature of the Arseno Lake mineralization trend is still within the early stages. At the current stage of investigation, only a fraction of the property's total strike length and depth potential has been explored through drilling and thus retains the possibility for a large deposit discovery.

1.0 GEOLOGICAL OVERVIEW

Preface

The Arseno Lake property, for the purposes of this report, comprises two adjoining sets of claims known as the Arseno and Castor Lake claims. These two sets of claims have been reported on separately in the past but due to their contiguous nature are considered here together (Figures 1, 2). In general, Arseno claims contain grid lines 4+00E to 84+00E while Castor claims comprise lines 47+00W to 1+00 E (Elsby et al. 1987; Elsby, 1988). Phase-three drilling results discussed in this report are completely contained within the Arseno claims.

1.1 Introduction

Preliminary geological investigations followed by phase-one diamond drilling were carried out on the Arseno Lake claims during portions of the 1984 and 1986 field seasons (Gorzynski et al., 1985; Youngman, 1987). Detailed geologic mapping accompanied by geophysical/geochemical surveys at a scale of 1:5000 were conducted over much of the Arseno Lake claim group during the 1987 field season. These programs were followed by phase-two diamond drilling during fall 1987. Results of the above programs are discussed in Elsby et al. (1987) and Elsby (1988). Phase-three diamond drilling referred to in this report was conducted during summer 1988.

1.2 Regional Geology

The Arseno Lake property is situated within the North Caribou greenstone belt which is located within the Sachigo Sub-Province of the Superior Geologic Province. This belt is a narrow arcuate east-west and northwest-southeast trending assemblage of supracrustal rocks with cuspate south-eastern and truncated bicuspate western terminations (Figure 2). These rocks lie within a large regional assemblage of granite and granitoid gneiss and largely comprise variably deformed and metamorphosed mafic volcanics, interflow clastic and chemical sediments and minor sedimentary debris flows.

Structural geometry surrounding the Arseno property is characterized by a large east-west trending synclinorium contained within an assemblage of pre- to syn-kinematic granite rocks and granitoid gneiss. The Arseno Lake property covers a 13 km strike length within a portion of the northern limb of the synclinorium. The primary exploration target within this property is centered around base metal sulphide iron formations and gold-bearing grunerite iron formations intercalated with mafic-volcanic-volcaniclastic units within an east-west trending ductile shear zone.

1.3 Local Geology

Lithologies within the Arseno Lake claim group generally strike east-west and are polydeformed and variably metamorphosed (Plates 1, 2). A prominent east-west trending subvertical regional metamorphic foliation has been developed sub-parallel to compositional layering within and adjacent to a 700 meter wide ductile shear zone. Deformation intensity fluctuates across the property with the most intense deformation recorded in the vicinity south of Lucy Lake (Plate 2).

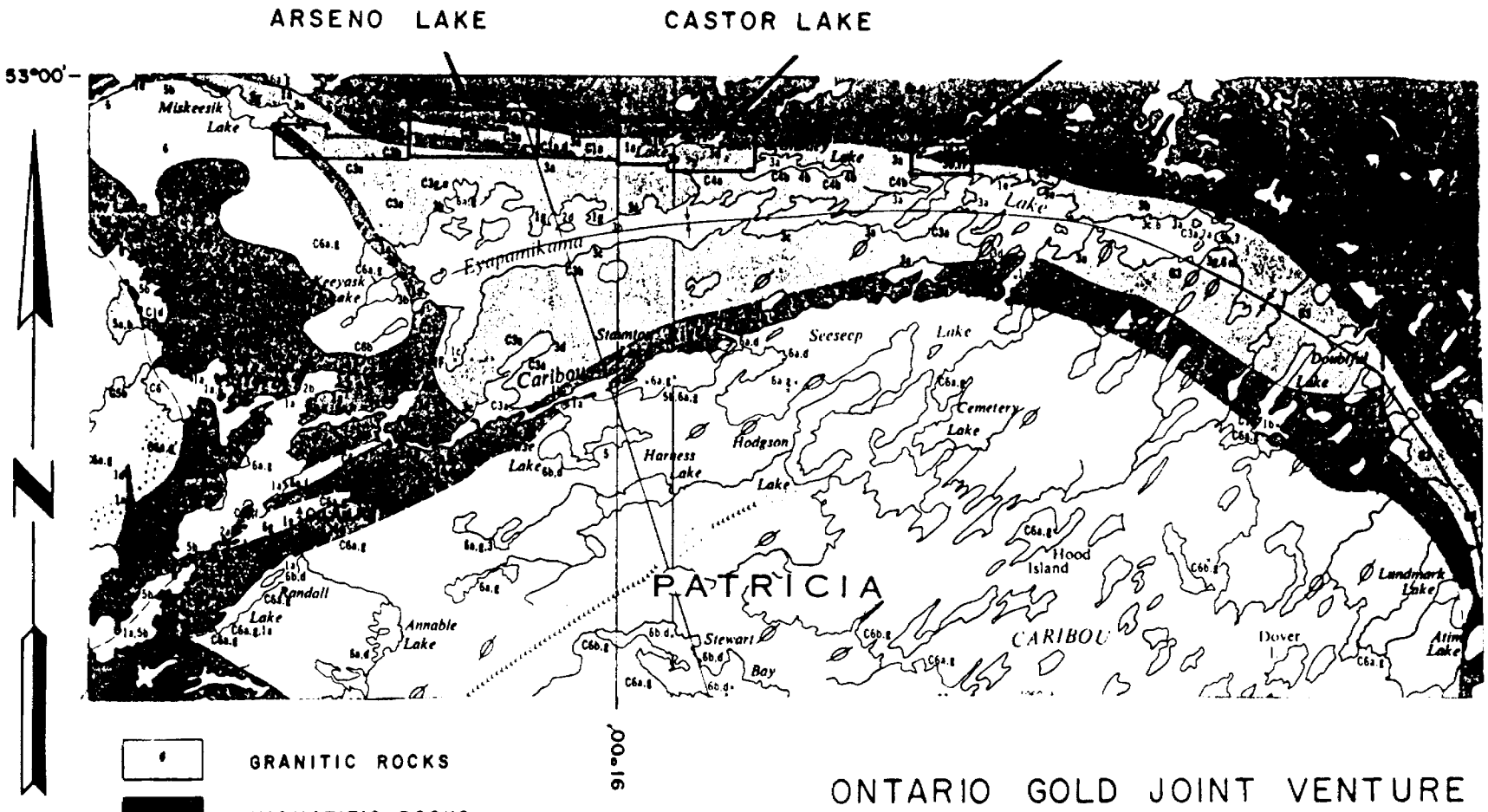
ONTARIO GOLD JOINT VENTURE

REGIONAL LOCATION MAP

SCALE 1" = 100 mi

JANUARY 1989

FIGURE 1



GRANITIC ROCKS

MIGMATITIC ROCKS

METASEDIMENTARY ROCKS

MAFIC METAVOLCANIC ROCKS

ONTARIO GOLD JOINT VENTURE

ARSENO LAKE PROPERTY

LOCATION MAP

NTS 53 B/14, 15

1 inch = 4 miles

1 : 253,440

JANUARY 1989

FIGURE 2

Northern-most claims are predominantly underlain by chloritic-schistose massive mafic-volcanics which pass through a sharp to transitional contact with an east-west trending ductile shear zone. Rock types within this high strain zone comprise intercalations of multiply-deformed pelitic schists, volcaniclastics, mafic volcanics, and sedimentary debris flows. Within this zone is a prominent horizon of internally folded grunerite-iron formation-metacherts which contain varying percentages of pyrrhotite, pyrite, sphalerite, galena, arsenopyrite, grunerite, and magnetite. This zone of complex and varied lithologies is referred to as the "Active Zone".

The southern boundary of the shear zone extends transitionally through a prominent unit of highly deformed conglomerates and breccias (debris flows) and into an overlying horizon of less deformed schistose-massive-mafic volcanics.

Within the poorly exposed southern edge of the property, this sequence is overlain with sharp contact by a package of moderately deformed turbiditic phyllites which contain well preserved sedimentary structures. Facing directions observed within structures indicate a general younging to the south and based upon this evidence, these rocks are believed to be the youngest on the property.

Metamorphic grade is variable throughout the property. Rocks within and immediately adjacent to the Active Zone contain mineral assemblages indicative of the lower amphibolite facies. South of this zone, metamorphic grade progressively decreases to the middle to lower greenschist within phyllitic rocks at the southern property boundary.

1.4 Structure

Rocks within the Arseno and Castor Lake claim groups have been variably deformed and metamorphosed within the lower greenschist to lower-middle amphibolite facies. A 700 meter wide high strain zone characterized by extensive ductile shearing and flattening trends east-west (subparallel to stratigraphy) through the property and has been the site of concentrated mineralization. Three phases of folding can be locally discerned within and adjacent to this zone and it is the superposition of these fold phases within areas of varied lithologic anisotropy which has produced the nearly complete transposition of bedding/compositional layering observed throughout the area.

Little is known about the earliest fold generation (phase-one) due to the extensive overprinting by successive deformation/metamorphism. Several areas contain early, poorly preserved, deformed linear structures which, when restored, indicate that phase-one folds were most likely upright, gently east-west plunging macroscopic structures formed through regional flattening associated with the formation of the Eyapamikama Synclinorium (Figure 2).

Phase-two deformation is characterized by vertical extension and sub-horizontal shearing. This served to flatten and refold earlier structures along steeply east-plunging axes into tight to isoclinal fold structures which, when coupled with the anisotropy and multiple viscosity contrasts present within the Active Zone, resulted in the formation of the prominent ductile shear zone. The inclination of the second phase foliation to the zone boundaries, where the orientation of the two can be distinguished, indicates that the overall sense of rotational strain within the horizontal plane of the system is sinistral. Pressure-shadow geometry associated with metamorphic garnet growth shows both a dextral and sinistral sense of rotation, a feature which most likely reflects differing local shear states active within various macroscopic folds.

Finite strain markers such as deformed pebble conglomerates and volcanic pillows, although often difficult to interpret, indicate both horizontal flattening and subvertical constriction (extension). A prominent penetrative boudinage is visible on all scales throughout the property and also indicates that extensive sub-vertical extension was active during phase-two deformation.

Third phase geometry post-dates the above deformation and comprises a well developed spaced pressure-solution crenulation cleavage. Post-kinematic faults, fractures and joints cross-cut all earlier deformation throughout the area.

1.5 Mineralization/Alteration

The main feature and exploration target within the Arseno Lake property is centered around a zone of prominent, highly continuous and largely overburden covered polymetallic sulphide iron formations. These units occur within a complex package of highly deformed and altered siliceous volcaniclastic, mafic and pelitic schists (Active Zone). Schistose rocks within the Active Zone structurally overlie a thick sequence of massive mafic metavolcanics and contain varying percentages of sericite, intercalations of iron carbonate, and local pervasive chromium-mica alteration. Sulphide occurrences are commonly found throughout this zone.

In general, iron formation units contain significant surface percentages of lead, zinc, silver and gold along the approximate 13 kilometer combined strike length of the Arseno and Castor Lake claim groups.

The principal zone of mineralization on the Arseno claims centers around a highly decomposed gossan, "Main Showing" (Plate 1), which contains pods of remnant sulphides which assay up to 8.5% combined lead-zinc, 8.1 ounces/ton silver and 0.032 ounces/ton gold across a true width of 1.1 meters (Gorzynski et al., 1985; Elsby, 1988).

The drill programs outlined in this and previous reports have delineated significant sub-surface mineralized zones along a 4 kilometer section of the Arseno property (Youngman, 1987; Elsby, 1988). For results of drilling on the Castor Lake claims, the reader is referred to Elsby et al., 1987.

2.0 1988 - Phase Three Diamond Drilling Program

2.1 Introduction

This report summarizes results from the phase-three, 1,464 meter (4,805 feet) diamond drilling program completed on Ontario Gold Joint Venture's Arseno Lake property during the period from 1 June to 6 July, 1988. This drill program was undertaken as a follow-up to phase-two drilling (August - October, 1987). Drill hole designations and footages are listed in Table 1; location maps appear with each drill log and on Plate 1.

TABLE 1

Phase-Three Diamond Drill Holes and Footages

Hole #	Core Length (m)	(Feet)
A-88-1	261.8 /	859
A-88-2	350.2 /	1,149
A-88-3	237.4 /	779
A-88-4	274.0 /	899
A-88-5	341.1 /	1,119
TOTAL	1,464.5 /	4,805

2.2 Targets

Phase-three drill targets were selected on the basis of results obtained from previous drilling and exploration programs (Youngman, 1987; Elsby et al., 1987, Elsby, 1988). Previous exploration uncovered and outlined numerous arsenopyrite-quartz-tourmaline-gold showings and massive pyrrhotite-pyrite-sphalerite-galena mineralization within the confines of the 700 meter wide by 13+ kilometer long altered ductile shear zone. Phase-three holes were designed to test for deeper mineralization trends beneath highest grade base metal intersections encountered in Holes 87-A-1, 2, 7, 8, 9, 18, 19, 20, 21 and 25 within the "Central Section" of the Arseno grid (Elsby, 1988).

2.3 Results

In general, multiple grunerite-iron formation horizons containing massive to disseminated sulphide mineralization were intersected in all holes. Significant zinc, lead and silver values, along with anomalous gold assays, were intersected within a majority of these units. These holes flank the Main Showing (Plate 1) and all intersect down-dip projections of the near surface mineralization (Plates 3 - 6). Overall, the iron formation horizons maintain a relatively uniform thickness with depth. At present, current drill spacing does not adequately test the extent and nature of the subsurface geometry and only serves to outline gross structural features.

Sulphide zones within and adjacent to iron formations occur as massive to semi-massive bands in association with diffuse clotted and anastomosing stringer zones. Pyrrhotite occurs as the dominant sulphide species in A-88-1, 2, 3 and 5 while A-88-4 intersected mostly grunerite and arsenopyrite dominant sections.

As in previous drilling, the iron formations in this region are generally characterized by internal brecciation with cherty clasts supported in a sulphide matrix (Elsby, 1988).

Significant drill intersections are listed in Table 2.

TABLE 2

Arseno Lake Property
1988 Phase-Three Diamond Drill Program

Significant Intersections

Drill Hole #	Meterages	Length (m)	% Pb	% Zn	Ag (oz/t)	Au (ppb)	Au (oz/t) *	Anal. Meth. *
A-88-1	183.7-185.2	1.5	0.07	8.95	0.85	103	.003	FA
	185.2-187.0	1.8	0.33	9.87	2.82	137	.004	FA
	187.0-188.5	1.5	0.26	8.85	2.70	754	.022	FA
	190.1-191.2	1.1	0.05	8.08	0.32	34	.001	FA
A-88-3	179.0-179.2	0.2	0.77	10.34	3.66	460	.013	FA/AA
A-88-4	260.7-262.9	2.2	2.18	3.11	7.29	1,160	.033	FA/AA
A-88-5	320.2-322.6	2.4	0.2	7.66	0.66	20	.001	FA/AA
	322.6-323.4	0.8	0.55	14.02	1.20	120	.004	FA/AA
	323.4-324.7	1.3	0.94	4.46	1.86	21	.001	FA/AA

* FA (Classic Fire Assay)
FA/AA (Fire Assay-Atomic Absorption Finish)

A-88-1

This hole extends 120 to 140 meters vertically below A-87-19 and 20 and encountered similar massive sulphide mineralization within the main target horizon (Plate 3). This horizon consists of up to 35% light grey to white rounded metachert breccia clasts supported in a massive to coarsely foliate sulphide matrix. Pyrrhotite, the dominant sulphide species, occurs as massive to disseminated wisps and clots. Lesser amounts of pyrite, sometimes intergrown with pyrrhotite, occur as coarse accumulations of clots and cubes. Sphalerite and trace galena are characterized by fine wisps and clots, often associated with pyrrhotite. The target horizon is intercalated with minor units of biotite chlorite schist, sericite schist and garnet-biotite schist. Ore grade intercepts range up to 9.2% combined lead-zinc, 2.0 ounces/ton (70 g/tonne) silver, and 0.01 ounces/ton (0.4 g/tonne) gold over 6 meters.

A-88-2

In general, this hole extends some 200 meters below A-87-21 and intersected a narrow continuation of the target horizon and a smaller iron-formation at a deeper level (Plate 4). Sulphide characteristics are similar in both holes with pyrrhotite followed by sphalerite as the dominant sulphide species. No significant base/precious metal values were detected. Stratigraphy cut by this hole is similar to A-87-21 but different from holes A-87-19, 20 and A-88-1, 5 all to the west; a fault has been interpretted between these sections based on this contrasting stratigraphy.

A-88-3

This hole extends approximately 100 to 120 meters vertically below Holes A-87-1, 2 and 9 and encountered similar massive sulphide mineralization within the target horizon (Plate 5). Iron-formation units vary from generally massive white to light grey metachert with minor disseminated/clotty sulphides and wispy grunerite-magnetite bands to a metachert breccia supported by a crudely foliate massive sulphide matrix. This horizon also contains intercalations of chlorite and talc schists. Pyrrhotite is the dominant sulphide species and is generally disseminated to massive followed by sphalerite as fine stringers and clots intergrown with pyrrhotite. More minor percentages of grunerite, arsenopyrite and galena occur as fine bands and disseminations. Highest grade intercepts range to 2.3% combined lead-zinc, 0.86 ounces/ton (30 g/tonne) silver, and 0.002 ounces/ton (0.1 g/tonne) gold over 2.4 meters.

A-88-4

Hole A-88-4 extends approximately 110 to 130 meters below Holes A-87-8 and 7 respectively and intersected similar mineralization within the 14 meter wide target iron-formation(s) (Plate 6). Target sections primarily contain ragged, wispy, crudely foliate bands of grunerite intercalated with white to light grey metachert. Bands of lesser sulphides occur in disseminations and occasional massive zones. Prominent brecciation textures present in all other holes are poorly developed within this region. Nearly equal proportions of arsenopyrite and pyrrhotite occur as disseminations within

grunerite and in wisps and bands. Trace quantities of sphalerite and galena are found throughout the major mineralized zones. Best intercept values range to 5.3% combined lead-zinc, 7.29 ounces/ton (250 g/tonne) silver, and 0.033 ounces/ton (1.2 g/tonne) gold over an interval of 2.2 meters. These values occur within a sulphide dominant section containing arsenopyrite, sphalerite and pyrrhotite.

A-88-5

This hole extends approximately 200 to 220 meters vertically beneath Holes A-87-20 and 19 and some 80 meters below A-88-1 (Plate 3). Iron formations are characterized by up to 20% light grey to white rounded quartz breccia clasts supported by a crudely foliate massive sulphide matrix. Pyrrhotite, the dominant sulphide species, occurs as disseminated to clotted masses followed by pyrite as crude accumulations of 1 cm cubes. Sphalerite and chalcopyrite are found in clots and disseminations. Significant intersections range to 8.3% combined lead-zinc, 1.1 ounces/ton (38 g/tonne) silver, accompanied by trace gold values.

2.4 Observations

Base-metal massive sulphide mineralization within the area bounded by drill holes A-88-4 and A-88-5 contains a crude metal zoning. West of the main showing, the dominant sulphide species present within the brecciated iron formations comprise a horizon of massive and disseminated pyrrhotite-sphalerite-pyrite-galena flanked structurally below by stringers and disseminations of pyrrhotite-pyrite-sphalerite and above by disseminations of pyrrhotite and pyrite.

Within the vicinity of the main showing, the dominant sulphides comprise mostly pyrrhotite-sphalerite with a later overprint of arsenopyrite accompanied by significant gold values. Drilling within the area also encountered several units of altered ultramafic which intrude and possibly crosscut the main mineralized horizon.

East of the main showing, the mineralization changes to dominantly grunerite-magnetite-pyrrhotite accompanied by lesser disseminations of sphalerite and galena. A later phase of arsenopyrite-gold mineralization was then superimposed on the above assemblages within structurally/stratigraphically favourable zones. Stratigraphy within this region also contains several altered ultramafic units.

3.0 General Discussion and Conclusions

3.1 Discussion

Mineralization within the Arseno Lake property appears to be the result of two separate and distinct mineralizing events. This mineralization and accompanying alteration are largely concentrated within and partially controlled by an anastomosing ductile deformation zone which extends throughout and beyond the property boundaries. This deformation or shear zone trends subparallel to the overall stratigraphy and occurs within a horizon of varied lithologies adjacent to a major volcanic-sedimentary contact.

Two types of mineralization occur within the host iron formations: primary exhalative syngenetic base-metal massive sulphides accompanied by anomalous precious metal values and a later more locallized phase of structurally-stratigraphically controlled epigenetic arsenopyrite-gold mineralization. Abundant sericite and chromium-mica alteration was found throughout portions of the shear zone.

Volcanogenic Base-Metal Massive Sulphides

Base-metal massive sulphide distribution appears to be a function of both structural and lithologic control. The earliest recorded deformation served to flatten and fold the general stratigraphy. Exhalative sulphide horizons within the competent host iron formations most likely underwent modest horizontal shortening and structural thickening. Second phase deformation was characterized largely by ductile shearing and extension. Finite strain markers such as deformed conglomerate pebbles and boudins indicate that the rocks have undergone inhomogeneous subhorizontal flattening progressing to ductile shearing and east-plunging subvertical extension. Less competent mafic-volcanic, volcaniclastic, and pelitic assemblages underwent intense ductile flattening, shearing, and transposition subparallel to their boundaries while more competent iron formations were internally deformed through folding, boudinage, and brecciation. The multiple viscosity contrasts and anisotropy present within the Active Zone accommodated this deformation through the formation of the regional shear zone. Deformed primary sulphides hosted primarily within iron formations were partially remobilized into steeply east-plunging dilatent (breccia-boudinage) zones associated with the strong subvertical extension and metamorphism. The overall geometry of the massive sulphides is the product of the sulphide body's original orientation and its redistribution by at least two phases of deformation. This overall geometry remains uncertain at this point but the sulphides demonstrate good continuity with depth.

Arsenopyrite-Gold

The second phase of deformation was accompanied by a syn- to post-kinematic hydrothermal alteration event which deposited arsenopyrite-gold mineralization along the main foliation throughout portions of the shear zone. This mineralization occurs principally as replacement bodies which concentrate along oxide compositional layers within iron formations. The

Castor Lake main showing provides the best example of this in which fine disseminations of arsenopyrite are seen to gradually replace grunerite-magnetite layers, and over several feet along strike, the oxide layers are completely replaced by bands of massive gold-bearing arsenopyrite. Numerous quartz-toumaline veins flank the arsenopyrite mineralization and often contain anomalous gold values. The veins occur in both sigmoidal enechelon tension gashes related to semi-brittle shear states active during the later stages of phase-two deformation and in foliation parallel boudins as fragmental augen.

3.2 Conclusions

The main conclusions of the study are as follows:

1. Mineralization within the property is the product of two events:

   First, syngenetic pyrrhotite-sphalerite-pyrite-galena massive sulphide mineralization was deposited within silica exhalite horizons, or iron formations, which were then later deformed and metamorphosed within a large anastomosing ductile shear zone.

   Secondary hydrothermal epigenetic arsenopyrite-gold mineralization occurs as selective replacement bodies within the deformed iron formations. Abundant quartz-tourmaline veining and sericite-chromium mica alteration occur throughout the shear zone and are most likely associated with the above event.

2. Deformation within the shear zone resulted primarily from prominent inhomogeneous flattening followed by strong ductile shearing. Several areas throughout the shear zone contain evidence of late horizontal flattening which may be related to larger scale conjugate ductile shears.

3. The present configuration of massive-sulphide mineralization within the host iron formations appears to be the product of two main features: interference patterns associated with two generations of folding; and from partial remobilization of sulphides into breccia zones developed through subhorizontal shearing and subvertical extension active during phase-two deformation.

   Epigenetic hydrothermal processes active late within the deformation scheme deposited gold-bearing sulphides along transposed compositional layers primarily within the grunerite-magnetite iron formations.

4.0 COMPARISON OF THE ARSENO LAKE DEPOSIT TO OTHER DEPOSITS

Mineralization within the Arseno Lake property appears to have resulted from both syngenetic and epigenetic processes. As described, the syngenetic aspects bear a resemblance to the Geco Base-Metal Deposit held by Noranda Mines Ltd. in Manitouwadge, Ontario. Epigenetic characteristics bear some similarity to and co-genesis with Placer-Dome's Musselwhite and Snoppy Lake Gold Deposits near Opapimiskan Lake located at the southeastern extension of the North Caribou greenstone belt.

Geco Cu-Zn-Ag Deposit

Polymetallic mineralization within the Geco Deposit is contained within a horizon of folded sericite schist interlayered between a lower altered mafic-volcanic and an overlying quartite unit containing siliceous iron formations (Friesen et al., 1982). Within the sericite alteration zone, three distinct suites of ore-grade mineralization (metal zoning) occur. These comprise an upper horizon of disseminated chalcopyrite-pyrrhotite-pyrite overlying a zone of massive pyrite-pyrrhotite-sphalerite-chalcopyrite. The base of the sequence contains disseminated pyrite-sphalerite. The ore zones described above appear related to each other within a relatively thin single-cycle sequence. Siliceous iron formations mark the close of the cycle and typically occur within unaltered rocks immediately above the deposit. Overall, many of the primary features of the Geco Deposit have been obscured by intense deformation and high grade regional metamorphism; however, the general stratigraphy, wall rock alteration and metal zoning of the original deposit can still be recognized. The above features, according to Noranda, are typical to Archean volcanogenic massive sulphide deposits and from this, they conclude that Geco is a syngenetic ore deposit which has undergone intense metamorphism and deformation.

Discussion

Although the primary sulphide species differ in order of abundance between the Geco and Arseno Lake Deposit, the primary characteristics are very similar. Both share similar stratigraphy in dominantly mafic volcanic piles and both mineralized zones occur within or adjacent to siliceous exhalite iron formation horizons contained within a sericite alteration zone. They both share a multiphase deformational-metamorphic history which has re-distributed syngenetic mineralization along steep to sub-vertical trends. Overall, the Geco strongly resembles the Arseno Lake Deposit without the epigenetic overprint. At this point, the Arseno Lake Deposit remains a largely untested target.

Musselwhite-Snoppy Lake Deposit

Mineralization within the Musselwhite-Snoppy Lake Deposits occurs approximately within the same target iron formation horizon as does the Arseno Lake Deposit but are located some fifty miles along strike to the southeast (Hall and Rigg, 1986). The Musselwhite-Snoppy Lake region is characterized by epigenetic gold deposition which is structurally concentrated along major regional fold axial zones. Gold mineralization appears to be related to pyrrhotite replacement of grunerite within the host iron formations.

Discussion

The main similarities drawn between the Arseno and Musselwhite-Snoppy Lake Deposits is the presence of significant gold mineralization concentrated within the same target grunerite iron formation horizon. Structurally, the two deposits differ mainly in the general lack of major fold deformation of the target horizon on the Arseno property and relative abundance of gold mineralization. Instead of folding, strain within the Arseno property was accommodated in the formation of the major shear-zone. In both areas, gold deposition accompanied the phase-two deformation event. At Musselwhite-Snoppy Lake, gold deposition was accompanied by pyrrhotite and minor arsenopyrite replacement of grunerite in the host iron formation while at Arseno (Castor) Lake, gold deposition was accompanied by arsenopyrite replacement of grunerite in iron formation. Overall, some significant similarities exist although more extensive mineralogical-metallurgical studies would have to be completed on the Arseno showings to provide further comparison.

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APPENDIX 1

PROPERTY HOLDERS

Operator:	Northern Dynasty Explorations Ltd. 844 West Hastings Street Vancouver, British Columbia V6C 1C8
Joint Venture Partners:	Westfield Minerals Limited 940 - 800 West Pender Street Vancouver, British Columbia V6C 2V6
	Newfields Minerals Inc. 808 - 750 West Pender Street Vancouver, British Columbia V6C 2T8

APPENDIX 2

1988

Personnel and Survey Dates

Arseno Lake Property

Personnel	Work Periods	
	1988	1989
George Gorzynski 3836 W. 16th Avenue Vancouver, B.C.	1 June - 6 July (Field)	-
David Ward c/o Westfield Minerals Limited Ste. 2701 Box 143 1 First Canadian Place Toronto, Ontario	1 June - 6 July (Field)	-
Langley Drilling 49 Jayfield Road Brampton, Ontario	1 June - 6 July (Field)	-
Darren Elsby 21723 - 6th Avenue Langley, B.C.	-	1 - 20 January (Office)

APPENDIX 3

Current Claim Status

ARSENO LAKE PROPERTY ----CLAIM STATUS
****

NUMBER OF CLAIMS	CLAIM NUMBERS	ANNIVERSARY DATES
8	Pa.803210-803217	Lease Pdg. Survey by Oct12/90
3	803218-803220	Oct 12/89
8	816719-816726	Lease Pdg. Survey by Sep 6/90
3	817451-817453	Lease Pdg. Survey by Sep 6/90
12	818424-818435	Lease Pdg. Survey by Oct12/90
12	818440-818451	Lease Pdg. Survey by Oct12/90
3	818452-818454	Oct 12/89
12	818457-818468	Lease Pdg. Survey by Oct12/90
1	818469	Oct 12/89
25	818480-818504	Lease Pdg. Survey by Oct12/90
24	912854-912877	Lease Pdg. Survey by Apr 2/93
4	914057-914060	Apr 21/89
2	914061-914062	Apr 21/90
8	914063-914070	Apr 21/89
17	914365-914381	Apr 21/89
7	914445-914451	Apr 21/89
2	914528-914529	Apr 21/90
1	914530	Apr 21/89
2	914531-914532	Apr 21/90
2	914533-914534	Apr 21/89
2	914535-914536	Apr 21/90
2	914537-914538	Apr 21/89
2	914539-914540	Apr 21/90
4	914541-914544	Apr 21/89
16	914790-914805	Apr 30/89
3	978123-978125	Jun 29/89
1	978126	Lease Pdg. Survey by Jun 29/93
---		
186 Subtotal		

91°07'

53°00'

Cabella Lake

Miskeesik Lake

ARSENO LAKE CLAIMS

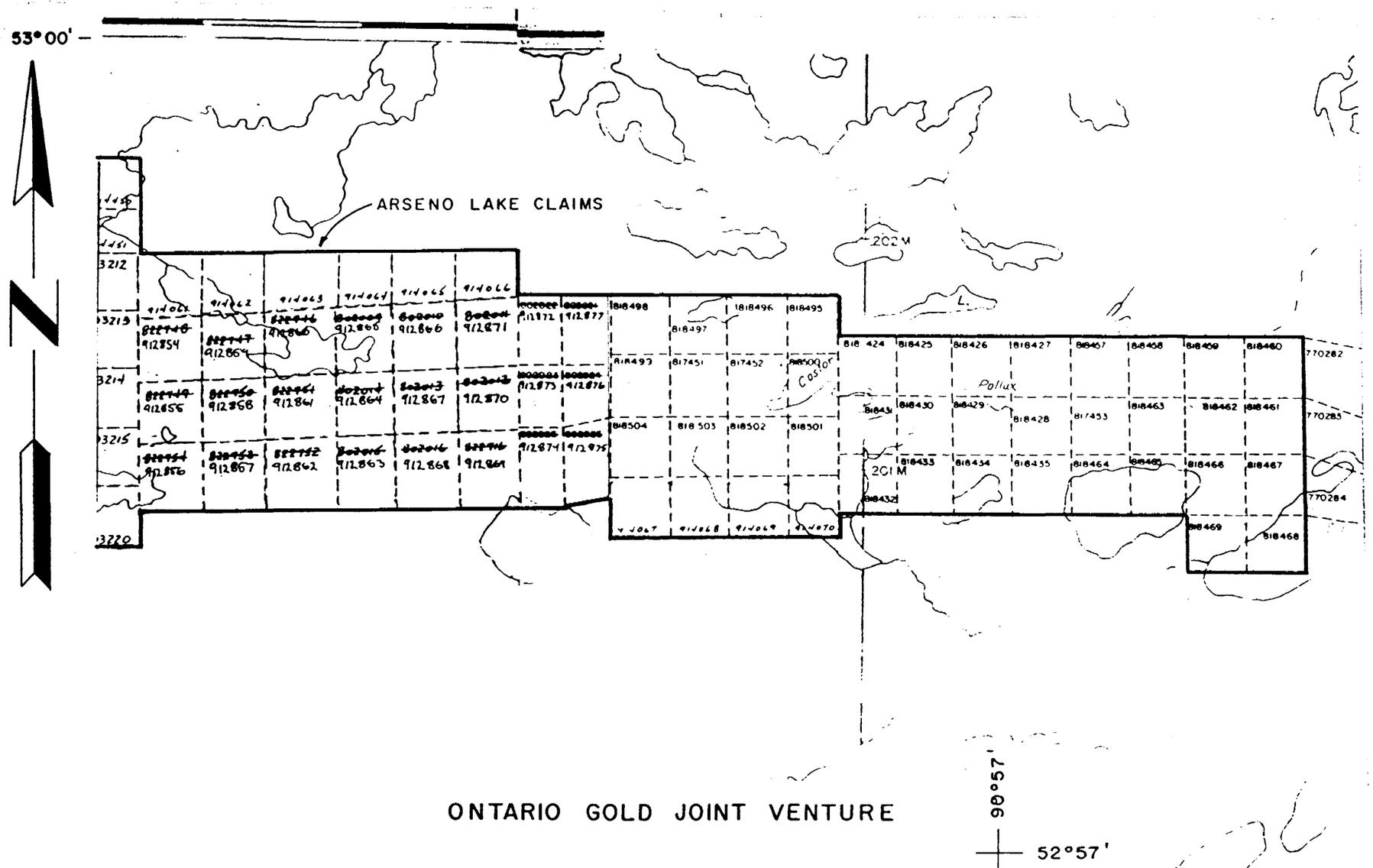
ONTARIO GOLD JOINT VENTURE

ARSENO LAKE CLAIM BLOCK
WESTERN PART

KEEYASK LAKE G-2085

SCALE 1in = 40 chain = 0.5mi

FEBRUARY 1989



ONTARIO GOLD JOINT VENTURE

ARSENO LAKE CLAIM BLOCK
EASTERN PART

KEEYASK LAKE G-2085 , SEESEEP LAKE G-2204

SCALE 1in = 40 chain = 0.5mi

FEBRUARY 1989

APPENDIX 4

TECHNICAL DATA STATEMENTS, PROCEDURE RECORDS, AND EXPENDITURES

Ministry of Northern Development and Mines

Ontario

Geophysical-Geological-Geochemical Technical Data Statement

File _____

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 EXPENDITURE CREDITS - DRILLCORE ASSAYS (# 2011, 59)

Township or Area KEEYASK LAKE / G-2085

Claim Holder(s) NORTHERN DYNASTY EXPLORATIONS LTD.
844 W. Hastings St., VANCOUVER, B.C.

Survey Company NORTHERN DYNASTY EXPLORATIONS LTD.

Author of Report DARREN C. ELSBY

Address of Author 844 W. Hastings St., VANCOUVER, B.C.

Covering Dates of Survey 01 JUNE - 06 JULY 1988
(linecutting to office)

Total Miles of Line Cut _____

MINING CLAIMS TRAVERSED
List numerically

(prefix)	(number)
PA	816719
	816720
	818441
	818442

If space insufficient, attach list

TOTAL CLAIMS 4

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: 14 MARCH, 1989 SIGNATURE: Darren C. Elsby
Author of Report or Agent

Res. Geol. _____ Qualifications _____

Previous Surveys

File No.	Type	Date	Claim Holder

OFFICE USE ONLY

837 (85/12)

GEOCHEMICAL SURVEY – PROCEDURE RECORD

Numbers of claims from which samples taken Pa. 816719, 816720, 818441, 818442

Total Number of Samples 179

Type of Sample DRILL CORE - ROCK
(Nature of Material)

Average Sample Weight VARIABLE (0.5 - 5 lbs)

Method of Collection SPLIT HALF CORE (BQ)

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 -100 MESH PULP

General

Analyses: 0.5 gram sample digested with 3 ml of 3-1-2 HCl - HNO_3 - H_2O at 95°C for one hour and diluted to 10 ml with water prior to AA analysis

ANALYTICAL METHODS

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

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

Others Au

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 LABS

Extraction Method AQUA REGIA

Analytical Method SEE BELOW

Reagents Used

General

AA for Pb & Zn %

FIRE ASSAY WITH AA. finish for geochemical Au

CLASSICAL - FIRE ASSAY for Au & Ag ASSAY - 10g sample

1988

ARSENO LAKE PROPERTY

DRILL CORE ASSAY

GEOCHEMICAL EXPENDITURES

TOTAL AS PER ENCLOSED INVOICES :

$ 2011.50

ACME ANALYTICAL LABORATORIES LTD.

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

File: 88-2257

Date: JULY 5 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
22	CU PB ZN AG & AU ASSAY @	19.00	418.00
44	AU ASSAY BY ACID LEACH FROM 10 GM SAMPLE @	7.00	308.00
66	CORE SAMPLE PREPARATION @	3.00	198.00
	TOTAL		924.00

OJV - ARSENO 65'9

APPROVED FOR PAYMENT

PLEASE PAY LAST AMOUNT

1988

ARSENO LAKE PROPERTY

GEOCHEMICAL EXPENDITURE

924.00

NORTHERN DYNASTY EXPLORATIONS LTD. 0886
844 W. HASTINGS STREET PHONE (604) 682-3727
VANCOUVER, B.C. V6C 1C8

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.

PER _____

PER _____

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

"0000886" :0002 0=0 16: 3063 2=6=0 2" "0000267132"

PER INVOICE: 88-2257

...Y TO THE CREDIT OF
...TICAL LAB. LTD.
...NUMBER
JY 88 20
ROYAL BANK
BRITISH COLUMBIA PC

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

1988

ARSENO LAKE PROPERTY
GEOCHEMICAL EXPENDITURE

924.00

REMAINING DOLLARS SPENT ON TRANSPORTATION AND UNRELATED ANALYSES

ACME ANALYTICAL LABORATORIES LTD.

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

File: 88-2606

Date: JULY 16 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
9	CU PB ZN & AG ASSAY @	16.00	144.00
42	GEOCHEM AU ANALYSIS BY ACID LEACH (10 GM) @	4.50	189.00
42	CORE SAMPLE PREPARATION @	3.00	126.00
			459.00
	ALLTRANS EXPRESS W/B #WG 2463599		123.00
	TOTAL		582.00

ARSENO OJV. 659.

PLEASE PAY LAST AMOUNT

1988

ARSENO LAKE PROPERTY

GEOCHEMICAL EXPENDITURE

$459.00

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

File: 88-2658

Date: JULY 16 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
2	CU PB ZN & AG ASSAY @	16.00	32.00
37	GEOCHEM AU ANALYSIS BY ACID LEACH (10 GM) @	4.50	166.50
37	CORE SAMPLE PREPARATION @	3.00	111.00
	TOTAL		309.50

659 OJV. ARS.

APPROVED FOR PAYMENT

PLEASE PAY LAST AMOUNT

Pd. July 19/88 # 898.

1988

ARSENO LAKE PROPERTY

GEOCHEMICAL EXPENDITURE

$ 309.50

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

0898

July 19 19 88

PAY TO THE ORDER OF ACME ANALYTICAL $ 1,765.45

One thousand, seven hundred and sixty-five ----- 45/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

PER _____

PER _____

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

"0000898" ⑆000 20⑈016⑆ 3063 2⑈6⑈02" "000017654 5"

PER INVOICES: 88-2606
88-2658

21 JUL 88
07120-003
THE ROYAL BANK OF CANADA
MAIN
ANY
BRANCH
VANCOUVER
0906 4384

1988

ARSENO LAKE PROPERTY
GEOCHEMICAL EXPENDITURE

($459.00 + $309.50) = $768.50

REMAINING DOLLARS SPENT ON TRANSPORTATION AND UNRELATED ANALYSES

ACME ANALYTICAL LABORATORIES LTD.

PHONE: 253-3158 852 East Hastings St., Vancouver, B.C. V6A 1R6 File: 88-2844

Date: JULY 28 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
4	CU PB ZN & AG ASSAY @	16.00	64.00
34	GEOCHEM AU ANALYSIS BY ACID LEACH (10 GM) @	4.50	153.00
34	CORE SAMPLE PREPARATION @	3.00	102.00
			319.00
	TNT ALLTRANS EXPRESS W/B #WG 2471058		63.82
	TOTAL		382.82

OJV ARSENO

APPROVED FOR PAYMENT

659.

PLEASE PAY LAST AMOUNT

1988

ARSENO LAKE PROPERTY

GEOCHEMICAL EXPENDITURE

319.00

NORTHERN DYNASTY EXPLORATIONS LTD. 0927
844 W. HASTINGS STREET PHONE (604) 682-3727
VANCOUVER, B.C. V6C 1C8

August 5 19 88

PAY TO THE ORDER OF ACME ANALYTICAL $ 1,353.56

One thousand, three hundred and fifty-three ---------- 56/100 DOLLARS

NORTHERN DYNASTY EXPLORATIONS LTD.

PER _____

PER _____

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

⑈0000927⑈ ⑆00020⑆016⑆ 30632⑆6⑆02⑈ ⑈0000135356⑈

RE INVOICE : 88-2844

07120-003

AG 88 08
ROYAL BANK
BRITISH COLUMBIA PC

08 AUG 88

THE ROYAL BANK OF CANADA
MAIN
HASTINGS AND
VANCOUVER

07120-003

⑆00229⑆2

1988
ARSENO LAKE PROPERTY
GEOCHEMICAL EXPENDITURE
319.00
REMAINING DOLLARS SPENT ON TRANSPORTATION AND UNRELATED ANALYSES

APPENDIX 5

1988 GEOCHEMICAL ASSAYS

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

DATE RECEIVED: JUNE 27 1988
DATE REPORT MAILED: July 4/88.

ASSAY CERTIFICATE

- SAMPLE TYPE: Core

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPLORATION File # 88-2257 Page 1

SAMPLE#	Cu %	Pb %	Zn %	Ag OZ/T	Au OZ/T
F 3301	-	-	-	-	.003
F 3302	-	-	-	-	.001
F 3303	-	-	-	-	.001
F 3304	-	-	-	-	.001
F 3305	-	-	-	-	.001
F 3306	-	-	-	-	.001
F 3307	-	-	-	-	.001
F 3308	-	-	-	-	.001
F 3309	.02	.01	.24	.13	.001
F 3310	.04	.40	2.54	1.93	.003
F 3311	.19	.01	.05	.21	.001
F 3312	.26	.02	.96	.50	.001
F 3313	.25	.07	8.95	.85	.003
F 3314	.27	.33	9.87	2.82	.004
F 3315	.28	.26	8.85	2.70	.022
F 3316	.09	.08	.24	.41	.003
F 3317	.08	.05	8.08	.32	.001
F 3318	.17	.04	3.18	.32	.001
F 3319	.06	.14	.81	.40	.001
F 3320	.06	.29	.41	.40	.001
F 3321	-	-	-	-	.001
F 3322	.06	.11	.07	.37	.001
F 3323	.04	.04	3.46	.24	.002
F 3324	.04	.43	2.13	.92	.004
F 3325	.02	.07	.07	.30	.001
F 3326	-	-	-	-	.001
F 3327	-	-	-	-	.001
F 3328	.01	.95	1.07	2.41	.014
F 3329	.01	.16	.42	.51	.003
F 3330	-	-	-	-	.001
F 3331	-	-	-	-	.001
F 3332	-	-	-	-	.001
F 3333	-	-	-	-	.001
F 3334	.03	1.22	1.23	2.52	.010
F 3335	.01	.04	.07	.20	.001
F 3336	.03	.44	.78	1.18	.003

SAMPLE#	CU %	PB %	ZN %	AG oz/t	AU oz/t
F 3337	-	-	-	-	.004
F 3338	-	-	-	-	.004
F 3339	-	-	-	-	.001
F 3340	-	-	-	-	.001
F 3341	-	-	-	-	.001
F 3342	-	-	-	-	.002
F 3343	-	-	-	-	.001
F 3344	-	-	-	-	.001
F 3345	-	-	-	-	.001
F 3346	-	-	-	-	.001
F 3347	-	-	-	-	.001
F 3348	-	-	-	-	.001
F 3349	-	-	-	-	.001
F 3350	-	-	-	-	.001
F 3351	-	-	-	-	.001
F 3352	-	-	-	-	.001
F 3353	-	-	-	-	.001
F 3354	-	-	-	-	.001
F 3355	-	-	-	-	.001
F 3356	-	-	-	-	.001
F 3357	-	-	-	-	.001
F 3358	.02	.51	.68	1.46	.005
F 3359	-	-	-	-	.001
F 3360	-	-	-	-	.001
F 3361	-	-	-	-	.001
F 3362	-	-	-	-	.010
F 3363	-	-	-	-	.001
F 3364	-	-	-	-	.001
F 3365	-	-	-	-	.001
F 3366	-	-	-	-	.001

Arsenic.

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

DATE RECEIVED: JUL 18 1988
DATE REPORT MAILED: July 28/88

GEOCHEMICAL/ASSAY CERTIFICATE

- SAMPLE TYPE: Core AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPL. LTD. FILE # 88-2844

SAMPLE#	CU %	PB %	ZN %	AG oz/t	AU* ppb
F 3367	-	-	-	-	22
F 3368	-	-	-	-	7
F 3369	-	-	-	-	36
F 3370	-	-	-	-	12
F 3371	-	-	-	-	3
F 3372	-	-	-	-	1
F 3373	-	-	-	-	6
F 3374	-	-	-	-	41
F 3375	-	-	-	-	147
F 3376	-	-	-	-	22
F 3377	-	-	-	-	4
F 3378	-	-	-	-	1
F 3379	-	-	-	-	1
F 3380	-	-	-	-	20
F 3381	-	-	-	-	1
F 3382	-	-	-	-	1
F 3383	-	-	-	-	1
F 3384	-	-	-	-	2
F 3385	-	-	-	-	1
F 3386	.21	.04	.06	.86	230
F 3387	.32	.77	10.34	3.66	460
F 3388	.07	.12	1.41	.61	46
F 3389	-	-	-	-	12
F 3390	-	-	-	-	4
F 3391	-	-	-	-	5
F 3392	-	-	-	-	5
F 3393	-	-	-	-	19
F 3394	-	-	-	-	4
F 3395	-	-	-	-	16
F 3396	-	-	-	-	15
F 3397	.01	.02	.73	.09	6
F 3398	-	-	-	-	4
F 3399	-	-	-	-	10
F 3400	-	-	-	-	1

Arseno

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

DATE RECEIVED: JULY 13 1988

DATE REPORT MAILED: July 16/88

GEOCHEMICAL/ASSAY CERTIFICATE

- SAMPLE TYPE: Core AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

ASSAYER: C. Leong D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPLORATION File # 88-2658

SAMPLE#	CU %	PB %	ZN %	AG oz/t	AU* ppb
F 3401	-	-	-	-	8
F 3402	-	-	-	-	9
F 3403	-	-	-	-	6
F 3404	-	-	-	-	5
F 3405	-	-	-	-	20
F 3406	-	-	-	-	17
F 3407	-	-	-	-	14
F 3408	-	-	-	-	54
F 3409	-	-	-	-	21
F 3410	-	-	-	-	36
F 3411	-	-	-	-	1
F 3412	-	-	-	-	5
F 3413	-	-	-	-	36
F 3414	-	-	-	-	27
F 3415	-	-	-	-	29
F 3416	-	-	-	-	19
F 3417	.10	.72	.80	1.75	230
F 3418	-	-	-	-	63
F 3419	-	-	-	-	1580
F 3420	-	-	-	-	13
F 3421	-	-	-	-	11
F 3422	-	-	-	-	4
F 3423	-	-	-	-	39
F 3424	-	-	-	-	113
F 3425	-	-	-	-	280
F 3426	-	-	-	-	22
F 3427	-	-	-	-	61
F 3428	-	-	-	-	114
F 3429	-	-	-	-	4
F 3430	-	-	-	-	7
F 3431	.20	2.18	3.11	7.29	1160
F 3432	-	-	-	-	33
F 3433	-	-	-	-	14
F 3434	-	-	-	-	52
F 3435	-	-	-	-	18
F 3436	-	-	-	-	14
F 3437	-	-	-	-	111

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

DATE RECEIVED: JULY 11 1988

DATE REPORT MAILED: July 16/88

GEOCHEMICAL/ASSAY CERTIFICATE

- SAMPLE TYPE: Core AU* ANALYSIS BY FA+AA FROM 10 GM SAMPLE.

ASSAYER: C. Leong. D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPLORATION File # 88-2606 Page 1

SAMPLE#	Cu %	Pb %	Zn %	Ag OZ/T	Au* PPB
F 3438	-	-	-	-	6
F 3439	-	-	-	-	43
F 3440	-	-	-	-	12
F 3441	-	-	-	-	43
F 3442	-	-	-	-	3
F 3443	-	-	-	-	3
F 3444	-	-	-	-	2
F 3445	-	-	-	-	1
F 3446	-	-	-	-	2
F 3447	-	-	-	-	6
F 3448	-	-	-	-	1
F 3449	-	-	-	-	20
F 3450	-	-	-	-	18
F 3451	-	-	-	-	110
F 3452	.13	.12	2.78	.71	37
F 3453	.11	.44	3.28	1.57	380
F 3454	.04	.80	.25	.87	88
F 3455	-	-	-	-	19
F 3456	-	-	-	-	4
F 3457	-	-	-	-	1
F 3458	-	-	-	-	4
F 3459	-	-	-	-	30
F 3460	-	-	-	-	1
F 3461	-	-	-	-	1
F 3462	-	-	-	-	3
F 3463	-	-	-	-	1
F 3464	-	-	-	-	27
F 3465	-	-	-	-	23
F 3466	.02	.18	.70	.90	43
F 3467	.05	.07	1.97	.61	23
F 3468	-	-	-	-	107
F 3469	.04	.02	2.01	.18	3
F 3470	.01	.20	7.66	.66	20
F 3471	.01	.55	14.02	1.20	120
F 3472	.01	.94	4.46	1.86	21
F 3473	-	-	-	-	7

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

DATE RECEIVED: JULY 11 1988
DATE REPORT MAILED: July 14/88

GEOCHEMICAL ANALYSIS CERTIFICATE

- SAMPLE TYPE: CORE/ROCK
AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

ASSAYER: ..... D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

NORTHERN DYNASTY EXPLORATION File # 88-2606 Page 2

SAMPLE#	AU* ppb
F 3474	6
F 3475	13
F 3476	5
F 3477	9
F 3478	2
GA8-R-1	2

APPENDIX 6

AUTHOR'S CERTIFICATION

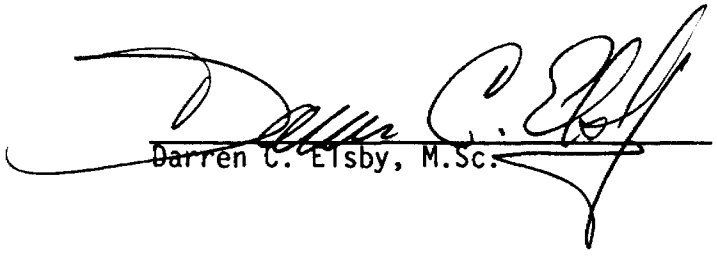
Author's Certification

I, Darren C. Elsby, of 21723 - 6th Avenue, Langley, British Columbia, hereby certify as follows:

1. That I graduated from Pomona College, Claremont, California with a Bachelor of Arts Degree in Geology in 1981 and from the University of British Columbia with a Master of Science Degree in Structural Geology in 1985.

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

3. That I authored this report based on the 1988 field program on the Arseno Lake Property.



Darren C. Elsby, M.Sc.

VOLUME II

DIAMOND DRILL LOGS AND LOCATION MAPS

Holes A-88-1 to A-88-5

To Accompany:

Arseno Lake Property

1988 Diamond Drill Assessment Report (VOLUME I)

Written by:

DARREN C. ELSBY, M.Sc.

Northern Dynasty Explorations Ltd.

February, 1989

A-88-1

Diamond Drill Record

PAGE 1 of 3

GRID:	
NORTH	2+10N
EAST	29+55E
ELEVATION	—
LOGGED BY	G. GORZYNSKI
DATE LOGGED	JUNE 5-10, 1988
MAP REFERENCE NO.	NTS-53 B/14

HOLE SURVEY		
[illegible]	AZIMUTH	DIP
0.0m	186°	-64
60.7	—	-62
121.6	—	-62
182.6	—	-55
243.5	—	-53
METHOD: ACID		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR LANGLEY DRILLING/BRAMPTON, ONTARIO
ASSAYER ACME ANALYTICAL LABORATORIES LTD./VANCOUVER, B.C.
PURPOSE OF HOLE TO TEST DEPTH EXTENSION OF MINERALIZATION ENCOUNTERED IN DDH-A-87-19 AND -20;

HOLE NO. A-88-1
CLAIM NAME Pa. 81844[redacted]
COMMENCED JUNE 4, 1988
FINISHED JUNE 8, 1988
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			SUMMARY LOG					
0.0	4.8		OVERBURDEN					
4.8	41.2		BIOTITE - CHLORITE SCHIST - LOCAL PO-PY-SP-CP CLOTS					
41.2	70.3		BASALT					
70.3	97.0		GABBRO					
97.0	103.7		BIOTITE-CHLORITE SCHIST					
103.7	110.4		CHLORITE SCHIST					
110.4	120.1		BIOTITE-CHLORITE SCHIST					
120.1	134.7		CHLORITE SCHIST					
134.7	137.7		BIOTITE-CHLORITE SCHIST					
137.7	147.7		BASALT					
147.7	155.6		BIOTITE-CHLORITE SCHIST					
155.6	157.7		BASALT					
157.7	159.7		BIOTITE-CHLORITE SCHIST					
159.7	171.7		CHLORITE-BIOTITE SCHIST					
171.7	177.3		BIOTITE SCHIST					
177.3	182.9		SILICEOUS IRON FORMATION					
182.9	183.7		PYRRHOTITE IRON FORMATION					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION Summary Log (continued)	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au	ASSAYS %Pb	ASSAYS %Zn	ASSAYS %Cu	ASSAYS oz/t Ag
183.7	188.5		Pyrrhotite-Sphalerite-Pyrite Iron Formation - Main Zone	183.7	188.5	4.8	3313	.003	.07	8.95	.25	.85
188.5	190.1		Sericite-Biotite Schist.									
190.1	192.5		Pyrrhotite Iron Formation									
192.5	193.5		Sericite Schist									
193.5	194.6		Pyrite-Pyrrhotite Iron Formation									
194.6	196.3		Sericite-Biotite Schist									
196.3	202.0		Sericite Schist									
202.0	205.3		Pyrrhotite Iron Formation									
205.3	208.5		Siliceous Iron Formation									
208.5	209.4		Biotite-Garnet Schist.									
209.4	211.8		Talc Schist									
211.8	212.8		Biotite-Sericite Schist									
212.8	213.4		Pyrrhotite Iron Formation									
213.4	218.0		Sericite-Chromium Mica Schist.									
218.0	225.9		Carbonaceous Sericite Schist — EOH 45									
225.9	229.5		Sericite-Chromium Mica Schist									
229.5	240.6		Biotite-Sericite Schist.									
240.6	245.9		Siliceous Iron Formation									
245.9	256.3		Sericite-Biotite Schist.									
256.3	261.8	E.O.H.	Carbonaceous Sericite Schist									

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: Northern Dynasty Explorations Ltd.
PROPERTY NAME: Arseno Lake Property
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-1
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.: ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au (oz/t)
0.0	4.8		OVERBURDEN: 30cm WHITE BIOTITE GRANITE BOULDER CORED					
4.8	41.2		BIOTITE-CHLORITE SCHIST: VARIABLE PROPORTIONS OF BIOTITE, CHLORITE AND PINK GARNETS IN QUARTZO-FELDSPATHIC MATRIX; DOMINANTLY CHLORITE WITH GARNETS UPHOLE GRADING TO DOMINANTLY BIOTITE DOWN HOLE WITH ≤15% CHLORITE DOWN HOLE; VARIES GREEN TO DARK BROWN AND OFF-WHITE BANDS ≤1cm WIDE; LOCALLY MAGNETIC DUE TO DISS. PYRRHOTITE; STRONG FOLIATION TYPICALLY 30° TO C.A. THROUGHOUT; NO SIGNIFICANT ALTERATION; LOST RETURN WATER @ 38.6m IN SMALL MUD SEAM 17.2-18.5m: 35% WHITE CALCITE BANDS (DEFORMED VEINS?); LOCAL CALCITE BANDING ELSEWHERE; BASAL CONTACT GRADATIONAL OVER 1.0m;	23.1	25.5	2.4	3301	.003 ✓
			MINERALIZATION: LOCAL CLOTS (≤2cm DIA) OF PYRRHOTITE ± PYRITE (± SPHALERITE ± CHALCOPYRITE) @ 4.8-25.5m; BEST SECTION @ 23.1-25.5 WITH 0.5% PYRRHOTITE AND MINOR PY + SPHAL + CHALCO					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/t.						
41.2	70.3		BASALT: GREY-GREEN; HOMOGENEOUS; MODERATELY HARD; POOR TO STRONG FOLIATION TYPICALLY @ 35° TO C.A. BUT VARIABLE; 15% ≤1.2m SECTIONS OF WISPY (≤25%) BIOTITE; COMMONLY 2% DISS AND VEINLET CALCITE;	66.9	69.2	2.3	3302	.001	✓					
			BASAL CONTACT GRADATIONAL OVER 1m											
			ALTERATION: MINOR LOCAL BLEACHING											
			MINERALIZATION:-LOCALLY ≤1% DISS PYRITE OR PYRRHOTITE											
			-CALCITE ± QUARTZ VEINLETS ≤1%											
			-66.9-69.2m: 15% WHITE QUARTZ VEINS ≤20 cm WIDE)											
			MINOR (<1%) ASSOCIATED PYRRHOTITE/CHALCOPYRITE											
			AND BLEACHING OF HOST ROCK.											
70.3	97.0		GABBRO: GREY-GREEN; FINE TO MEDIUM GRAINED (≤1mm CRYSTALS); SOFT; 15% PYROXENE(?), 30% CHLORITE, 50% FELDSPAR, 5% DOLOMITE?;											
			POOR TO MODERATE FOLIATION VARIES 25-35° TO C.A.;											
			≤3% VARIABLY ORIENTED CALCITE VEINLETS (≤1cm WIDE);											
			BASAL CONTACT GRADATIONAL OVER 50 cm;											
			MINERALIZATION: PYRRHOTITE ± CHALCOPYRITE - DISS - TRACE											

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton
97.0	103.7		BIOTITE-CHLORITE SCHIST: CRUDE WISPY BANDS OF ALTERNATING DARK BROWN (BIOTITIC) AND DARK GREEN (CHLORITIC); WELL FOLIATED AT 35° TO C.A.; 2% FOLIATION-PARALLEL CALCITE VEINLETS (≤ 5mm WIDE); BASAL CONTACT GRADES OVER 1m; MINERALIZATION: PYRRHOTITE - DISS - Trace.					
103.7	110.4		CHLORITE SCHIST: GREY-GREEN; ≤10% DISS AND WISPY BIOTITE; RELATIVELY UNFOLIATED SECTIONS DOWNHOLE (BASALT); STRONGLY TO POORLY FOLIATED @ 30° TO C.A.; ≤2% FOLIATION-PARALLEL CALCITE VEINLETS; BASAL CONTACT GRADATIONAL OVER 5cm; MINERALIZATION: NIL					
110.4	120.1		BIOTITE-CHLORITE SCHIST: SIMILAR TO 97.0-103.7m; WELL FOLIATED @ 35° TO C.A.; BASAL CONTACT GRADATIONAL OVER 20cm; MINERALIZATION: 112.4-114.5: 10% RAGGED CALCITE AND QUARTZ VEINS (≤15cm WIDE) WITH <1% ASSOCIATED PYRRHOTITE + PYRITE + CHALCOPYRITE;	112.4	114.5	2.1	3303	.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
120.1	134.7		CHLORITE SCHIST: MEDIUM GREY-GREEN UPHOLE VARYING TO LIGHT GREY-GREEN DOWNHOLE; DISS. TO WISPY BIOTITE ≤10% DECREASING DOWNHOLE; MODERATELY TO WELL FOLIATED AT 35° TO C.A.; NON-MAGNETIC; ≤3% CALCITE VEINLETS; LOCALLY ≤4% DISSEMINATED CALCITE; BASAL CONTACT GRADATIONAL OVER 50 cm;					
			MINERALIZATION: PYRRHOTITE/PYRITE - TRACE - DISS.					
134.7	137.7		BIOTITE-CHLORITE SCHIST: SIMILAR TO 97.0-103.7m; WELL FOLIATED AT 35° TO C.A.; NON-MAGNETIC; 5% QUARTZ+CALCITE VEINS (≤10cm WIDE); BASAL CONTACT GRADATIONAL OVER 2m;					
			MINERALIZATION: PYRRHOTITE+CHALCOPYRITE: <1% ASSOCIATED WITH VEINS;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/t.
137.7	147.7		BASALT; SIMILAR TO 41.2-70.3m WITH 30% SECTIONS (≤1m) OF CHLORITE-BIOTITE SCHIST SIMILAR TO 120.1-134.7m; BASALT IS POORLY TO MOD. FOLIATED AT 40° TO C.A.; TYPICALLY 3% CALCITE VEINLETS; BASAL CONTACT GRADATIONAL OVER 70 cm; NO SIGNIFICANT ALTERATION; MINERALIZATION: 144.9-146.2 - PYRRHOTITE (1%) + CHALCOPYRITE (<1%) ASSOCIATED WITH 5% CALCITE VEINS; ALSO DISSEMINATED;	144.9	146.2	1.3	3304	.001
147.7	155.6		BIOTITE-CHLORITE SCHIST: SIMILAR TO 97.0-103.7m; WELL FOLIATED AT 40° TO C.A.; BASAL CONTACT GRADATIONAL OVER 30 cm; NO SIGNIFICANT ALTERATION; 3cm SILICEOUS IRON FORMATION AT 147.9m - HOSTS WISPY PYRRHOTITE (8%) AND CHALCOPYRITE (2%); MINERALIZATION: 147.7-148.5m: PYRRHOTITE (2%) + CHALCOPYRITE (<1%) - DISS AND IN SMALL IRON FORMATION; 149.9-150.4: PYRRHOTITE - 4% DISS 150.4-150.6: PYRRHOTITE (10%) + SPHALERITE (1%) + CHALCOPYRITE (<1%) ASSOCIATED WITH QUARTZ VEIN 150.6-151.6: PYRRHOTITE + CHALCOPY (<1%) - DISS AND VEINS.	147.7	148.5	0.8	3305	.001
				149.9	150.6	0.7	3306	.001
				150.6	151.6	1.0	3307	.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
155.6	157.7		BASALT: SIMILAR TO 41.2-70.3; POORLY FOLIATED AT 35° TO C.A.; NON-MAGNETIC; BASAL CONTACT GRADATIONAL OVER 5 cm; NO ALTERATION NOR MINERALIZATION;					
157.7	159.7		BIOTITE-CHLORITE SCHIST: SIMILAR TO 97.0-103.7m; WITH 5% GRUNERITE IRON FORMATION BANDS (<5cm WIDE) - NO ASSOCIATED SULPHIDES; SCHIST IS WELL FOLIATED AT 35° TO C.A.; BASAL CONTACT GRADATIONAL OVER 30 cm; NO SIGNIFICANT ALTERATION NOR MINERALIZATION;					
159.7	171.7		CHLORITE-BIOTITE SCHIST: SIMILAR TO 97.0-103.7m BUT WITH 10-35% BIOTITE; NON-MAGNETIC; MOD. TO WELL FOLIATED AT 35° TO C.A. UPHOLE, 45° TO C.A. DOWNHOLE; BASAL CONTACT GRADATIONAL OVER 30cm; NO SIGNIFICANT ALTERATION; MINERALIZATION: SPARSE, THIN PYRRHOTITE ± SPHALERITE ± CHALCOPYRITE ± GALENA VEINLETS AND DISSEMINATIONS;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/T
								oz/T
171.7	177.3		BIOTITE SCHIST: DARK BROWN, RELATIVELY HOMOGENOUS, 1% SECTIONS OF ≤1% DISS. RED GARNETS (≤3mm DIA.); NON-MAGNETIC; NON-CALCAREOUS; WELL FOLIATED AT 45° TO C.A.; BASAL CONTACT = INTERCALATED GARNET-RICH SCHIST AND IRON FORMATION OVER 5 cm;	176.5	177.3	0.8	3308	.001
			175.3-175.5: 40% METACHERT BEDS ("SILICEOUS IRON FORMATION") NO ASSOCIATED MINERALIZATION;					
			MINERALIZATION: 176.5-177.3: PYRITE (≤1%) + PYRRHOTITE (<<1%) + SPHALERITE (Tr) - DISS AND IN VEINLETS					
177.3	182.9		SILICEOUS IRON FORMATION: LIGHT GREY TO WHITE WITH MINOR LOCAL SERICITE; DISSEMINATED, WISPY AND CLOTTY SULPHIDES INCREASE DOWNHOLE (SEE BELOW); LOCAL CRUDE SULPHIDE FOLIATION AT 30° TO C.A.; BASAL CONTACT GRADATIONAL OVER 15 cm;					
			180.8-182.9: 20% PYRRHOTITE-PYRITE IRON FORMATION;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/Ton	Pb %	Zn %	Cu %	Ag oz/Ton
			MINERALIZATION: SULPHIDES AS DISS, WISPS AND CLOTS.									
			PYRRHOTITE: 177.3 - 179.9 - ≤1%.	177.3	178.8	1.5	3309	.001	0.01	0.24	0.02	0.13
			179.9 - 182.9 - VARIABLE 5 - 40% - AVG = 10%.	178.8	180.8	2.0	3310	.003	0.40	2.54	0.04	1.93
			PYRITE: GENERALLY ≤1%;	180.8	182.9	2.1	3311	.001	0.01	0.05	0.19	0.21
			180.5 - 182.6 - 7% - AS CLOTS OF COARSE (≤1cm) CUBES;									
			SPHALERITE: 177.3 - 178.8 - <<1%									
			178.8 - 180.8 - 1% - DISS, CLOTS & WISPS									
			180.8 - 182.9 - <<1%									
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE									
			MAGNETITE + GRUNERITE: 177.9 - 178.6 - 2% - RAGGED WISPS;									
182.9	183.7		PYRRHOTITE IRON FORMATION: PREDOMINANTLY CLOTTY TO MASSIVE PYRRHOTITE IN LIGHT GREY QUARTZ; UNFOLIATED; WEAKLY TO NON-MAGNETIC; BASAL CONTACT GRADATIONAL OVER 10cm;	182.9	183.7	0.8	3312	.001	0.02	0.96	0.26	0.50
			MINERALIZATION: PYRRHOTITE: 45%									
			PYRITE: 5% - AS CLOTS IN PYRRHOTITE;									
			SPHALERITE: <1% - DISS AND WISPS									
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE									

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME: ARSENO LAKE PROPERTY
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-1
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO. ARS.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
183.7	188.5		PYRRHOTITE - SPHALERITE - PYRITE IRON FORMATION:	183.7	185.2	1.5	3313	.003	0.07	8.95	0.25	0.85
			35% LIGHT GREY TO WHITE, ROUNDED QUARTZ (METACHERT)	185.2	187.0	1.8	3314	.004	0.33	9.87	0.27	2.82
			BRECCIA CLASTS (≤ 3cm DIA) IN CLOTTY MASSIVE SULPHIDE	187.0	188.5	1.5	3315	.022	0.26	8.85	0.28	2.70
			MATRIX; UNFOLIATED; PYRRHOTITE IS MAGNETIC DOWNHOLE,									
			SLIGHTLY TO NON-MAGNETIC UPHOLE; BASAL CONTACT									
			IS SHARP BUT RAGGED/IRREGULAR;									
			MINERALIZATION: PYRRHOTITE: AVERAGE 50% AS MATRIX									
			SPHALERITE: VARIES 5-35% - TYPICALLY 15-20%									
			USUALLY FINELY INTERGROWN WITH									
			PYRRHOTITE; DARK RED-BROWN;									
			PYRITE: 183.7 - 187.0 - AVG 5% - CLOTS AND									
			CUBES (≤ 8mm DIA)									
			CHALCOPYRITE: << 1% - MAINLY DOWNHOLE;									
			ASSOCIATED WITH PYRRHOTITE;									
			GALENA - TRACE - ASSOCIATED WITH SPHALERITE;									

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
188.5	190.1		SERICITE-BIOTITE SCHIST: LIGHT TO MED. GREY WITH 20% CRUDE BANDS OF BIOTITE (≤ 5mm WIDE); 1% PINK GARNETS ASSOCIATED WITH BIOTITE INCREASING DOWNHOLE; 30% SERICITE IN QUARTZO-FELDSPATHIC MATRIX; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); WELL FOLIATED - 30° TO C.A UPHOLE, 15° TO C.A. DOWNHOLE; BASAL CONTACT SHARP AT 15° TO C.A.; MINERALIZATION: PYRRHOTITE: 8% - DISS AND WISPS CHALCOPYRITE: 0.25% - ASSOCIATED WITH PYRRHOTITE SPHALERITE: <1% - LOCAL CLOTS	188.5	190.1	1.6	3316	.003	0.08	0.24	0.09	0.41
190.1	192.5		PYRRHOTITE IRON FORMATION: LIGHT TO MED. GREY QUARTZ WITH VARIABLE PROPORTIONS OF SULPHIDE (SEE BELOW); MASSIVE SULPHIDE SECTIONS COMPRISE QUARTZ BRECCIA CLASTS IN SULPHIDE MATRIX; NON-MAGNETIC; UNFOLIATED; BASAL CONTACT GRADATIONAL OVER 1cm;	190.1	191.2	1.1	3317	.001	0.05	8.08	0.08	0.32
				191.2	192.5	1.3	3318	.001	0.04	3.18	0.17	0.32

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
			MINERALIZATION: PYRRHOTITE: GENERALLY 5%; LOCAL SECTIONS (≤ 20 cm) COMPRISE 40% + PYRRHOTITE; SPHALERITE: OVERALL 3%; LOCALLY 20% OVER 20 cm; ASSOCIATED WITH PYRRHOTITE; CHALCOPYRITE: <<1% - ASSOCIATED WITH PYRRHOTITE;									
192.5	193.5		SERICITE SCHIST: LIGHT GREEN-GREY, SOFT, NON-CALCAREOUS, LOCALLY MAGNETIC (PYRRHOTITE); 10% INTERCALATED BIOTITE-GARNET SCHIST; 20% INTERCALATED SILICEOUS IRON FORMATION BANDS (≤ 2 cm WIDE); WELL FOLIATED AT 30° TO C.A.; COMMON SMALL KINKS IN FOLIATION; BASAL CONTACT SHARP PARALLEL TO FOLIATION; MINERALIZATION: PYRRHOTITE: 10% - DISS, WISPS AND CLOTS SPHALERITE: <1% - ASSOCIATED WITH PYRRHOTITE CHALCOPYRITE: <1% - ASSOCIATED WITH PYRRHOTITE	192.5	193.5	1.0	3319	.001	0.14	0.81	.06	.40

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
193.5	194.6		PYRITE-PYRRHOTITE IRON FORMATION: LIGHT GREY QUARTZ WITH WISPY TO DISSEMINATED SULPHIDES (SEE BELOW): SULPHIDE WISPS FOLIATED AT 45° TO C.A.; LOCALLY MAGNETIC (PYRRHOTITE); BASAL CONTACT SHARP AT 40° TO C.A.; 10% INTERCALATED SERICITE SCHIST; MINERALIZATION: PYRITE: 193.5-193.8: 15%. 193.8-194.6: 1%. PYRRHOTITE: AVG 4% - VARIABLE - 0-20%. SPHALERITE: ≤2% - MAINLY UPHOLE; GALENA: <1% - CLOTS	193.5	194.6	1.1	3320	.001	0.29	0.41	0.06	0.40
194.6	196.3		SERICITE-BIOTITE SCHIST: SIMILAR TO 188.5-190.1m; 10% DISS. BROWN GARNETS (<1mm DIA); NON-CALCAREOUS; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED @ 45° TO C.A.; BASAL CONTACT GRADATIONAL OVER 50 cm; MINERALIZATION: PYRRHOTITE - 1% DISS. IN BIOTITE BANDS;	194.6	196.3	1.7	3321	.001				

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
196.3	202.0		SERICITE SCHIST: LIGHT GREY, SOFT, HOMOGENOUS WITH 5% INTERCALATED BIOTITE-GARNET SCHIST BANDS (≤1cm THICK); NON-CALCAREOUS, LOCALLY MAGNETIC - (PYRRHOTITE); WELL FOLIATED - FOLIATION HIGHLY CONTORTED 0-45° TO C.A.; BASAL CONTACT SHARP AT 35° TO C.A.; MINERALIZATION: PYRRHOTITE: 4% IN BIOTITE BANDS PYRITE: <1% - ASSOCIATED WITH PYRRHOTITE;									
202.0	205.3		PYRRHOTITE IRON FORMATION: LIGHT TO MEDIUM GREY QUARTZ (COMMONLY AS ROUNDED BRECCIA CLASTS) HOSTING CLOTS, WISPS AND DISS. OF SULPHIDE (SEE BELOW); 35% INTERCALATED SERICITE SCHIST BANDS (≤20cm WIDE) AT 202.0 - 203.8m; SULPHIDES LOCALLY CRUDELY FOLIATED AT 35° TO C.A.; BASAL CONTACT SHARP AT 40° TO C.A.;	202.0	203.8	1.8	3322	.001	0.11	0.07	0.06	0.37
				203.8	205.3	1.5	3323	.002	0.04	3.46	0.04	0.24

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
			MINERALIZATION: PYRRHOTITE: AVG 5%; LOCALLY 15%; <1% IN SERICITE SCHIST SECTIONS;									
			PYRITE: GENERALLY <1%; 203.8 - 205.0: 5% WISPS AND CLOTS									
			SPHALERITE: 202.0 - 203.8: <1%; 203.8 - 205.3: 4% WISPS AND CLOTS ASSOCIATED WITH PYRRHOTITE;									
			CHALCOPYRITE: <1% - ASSOCIATED WITH PYRRHOTITE;									
205.3	208.5		SILICEOUS IRON FORMATION: MEDIUM TO LIGHT GREY QUARTZ WITH COMMON SERICITIC PARTINGS AND DISS. TO WISPY SULPHIDES (SEE BELOW); 40% INTERCALATED SERICITE SCHIST (AS 196.3 - 202.0m); 10% INTERCALATED BIOTITE SCHIST (AS 171.7 - 177.3m); FOLIATION @ 40° TO C.A.; BASAL CONTACT SHARP AT 35° TO C.A.; 1.5cm Cr-MICA CLOT AT 207.1m;	205.3	207.3	2.0	3324	.004	0.43	2.13	0.04	0.92
				207.3	208.5	1.2	3325	.001	0.07	0.07	0.02	0.30
			MINERALIZATION: PYRRHOTITE: AVG 7%; LOCALLY 25%. PYRITE: <1%; LOCALLY 2%. SPHALERITE: <1%, LOCALLY 5%; GALENA - TRACE CHALCOPYRITE: TRACE									

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton
								oz/ton
208.5	209.4		BIOTITE-GARNET SCHIST: GENERALLY DARK BROWN WITH 15% LIGHT COLOURED SERICITE-RICH, TREMOLITE(?)-RICH AND QUARTZ-RICH (METACHERT?) BANDS (≤1.5 cm); 15% PINK GARNETS (≤7mm DIA) THOUGHOUT BIOTITIC BANDS; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 45° TO C.A.; BASAL CONTACT GRADATIONAL OVER 10cm; ALTERATION: LOCAL BLEACHING MINERALIZATION: PYRRHOTITE: 1% - DISS. CHALCOPYRITE: TRACE - DISS	208.5	209.4	0.9	3326	.001
209.4	211.8		TALC SCHIST: MOTTLED DARK GREY, LIGHT GREEN, AND WHITE; HOMOGENOUS; «1% DISS CHROMIUM MICA; NON-CALCAREOUS; MAGNETIC (MAGNETITE); WELL FOLIATED AT 45° TO C.A.; BASAL CONTACT SHARP AT 45° TO C.A.; MINERALIZATION: MAGNETITE - 3% - DISSEMINATED;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au oz/ton	
								oz/ton	
211.8	212.8		Biotite-Sericite-Chlorite Schist: Alternating dark brown (biotitic), light green (sericitic-tremolitic?) and medium green (chloritic) wispy bands (≤3cm dia.); 5-10% diss. pink garnets (≤5mm dia.); locally calcareous (diss. calcite in chloritic bands); magnetic (pyrrhotite); well foliated at 45° to C.A.; basal contact sharp at 45° to C.A.; Mineralization: Pyrrhotite: ≤1% - diss.						
212.8	213.4		Pyrrhotite Iron Formation: Light to med. grey quartz with clotty to diss. sulphides; sulphides crudely foliated at 40° to C.A.; magnetic (pyrrhotite); basal contact at 35° to C.A.; Mineralization: Pyrrhotite: 6% Sphalerite: <1% - associated with pyrrhotite Chalcopyrite: <1% - associated with pyrrhotite Galena: <<1% - associated with sphalerite	212.8	213.4	0.6	3327	.001 ✓	

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME ARSENO LAKE PROPERTY
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
213.4	218.0		SERICITE - CHROMIUM MICA SCHIST: LIGHT GREEN;	213.4	214.6	1.2	3328	.014	0.95	1.07	0.01	2.41
			35% MED. GREY SILICEOUS IRON FORMATION BANDS (≤2cm WIDE)	214.6	215.6	1.0	3329	.003	0.16	0.42	0.01	0.51
			@ 213.4-216.6m; 15% BROWN-GREY BIOTITE SCHIST BANDS	215.6	218.0	2.4	3330	.001				
			(≤3cm WIDE) @ 215.1-218.0m; NON-CALCAREOUS; MAGNETIC									
			(PYRRHOTITE); WELL FOLIATED @ 40° TO C.A.; BASAL									
			CONTACT SHARP AT 40° TO C.A.									
			ALTERATION: ABUNDANT CHROMIUM MICA (≥20%)									
			- COMMON SILICIFIED SECTIONS (?)									
			MINERALIZATION: DISSEMINATED AND LOCAL VEIN-ASSOCIATED									
			SULPHIDES;									
			213.4-214.6: PYRITE 10%, SPHALERITE 1%,									
			ARSENOPYRITE <1%, PYRRHOTITE <1%, GALENA <<1%;									
			214.6-215.6: PYRRHOTITE: 4%, SPHALERITE 1%, PYRITE <1%,									
			ARSENOPYRITE <<1%, GALENA <<1%;									
			215.6-218.0: PYRRHOTITE 1%, CHALCOPYRITE - Trace,									

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

Diamond Drill Record

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton
218.0	225.9		CARBONACEOUS SERICITE SCHIST: DARK GREY TO BLACK; HOMOGENOUS; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 40° TO C.A.; COMMON SECOND FOLIATION AT 080/35° D.L.P. TO FIRST; BASAL CONTACT GRADATIONAL OVER 1 cm; ALTERATION: 10% BLEACHED PATCHES (≤10 cm) @ 224.9-225.9m MINERALIZATION: PYRRHOTITE: << 1% - DISS - 220.0 - 220.4: 20% - CLOTS IN GARNETIFEROUS ZONE;	219.4	220.4	1.0	3331	.001
225.9	229.5		SERICITE - CHROMIUM MICA SCHIST: LIGHT GREEN; RELATIVELY HOMOGENOUS WITH 7% LIGHT TO MED. GREY QUARTZ BRECCIA CLASTS (≤1 cm DIA.) → SHEAR DISAGGREGATED SILICEOUS IRON FORMATION?; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 35° TO C.A.; BASAL CONTACT GRADATIONAL OVER 10 cm; ALTERATION: - CHROMIUM MICA - 10% - DISS. - ABUNDANT SILICIFIED SECTIONS. MINERALIZATION: PYRRHOTITE: ≤1% - DISS	225.9	227.6	1.7	3332	.001
				227.6	229.5	1.9	3333	.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS
229.5	240.6		BIOTITE-SERICITE SCHIST: ALTERNATING DARK BROWN-GREY (BIOTITIC) AND MED. GREY (SERICITIC) BANDS ≤ 10cm WIDE; DOMINANT QUARTZO-FELDSPATHIC MATRIX THROUGHOUT; SPARSE SECTIONS OF 10% PINK GARNETS; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 45° TO C.A.; BASAL CONTACT INTERCALATED OVER 5cm;					
			MINERALIZATION: PYRRHOTITE: GENERALLY TRACE-DISS - LOCALLY ≤ 15% OVER 5cm - ASSOCIATED WITH QUARTZ VEINLETS; CHALCOPYRITE & SPHALERITE - TRACE - ASSOCIATED WITH PYRRHOTITE;					
240.6	245.9		SILICEOUS IRON FORMATION: LIGHT GREY TO WHITE QUARTZ WITH DISS. TO CLOTTY SULPHIDES (SEE BELOW); 30% BROWN-GREY INTERCALATED BANDS (≤ 1m THICK) OF BIOTITE SCHIST; FOLIATION AT 35-55° TO C.A.; BASAL CONTACT SHARP AT 55° TO C.A.;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton
			MINERALIZATION: SULPHIDES ≤ 1% IN SCHIST SECTIONS:									
			IN IRON FORMATION: 240.6-242.5: PYRRHOTITE 5%,	240.6	242.5	1.9	3334	.010	1.22	1.23	0.03	2.52
			SPHALERITE 2%, GALENA <1%, CHALCOPYRITE <1%;	242.5	244.2	1.7	3335	.001	0.04	0.07	0.01	0.20
			242.5-245.9: PYRRHOTITE 1%,	244.2	245.9	1.7	3336	.003	0.44	0.78	0.03	1.18
			SPHALERITE <1%, CHALCOPYRITE <<1%, GALENA - TRACE;									
245.9	256.3		SERICITE-BIOTITE SCHIST: LIGHT GREEN-GREY WITH	246.7	247.8	1.1	3337	.004				
			30% BROWN-GREY BIOTITIC BANDS; NON-CALCAREOUS;									
			NON-MAGNETIC; WELL FOLIATED AT 40° TO C.A.;	250.8	252.1	1.3	3338	.004				
			SILICEOUS IRON FORMATIONS AT 248.7-248.9m (<1% PYRRHOTITE									
			+ CHALCOPYRITE), 250.8-251.0m (3% PYRRHOTITE, 1% SPHALERITE,									
			<1% PYRITE, <<1% CHALCOPYRITE), AND 253.5-253.9m (<1% PYRRHOTITE);									
			GRUNERITE IRON FORMATION AT 246.7-247.8m;									
			BASAL CONTACT SHARP AT 50° TO C.A.;									
			ALTERATION: - LOCAL BLEACHING AND SILICIFICATION (?)									
			- LOCAL SMALL ZONES OF DISS. CHROMIUM MICA;									
			MINERALIZATION: SULPHIDES GENERALLY <1% EXCEPT AS									
			NOTED ABOVE;									

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

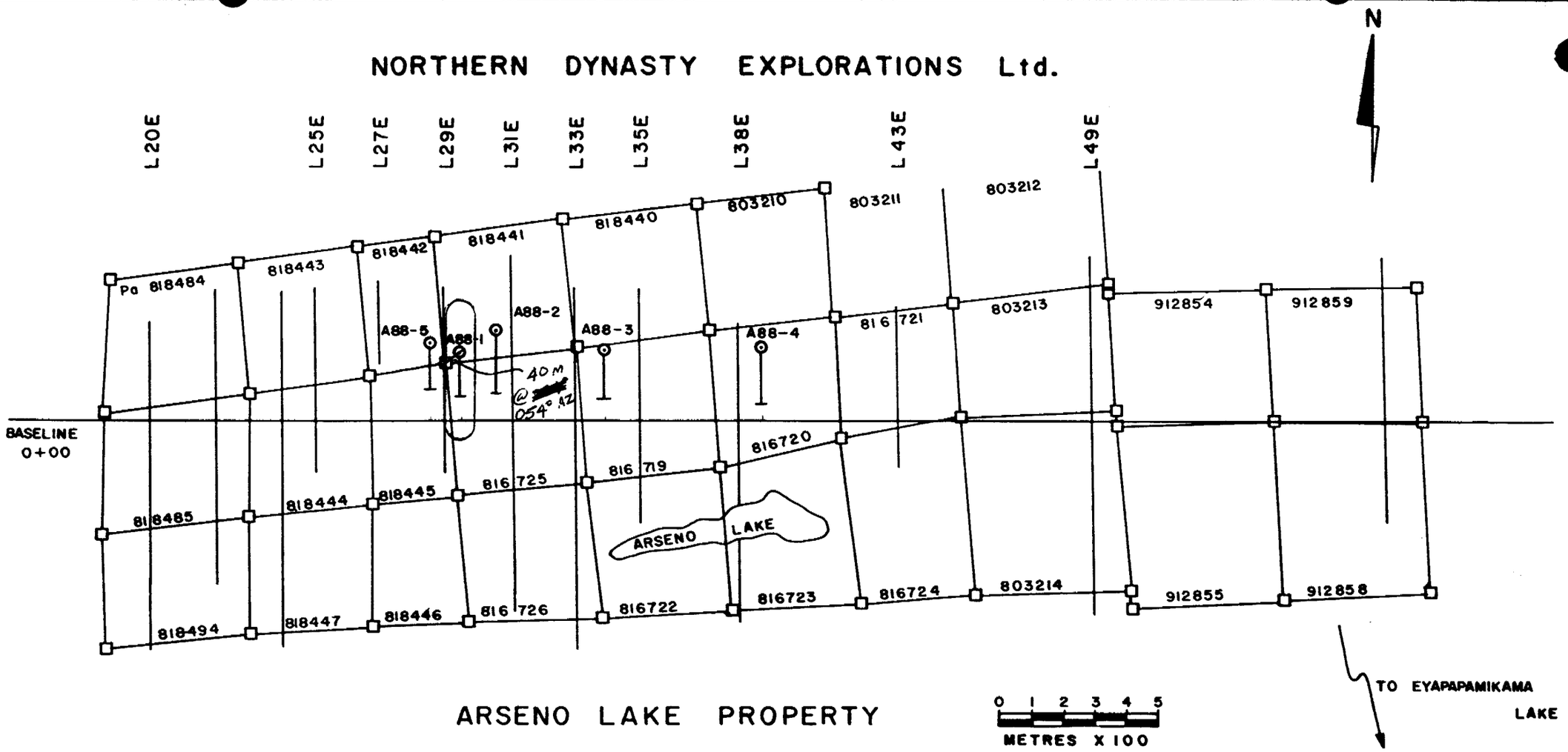
COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton
								oz/ton
256.3	261.8		CARBONACEOUS SERICITIC SCHIST: AS 218.0-225.9	258.1	260.1	2.0	3339	.001
			WELL FOLIATED AT 55° TO C.A.					
			MINERALIZATION: PYRRHOTITE - LT. TO DISS. AND WISPS					
			- VARIES 0-4%					
	261.8		END OF HOLE					
			NOTES					
			1. CASING LEFT IN HOLE.					

J. Gorzynski

NORTHERN DYNASTY EXPLORATIONS Ltd.



ARSENO LAKE PROPERTY

1988 DIAMOND DRILL HOLE LOCATION MAP

0 1 2 3 4 5
METRES X 100

CLAIM MAPS: KEEYASK LAKE / G-2085
SEESEEP LAKE / G-2204

NTS: 53B 14/15

— CLAIM POST

— DRILL COLLAR, HOLE NUMBER

— SURFACE PROJECTION

A-88-2

Diamond Drill Record

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR Langley Drilling / Brampton, Ontario
ASSAYER Acme Analytical Laboratories Ltd. / Vancouver, B.C.
PURPOSE OF HOLE To test depth extension of mineralization encountered in drillholes A-87-19, 20 and A-88-1.

HOLE NO. A-88-2
CLAIM NAME Pa. 818441 [redacted]
COMMENCED June 9, 1988
FINISHED June 15, 1988
PROJECT NO. ARS

COLLAR:
NORTH 2+75N
EAST 30+55E
ELEVATION —
LOGGED BY G. Gorzynski
DATE LOGGED June 10 - 17, 1988
MAP REFERENCE NO. NTS-53 B/14

HOLE SURVEY		
FOOTAGE	AZIMUTH	DIP
0.0m	186°	-67
60.7	=	-62
121.6	=	-59
182.6	=	-57
243.5	=	-51
304.5	=	-47
334.6	=	-46

METHOD: Acid

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			Summary Log					
0.0	3.9		Overburden					
3.9	10.8		Chlorite-Biotite Schist					
10.8	159.7		Biotite - Sericite - Garnet - Chlorite Schist					
159.7	165.9		Grunerite Iron Formation - Minor Sulphides					
165.9	169.7		Chlorite-Biotite Schist					
169.7	171.3		Biotite Schist					
171.3	173.6		Biotite - Chlorite Schist					
173.6	183.3		Basalt					
183.3	196.0		Biotite-Chlorite Schist					
196.0	200.7		Biotite Schist					
200.7	211.5		Basalt					
211.5	219.7		Chlorite-Biotite Schist					
219.7	228.3		Biotite Schist					
228.3	230.2		Chlorite-Biotite Schist					
230.2	232.4		Serpentine-Talc Schist					
232.4	236.1		Biotite-Chlorite Schist					
236.1	262.7		Basalt					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION Summary Log (cont.)	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
262.7	268.6		Biotite-Chlorite Schist					
268.6	271.4		Basalt					
271.4	282.3		Biotite-Chlorite Schist					
282.3	284.7		Pyrrhotite Iron Formation					
284.7	286.8		Muscovite Schist					
286.8	291.4		Biotite Schist					
291.4	297.6		Chlorite Schist					
297.6	307.7		Talc Schist					
307.7	311.5		Biotite Schist					
311.5	316.1		Sericite-Chlorite Schist					
316.1	319.5		Biotite Schist					
319.5	320.9		Siliceous Iron Formation - Local PO + SP					
320.9	323.2		Sericite-Biotite Schist					
323.2	326.8		Carbonaceous (?) Sericite Schist					
326.8	331.7		Biotite-Sericite Schist					
331.7	336.0		Sericite Schist					
336.0	339.7		Carbonaceous Sericite Schist					
339.7	350.2		Sericite-Biotite Schist					
	350.2		End of Hole					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY EXPLORATIONS LTD.
PROPERTY NAME: ARSENO LAKE PROPERTY
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-2
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
0.0	3.9		OVERBURDEN: WHITE GRANITE AND BIOTITIC GNEISS COBBLES RECOVERED						
3.9	10.8		CHLORITE-BIOTITE SCHIST: LIGHT TO DARK GREY-GREEN WITH 15% WISPY BIOTITIC BANDS ≤ 2 cm WIDE; 10% OF SECTION IS CALCAREOUS DUE TO 15% DISS AND FRACTURE-FILL CALCITE; NON-MAGNETIC; WELL FOLIATED AT 25° TO C.A.; BASAL CONTACT GRADATIONAL OVER 50 cm. ALTERATION: MINOR LOCAL BLEACHING; MINERALIZATION: PYRRHOTITE - TRACE - IN CALCITE VEINLETS;						
10.8	159.7		BIOTITE-SERICITE-GARNET-CHLORITE SCHIST: VARIABLY BANDED BROWN-GREY (BIOTITE-SERICITE) AND GREY-GREEN (CHLORITE) WITH DOMINANT SILTY QUARTZO-FELDSPATHIC MATRIX; 5-40% CHLORITIC BANDS VARY 1-70 cm IN WIDTH; TYPICALLY 10% (LOCALLY 30%) PINK GARNETS (1-15 mm DIA.) USUALLY IN CHLORITIC	27.5	28.5	1.0	3391	≤.001	≤34

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
			BANDS; ALSO 10% SECTIONS OF 10% BROWN GARNETS						
			(≤1 mm DIA); <1% CARBONATE VEINLETS; WELL FOLIATED AT						
			25°-30° TO C.A. UPHOLE, 45° TO C.A. DOWNHOLE; OVER 5cm; (DOWNHOLE CONTACT GRADES)						
			ALTERATION: LOCAL MINOR BLEACHING AND SILICIFICATION						
			MINERALIZATION: TYPICALLY NIL;						
			PYRRHOTITE ± PYRITE ± CHALCOPYRITE = ≤1% OVER ≤10cm						
			CLOTS ASSOCIATED WITH CHLORITE AND						
			GARNET BANDS						
			27.5-28.5: CALCITE + (QUARTZ) VEIN WITH						
			30% INTERGROWN CHLORITE; 1% DISS. PYRRHOTITE						
			AND <<1% ARSENOPYRITE;						
159.7	165.9		GRUNERITE IRON FORMATION: WISPY LIGHT GREEN	159.7	161.4	1.7	3342	<.001	<34
			GRUNERITE (≤30%) IN LIGHT TO MED. GREY QUARTZ-	161.4	162.2	0.8	3343	<.002	<69
			WITH VARIABLE DISS, CLOTTY AND WISPY SULPHIDES	162.2	163.7	1.5	3344	<.001	<34
			(SEE BELOW); 35% INTERCALATED DARK BROWN-GREY	163.7	165.9	2.2	3345	<.001	<34
			BIOTITE SCHIST BANDS (≤15cm WIDE); FOLIATION						
			AT 45° TO C.A.; MAGNETIC (PYRRHOTITE); DOWNHOLE						
			CONTACT SHARP AT 50° TO C.A.;						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			MINERALIZATION: TYPICALLY <1% SULPHIDES IN BIOTITE SCHIST SECTIONS; IN IRON FORMATION →					
			PYRRHOTITE: AVG. 2% - LOCALLY 15%.					
			ARSENOPYRITE: 161.4-162.2 - 1% - DISS					
			CHALCOPYRITE: <<1% - ASSOCIATED WITH PYRRHOTITE					
			GALENA: TRACE - DISS.					
165.9	169.7		CHLORITE-BIOTITE SCHIST: MED. GREEN WITH 30% DARK BROWN-GREY BIOTITIC BANDS ≤10 cm WIDE; 10% PINK GARNETS (≤8 mm DIA) TOWARD DOWNHOLE CONTACT; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm;					
			MINERALIZATION: PYRRHOTITE: ≤2% - DISS					
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE					
169.7	171.3		BIOTITE SCHIST: 30% STREAKY BIOTITE IN GREY QUARTZO-FELDSPATHIC MATRIX; NON-MAGNETIC; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADES OVER 20cm					
			MINERALIZATION: PYRRHOTITE - ≤1% - DISS					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-2
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM	TO	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
171.3	173.6		BIOTITE-CHLORITE SCHIST; DARK GREY-BROWN WITH 20% WISPY CHLORITIC BANDS (≤ 1cm WIDE); LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; MINERALIZATION: PYRRHOTITE: <1% - DISS.					
173.6	183.3		BASALT: DARK GREEN-GREY; FINE GRAINED; NON-MAGNETIC; POORLY TO MOD. FOLIATED AT 35° TO C.A.; RELATIVELY HOMOGENOUS; 10% SECTIONS OF BIOTITIC SCHIST (≤ 30cm WIDE); DOWNHOLE CONTACT GRADATIONAL OVER 30cm; NO SIGNIFICANT ALTERATION; MINERALIZATION: PYRRHOTITE: <1% - DISS.					
183.3	196.0		BIOTITE-CHLORITE SCHIST: GENERALLY STREAKY BIOTITE AND CHLORITE IN QUARTZO-FELDSPATHIC MATRIX; NON-MAGNETIC; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40 cm; MINERALIZATION: PYRRHOTITE & PYRITE: <1% - DISS.					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
196.0	200.7		BIOTITE SCHIST: SIMILAR TO 169.7-171.3m; WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40 cm; MINERALIZATION: PYRRHOTITE: <<1% - DISS.					
200.7	211.5		BASALT: SIMILAR TO 173.6-183.3m; POORLY TO MOD. FOLIATED AT 45° TO C.A.; 15% WISPY BIOTITIC BANDS ≤2 cm WIDE; DOWN HOLE CONTACT GRADATIONAL OVER 15cm; MINERALIZATION: PYRRHOTITE: <1% DISS.					
211.5	219.7		CHLORITE-BIOTITE SCHIST: SIMILAR TO 3.9-10.8m; LOCALLY GRADES TO POORLY FOLIATED BASALT; NON-CALCAREOUS; NON-MAGNETIC; FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 15cm; MINERALIZATION: PYRRHOTITE: <<1% - DISS.					

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
219.7	228.3		BIOTITE SCHIST: SIMILAR TO 169.7-171.3; WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 50cm; MINERALIZATION: PYRRHOTITE - <1% - DISS					
228.3	230.2		CHLORITE-BIOTITE SCHIST: SIMILAR TO 3.9-10.8m; LOCALLY GRADES TO MOD. FOLIATED BASALT; FOLIATED AT 35° TO C.A; DOWNHOLE CONTACT GRADATIONAL OVER 30cm AND MARKED BY 1% QUARTZ-CARBONATE VEINLETS; MINERALIZATION: PYRRHOTITE: ≤1% - DISS.					
230.2	232.4		SERPENTINE-TALC SCHIST: MOTTLED GREY, LIGHT GREEN, AND WHITE; HOMOGENOUS, SOFT, NON-MAGNETIC, 5% FOLIATION-PARALLEL WHITE CARBONATE VEINLETS; MOD. FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 1cm; 230.2-231.3: 40% RECOVERY - TUBE DID NOT LOCK; MINERALIZATION: NIL					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS						
232.4	236.1		BIOTITE-CHLORITE SCHIST: SIMILAR TO 183.3-196.0m; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30 cm; MINERALIZATION: PYRRHOTITE - Tr - DISS											
236.1	262.7		BASALT: SIMILAR TO 173.6-183.3m; 30% INTERCALATED CHLORITE-BIOTITE SCHIST AND 5% BIOTITE SCHIST BANDS ≤ 1m THICK; POORLY TO MOD. FOLIATED AT 45° TO C.A.; 3% WHITE CARBONATE ± QUARTZ VEINLETS THROUGHOUT; DOWNHOLE CONTACT SHARP AT 45° TO C.A.; MINERALIZATION: PYRRHOTITE: <<1% - CLOTS AND DISS. CHALCOPYRITE/SPHALERITE - TRACE - CLOTS AND DISSEMINATIONS;											
262.7	268.6		BIOTITE-CHLORITE SCHIST: SIMILAR TO 183.3-196.0m; 5% SECTIONS OF PINK GARNETS (≤1cm DIA.); WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; 263.5-266.5: 15% SILICEOUS IRON FORMATION(?) BANDS ≤2cm WIDE											

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au
			MINERALIZATION: PYRRHOTITE: <1% - DISS						
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE						
268.6	277.4		BASALT: SIMILAR TO 173.6 - 183.3m; 30% INTERCALATED CHLORITE-BIOTITE SCHIST AND 5% BIOTITE SCHIST BANDS ≤1.5m WIDE; NON-MAGNETIC; 2% WHITE CARBONATE VEINLETS; FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 5cm;	272.9	273.9	1.0	3346	≤.001	≤34
			ALTERATION: 273.4-273.6: LIGHT BROWN BIOTITE (30%) - WHITE CARBONATE (20%) ALTERATION ZONE WITH 1cm GRADATIONAL CONTACTS; 5% ASSOCIATED DISS PYRITE						
			MINERALIZATION: PYRRHOTITE: ≤1% - DISS AND IN VEINLETS						
			CHALCOPYRITE - Tr - ASSOCIATED WITH PYRRHOTITE						
			PYRITE - <1% - DISS AND IN VEINLETS						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
277.4	282.3		BIOTITE-CHLORITE SCHIST: SIMILAR TO 183.3-196.0m; 20% SECTIONS OF ≤10% PINK GARNETS ≤8mm DIA.; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT SHARP AT 50° TO C.A.; 281.6-282.3: 3% SILICEOUS AND GRUNERITE IRON FORMATION BANDS ≤1cm WIDE; MINERALIZATION: PYRRHOTITE: <1% - DISS AND IN MINOR QUARTZ VEINLETS SPHALERITE/CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE;	280.9	282.3	1.4	3347	≤.001	≤34
282.3	284.7		PYRRHOTITE IRON FORMATION: LIGHT GREY TO WHITE QUARTZ (METACHERT) WITH DISS., CLOTTY, FRACTURE-FILL AND SPARSE MASSIVE SULPHIDES (SEE BELOW); LOCALLY QUARTZ BRECCIATED AND HEALED BY SULPHIDES; LOCAL CRUDE SULPHIDE BANDING AT 45-60° TO C.A.; DOWNHOLE CONTACT SHARP AT 50° TO C.A.; 1% INTERCALATED SERICITE SCHIST BANDS ≤10 cm WIDE; MINERALIZATION: PYRRHOTITE: 282.3-283.7 - 1% 283.7-284.7 - 5% SPHALERITE/ARSENOPYRITE/CHALCOPYRITE - <<1% - WITH PYRRHOTITE	282.3	283.7	1.4	3348	≤.001	≤34
				283.7	284.7	1.0	3349	≤.001	≤34

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-BB-2
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au	ASSAYS Au
								oz/ton	ppb
284.7	286.8		MUSCOVITE SCHIST: VARIABLE UNIT: MAINLY LIGHT GREEN-GREY MUSCOVITE IN 10-30% QUARTZ MATRIX; LOCAL SECTIONS OF 10-20% PINK OR BROWN GARNETS; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 50° TO C.A.; 15% INTERCALATED BIOTITE SCHIST; DOWNHOLE CONTACT GRADATIONAL OVER 1 cm;	284.7	286.8	2.1	3350	<.001	≤34
			ALTERATION: THIS ENTIRE UNIT MAY BE A SERICITE-ALTERED BIOTITE SCHIST;						
			MINERALIZATION: PYRRHOTITE: GENERALLY ≤1% - DISS. AND CLOTS 285.9-286.3: 5% - DISS AND IN QUARTZ VEIN;						
			PYRITE: <1% - DISS.						
			CHALCOPYRITE/SPHALERITE: <<1% - ASSOCIATED WITH PYRRHOTITE						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
								oz/ton	ppb
286.8	291.4		BIOTITE SCHIST: SIMILAR TO 169.7-171.3m; 10% SECTIONS OF ≤15% PINK GARNETS; TYPICALLY NON-CALCAREOUS; 6% QUARTZ AND/OR CARBONATE VEINS ≤20cm DIAMETER; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30cm; 288.4-288.6m: SILICEOUS IRON FORMATION - 2% PYRRHOTITE; ALTERATION: COMMON SILICIFIED KNOTS (?) ≤1cm DIA. 288.1-288.4m: 30% CHROMIUM MICA SCHIST MINERALIZATION: 286.8-288.9: PYRRHOTITE: 2% - DISS AND IN VEINS PYRITE/CHALCOPYRITE: <1% - IN VEINS 288.9-291.4: PYRRHOTITE: <1% - DISS AND IN VEINS PYRITE/ARSENOPYRITE: TRACE - IN VEINS	286.8	288.9	2.1	3351	≤.001	≤34
				288.9	291.4	2.5	3352	≤.001	≤34
291.4	297.6		CHLORITE SCHIST: VARIABLE UNIT: DARK GREEN GREY UPHOLE VARYING TO BRIGHT MED GREEN DOWNHOLE; COMMON CHLORITE, BIOTITE, SERICITE, PINK GARNETS AND QUARTZO-FELDSPATHIC MATRIX UPHOLE GRADE TO DOMINANTLY CHLORITE DOWNHOLE; MAGNETIC (PYRRHOTITE UPHOLE, MAGNETITE DOWNHOLE); INCREASINGLY CALCAREOUS DOWNHOLE; WELL FOLIATED AT	291.4	293.4	2.0	3353	≤.001	≤34
				293.4	294.6	1.2	3354	≤.001	≤34
				294.6	296.4	1.8	3355	≤.001	≤34

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			50° TO C.A.; DOWNHOLE CONTACT SHARP AND PARALLEL TO FOLIATION AT 75° TO C.A.;					
			ALTERATION: 291.8-296.4m: 10% BANDS (≤2cm WIDE) OF LIGHT BROWN BIOTITE ALTERATION WITH SOME ASSOCIATED SILICIFICATION;					
			293.2-296.4: 3-20% DISS WHITE CARBONATE WITH LOCAL ASSOCIATED BLUE-ish QUARTZ					
			MINERALIZATION: PYRRHOTITE: <1% - DISS, DECREASING DOWNHOLE					
			CHALCOPYRITE: TRACE - DISS					
			MAGNETITE: <1% @ 296.4-297.6m;					
297.6	307.7		TALC SCHIST: MOTTLED GREY AND WHITE; FINE TO MED. GRAINED; MAGNETIC (MAGNETITE); NON-CALCAREOUS BUT CUT BY 7% WHITE CARBONATE VEINLETS; 30% INTERCALATED (≤1.5m WIDE) SECTIONS OF CHLORITE SCHIST WITH 3-20% DISS CARBONATE; POORLY TO WELL FOLIATED AT 5° TO C.A.;					
			DOWNHOLE CONTACT GRADATIONAL OVER 1m;					
			MINERALIZATION: MAGNETITE: ≤3% - DISS IN TALC SCHIST					
			PYRITE - TRACE - DISS.					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
307.7	311.5		BIOTITE SCHIST: 60% BLACK WISPY BIOTITE BANDS (≤2cm WIDE) IN LIGHT BROWN-GREY SERICITE-QUARTZO-FELDSPATHIC MATRIX; 2-5% FINE (1mm) PINK GARNETS DISSEMINATED THROUGHOUT; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 1 cm;	307.7	309.8	2.1	3356	<.001	≤34
				309.8	311.5	1.7	3357	<.001	≤34
			MINERALIZATION: PYRRHOTITE: 1% -DISS						
			ARSENOPYRITE: ≤1% -DISS						
			CHALCOPYRITE: TRACE: DISS						
311.5	316.1		SERICITE-CHLORITE SCHIST: PREDOMINANTLY LIGHT GREY (SERICITE WITH DOMINANT QUARTZO-FELDSPATHIC MATRIX AND <10% CHLORITE); LOCALLY MED. GREEN (>30% CHLORITE); WISPY BANDED; LOCALLY CALCAREOUS (≤5% DISS. WHITE CARBONATE); MAGNETIC (MAGNETITE); WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 5cm;						
			MINERALIZATION: MAGNETITE - ≤3% -DISS						
			PYRRHOTITE: <1% -DISS						
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	Pb %	Zn %	Cu %	Ag oz/ton	Au ppb
316.1	319.5		BIOTITE SCHIST: SIMILAR TO 169.7-171.3m; 7% DISS SMALL (1mm) PINK GARNETS; NON-CALCAREOUS; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT SHARP AT 65° TO C.A.; MINERALIZATION: PYRRHOTITE: 1% - DISS AND CLOTS ARSENOPYRITE: TRACE - DISS										
319.5	320.9		SILICEOUS IRON FORMATION: WHITE TO LIGHT GREY QUARTZ WITH CLOTTY AND DISS. SULPHIDES (SEE BELOW); 5% INTERCALATED SERICITE AND CHLORITE SCHIST BANDS ≤ 2cm WIDE MAINLY DOWNHOLE; LOCALLY FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm; MINERALIZATION: PYRRHOTITE: 4% SPHALERITE: ≤1% GALENA: << 1% CHALCOPYRITE: << 1% PYRITE: << 1%	319.5	320.9	1.4	3358	.005	0.51	0.68	0.02	1.46	171

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM	TO	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
								oz/ton	ppb
320.9	323.2		SERICITE-BIOTITE SCHIST: LIGHT GREY (SERICITIC) WITH 30% GREY-BROWN (BIOTITIC) BANDS (≤2cm WIDE); 10% PINK GARNETS (1mm DIA) TYPICALLY IN BIOTITIC BANDS; TYPICALLY NON-CALCAREOUS & NON-MAGNETIC; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT SHARP AT 50° TO C.A.; 7% INTERCALATED SILICEOUS IRON FORMATION WITH 3% CLOTTY PYRRHOTITE; I.F. BAND ≤15cm WIDE; ALTERATION: 3% DISS CHROMIUM MICA DOWNHOLE IN UNIT. MINERALIZATION: PYRRHOTITE - TYPICALLY ≤2% - DISS ARSENOPYRITE - TRACE - DISS	320.9	323.2	2.3	3359	≤.001	≤34
323.2	326.8		CARBONACEOUS (?) SERICITE SCHIST: DARK GREY, HOMOGENEOUS; GENERALLY SERICITE ± BIOTITE IN QUARTZO-FELDSPATHIC MATRIX; NON-CALCAREOUS; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT IS GRADATIONAL OVER 3 cm; 325.0-325.4 & 326.5-326.8: 50% DISAGGREGATED SILICEOUS IRON FORMATIONS MINERALIZATION: PYRRHOTITE: ≤1% - DISS ARSENOPYRITE: TRACE - DISS	323.2	325.4	2.2	3360	≤.001	≤34

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arsenio Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
326.8	331.7		BIOTITE-SERICITE SCHIST: DARK TO LIGHT BROWN-GREY, POORLY TO WELL BANDED; ABUNDANT QUARTZ-FELDSPATHIC MATRIX; LOCALLY MAGNETIC (PYRHOTITE); LOCALLY CALCAREOUS (≤20 cm SECTIONS OF ≤30% DISS. WHITE CARBONATE); WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2cm;	329.7	331.7	2.0	3361	<.001	≤34
			ALTERATION: LOCAL MINOR BIOTITE ALTERATION (AS 291.8-296.4m)						
			MINERALIZATION: PYRRHOTITE: COMMONLY 1-2% DISS						
331.7	336.0		SERICITE SCHIST: GENERALLY HOMOGENOUS LIGHT GREEN GREY; 25% GRADATIONALLY INTERCALATED SERICITE-BIOTITE SCHIST, NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm;	334.1	336.0	1.9	3362	.010	343
			ALTERATION: THIS ENTIRE UNIT MAY BE AN ALTERED BIOTITE SCHIST; - <1% CLOTTY AND DISS CHROMIUM MICA THROUGHOUT.						
			MINERALIZATION: PYRRHOTITE - <1% - DISS						
			ARSENOPYRITE - TRACE - DISS						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au oz/ton	ASSAYS Au ppb
								oz/ton	ppb
336.0	339.7		CARBONACEOUS SERICITE SCHIST: SIMILAR TO 323.2-326.8m; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm;	336.0	338.0	2.0	3363	≤.001	≤34
				338.0	339.7	1.7	3364	≤.001	≤34
			MINERALIZATION: PYRRHOTITE: 3% - DISS AND CLOTS						
339.7	350.2		SERICITE-BIOTITE SCHIST: VARIABLY LIGHT TO DARK BROWN-GREY, HOMOGENOUS TO BANDED; DOMINANT QUARTZ-FELDSPATHIC MATRIX; NON-CALCAREOUS; LOCALLY SLIGHTLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 45° TO C.A. → LOCALLY FOLIATION VARIES TO 5° TO C.A.;	345.0	347.4	2.4	3365	≤.001	≤34
				347.4	348.8	1.4	3366	≤.001	≤34
			MINERALIZATION: PYRRHOTITE: ≤1% - DISS						
			ARSENOPYRITE: 345.0 - 348.8m: ≤1% - DISS						
			345.4-345.8: QUARTZ-CHLORITE VEIN WITH 4% CLOTTY PYRRHOTITE AND <1% ARSENOPYRITE						
	350.2		END OF HOLE						

Diamond Drill Record

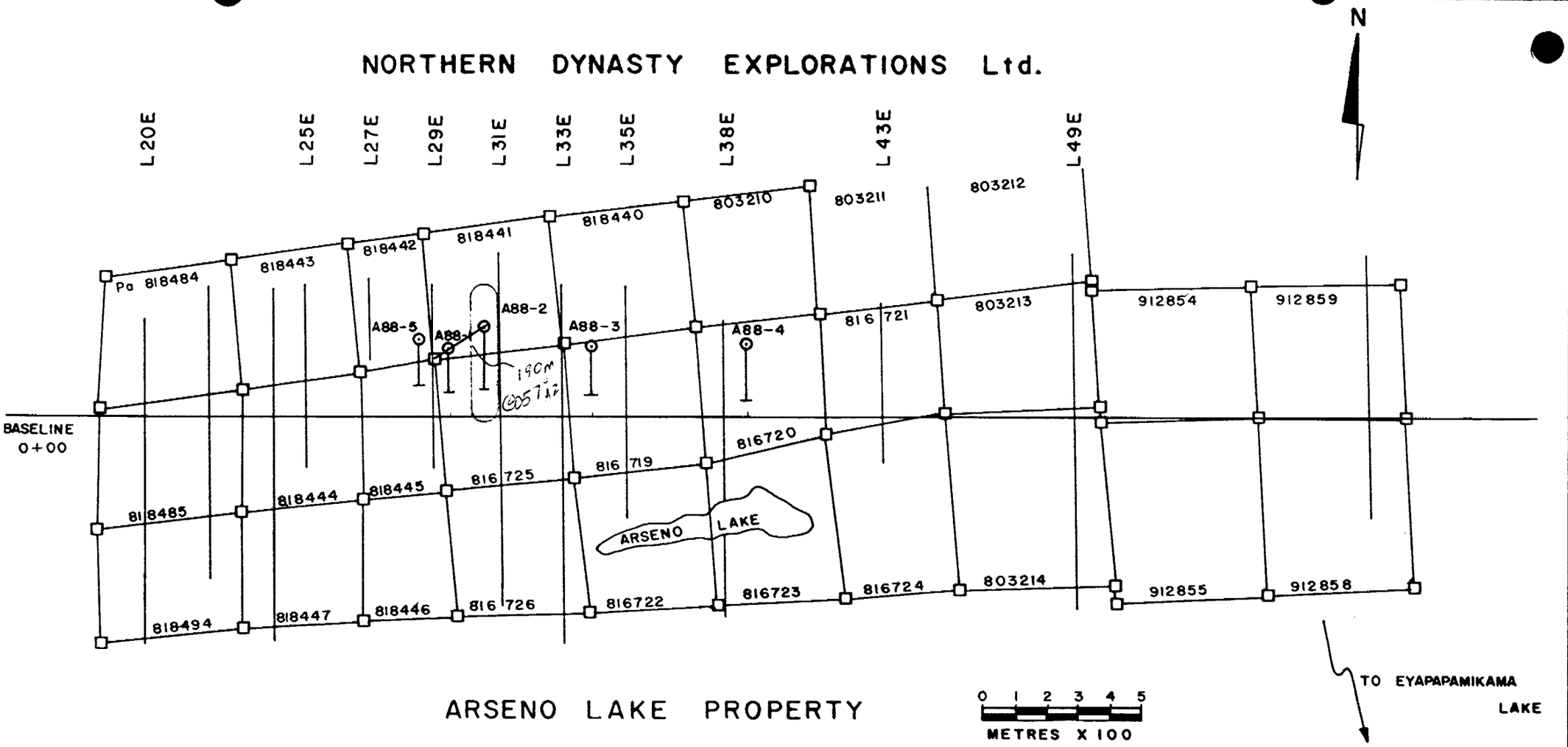
COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-2
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM	TO	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			Notes					
			1. Casing left in hole for possible deepening to test alteration zones encountered in DDH-A-87-21 further south.					
			G Gorzynski					

NORTHERN DYNASTY EXPLORATIONS Ltd.



ARSENO LAKE PROPERTY

1988 DIAMOND DRILL HOLE LOCATION MAP

CLAIM MAPS: KEEYASK LAKE / G-2085
SEESEEP LAKE / G-2204

NTS: 53B 14/15

0 1 2 3 4 5
METRES X 100

— CLAIM POST

— DRILL COLLAR, HOLE NUMBER

SURFACE PROJECTION

A-88-3

Diamond Drill Record

PAGE 1 of 8

COMPANY NAME Northern Dynasty Explorations Ltd.
PROPERTY NAME Arseno Lake Property
DRILLING CONTRACTOR Langley Drilling / Brampton, Ontario
ASSAYER Acme Analytical Laboratories Ltd. / Vancouver, B.C.
PURPOSE OF HOLE To test depth extension of mineralization encountered in drillholes A-87-1,2,9

HOLE NO. A-88-3
CLAIM NAME Pa. 816719
COMMENCED June 16, 1988
FINISHED June 22, 1988
PROJECT NO. ARS

COLLAR
NORTH 2+16N
EAST 3+87E
ELEVATION —
LOGGED BY G. Gorzynski
DATE LOGGED June 18-24, 1988
MAP REFERENCE NO. NTS 53B/14

HOLE SURVEY		
FOOTAGE	AZIMUTH	DIP
0.0m	186°	-56°
60.7	—	-56°
121.6	—	-50
182.6	=	-47
237.7	=	-45

METHOD: Acid

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			Summary Log					
0.0	1.5		Overburden					
1.5	16.3		Chlorite-Biotite Schist					
16.3	19.5		Biotite-Sericite Schist					
19.5	20.9		Basalt					
20.9	24.7		Biotite Schist					
24.7	33.5		Calcareous Chemical Sediment(?)					
33.5	39.6		Grunerite Iron Formation					
39.6	44.1		Biotite-Chlorite Schist					
44.1	54.5		Chlorite-Biotite Schist					
54.5	74.7		Biotite Schist					
74.7	86.0		Chlorite Schist					
86.0	102.5		Biotite-Chlorite Schist					
102.5	116.5		Blue Quartz-Eye Schist					
116.5	120.1		Biotite-Chlorite Schist					
120.1	137.3		Basalt					
137.3	146.2		Chlorite-Biotite Schist					
146.2	157.1		Biotite Schist					

Diamond Drill Record

COLLAR	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-BB-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			SUMMARY LOG (cont.)					
157.1	162.0		BASALT					
162.0	174.2		BIOTITE-CHLORITE SCHIST					
174.2	179.0		BIOTITE-GARNET-CHLORITE SCHIST					
179.0	179.2		PYRRHOTITE-SPHALERITE IRON FORMATION - MAIN ZONE					
179.2	181.4		PYRRHOTITE IRON FORMATION					
181.4	181.8		CHLORITE SCHIST					
181.8	183.3		TALC SCHIST					
183.3	187.1		CHLORITE SCHIST					
187.1	206.9		SILICEOUS IRON FORMATION					
206.9	211.1		SILICEOUS IRON FORMATION + SCHIST					
211.1	225.7		SERICITE-BIOTITE SCHIST					
225.7	227.4		CHLORITE SCHIST					
227.4	229.6		SERICITE-BIOTITE SCHIST					
229.6	236.3		SERPENTINE-TALC SCHIST					
236.3	237.4		CHLORITIC ULTRAMAFIC					
	237.4		END OF HOLE					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
0.0	1.5m		OVERBURDEN - PINK GRANITE COBBLE RECOVERED; CASING DRIVEN TO 2.2m (7 ft) THROUGH BROKEN ROCK;					
1.5m	16.3		CHLORITE-BIOTITE SCHIST: MED. GREY-GREEN WITH 10-30% BROWN-GREY (BIOTITIC) BANDS AND WISPS (≤4cm WIDE); 0-15% PINK GARNETS (≤6mm DIA) INCREASING IN SIZE AND ABUNDANCE DOWNHOLE; LOCALLY MAGNETIC (PYRRHOTITE); LOCALLY CALCAREOUS (DISS. WHITE CARBONATE); ≤1% WHITE CARBONATE VEINLETS; WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT SHARP AT 35° TO C.A.; NO SIGNIFICANT ALTERATION; MINERALIZATION: PYRRHOTITE: ≤1% - DISS AND CLOTS CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE					
16.3	19.5		BIOTITE-SERICITE SCHIST: MED. BROWN-GREY, HOMOGENOUS TO LOCALLY BANDED BIOTITE IN DOMINANT SERICITIC QUARTZO-FELDSPATHIC MATRIX; NON-MAGNETIC; LOCALLY CALCAREOUS (≤5% DISS. WHITE CARBONATE); WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 3cm;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM	TO	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			MINERALIZATION: PYRRHOTITE: 1% - DISS.					
19.5	20.9		BASALT: MED. GREY-GREEN, HOMOGENOUS, FINE GRAINED, NON-MAGNETIC; CALCAREOUS (10% DISS CALCITE); POORLY FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10 cm;					
			MINERALIZATION: PYRRHOTITE: ≤1% - DISS					
20.9	24.7		BIOTITE SCHIST: BROWN-GREY, RELATIVELY HOMOGENOUS, 20-40% BIOTITE IN QUARTZO-FELDSPATHIC MATRIX; NON-MAGNETIC; CALCAREOUS (2-10% DISS CALCITE); WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT SHARP ACROSS 1cm QUARTZ-CARBONATE VEINLET AT 50° TO C.A.;					
			MINERALIZATION: PYRRHOTITE: ≤1% DISS					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
24.7	33.5		CALCAREOUS CHEMICAL SEDIMENT (?): WHITE TO LIGHT GREEN CARBONATE + QUARTZ + (CHLORITE); MED GRAINED, LOCALLY MAGNETIC (PYRRHOTITE); HIGHLY INTERGROWN WITH 40% BIOTITE-SERICITE SCHIST (SIMILAR TO 16.3-19.5 m) ON SCALES OF 1mm TO 1m; FOLIATION AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20%	24.7	26.1	1.4	3367	22	<.001
				26.1	27.5	1.4	3368	7	<.001
				27.5	29.7	2.2	3369	36	.001
				29.7	31.7	2.0	3370	12	<.001
				31.7	33.5	1.8	3371	3	<.001
			ALTERATION: BIOTITE-SERICITE SCHIST INCREASINGLY SILICIFIED DOWNHOLE						
			MINERALIZATION: PYRRHOTITE - DISS AND CLOTS IN BOTH SEDIMENT AND SCHIST: 24.7-29.7: AVG 1%; 29.7-33.5: AVG: 4%. PYRITE: TRACE: DISS AND CLOTS						
33.5	39.6		GRUNERITE IRON FORMATION: WHITE TO DARK GREY QUARTZ (METACHERT) WITH 50% WISPY AND FRACTURE-FILL YELLOW-GREEN GRUNERITE; INTERCALATED WITH 20% DARK GREEN GARNETIFEROUS CHLORITE SCHIST BANDS (≤4cm WIDE); FOLIATION AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 15 cm;	33.5	35.5	2.0	3372	1	<.001
				35.5	37.5	2.0	3373	6	<.001
				37.5	39.6	2.1	3374	41	.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
			MINERALIZATION: MAGNETITE: 2% - DISS IN GRUNERITE					ppb	oz/ton
			PYRRHOTITE: ≤2% - DISS AND CLOTS THROUGHOUT						
			ARSENOPYRITE: TRACE: DISS						
39.6	44.1		BIOTITE-CHLORITE SCHIST: DARK BROWN-GREY WITH 5-25% MED GREEN WISPY CHLORITIC BANDS ≤2cm WIDE; GENERALLY NON-MAGNETIC; LOCALLY CALCAREOUS (≤5% DISS CALCITE); 2% CARBONATE VEINLETS; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT SHARP AT 40° TO C.A. ACROSS 1cm QUARTZ VEINLET;	39.6	40.5	0.9	3375	147	.004
			MINERALIZATION: 39.6 - 40.5m: PYRRHOTITE - 2% - DISS AND CLOTTY SECTIONS; CHALCOPYRITE - <1% - ASSOCIATED WITH PYRRHOTITE;						
			40.5 - 44.1: PYRRHOTITE <1% - DISS AND CLOTS						
44.1	54.5		CHLORITE-BIOTITE SCHIST: (LOCALLY GRADES TO POORLY FOLIATED BASALT); MOD. GREY-GREEN WITH 5-30% DISS AND WISPY BANDED BIOTITE; NON-MAGNETIC; LOCALLY CALCAREOUS (≤5% DISS. CALCITE); WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 15 cm;						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			MINERALIZATION: PYRRHOTITE: GENERALLY ≤1% - DISS.					
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE					
54.5	74.7		BIOTITE SCHIST: GENERALLY SIMILAR TO 20.9-24.7m;					
			LOCAL BANDS (≤ 2cm WIDE) OF CHLORITE SCHIST;					
			5% SECTIONS OF ≤10% PINK GARNETS (≤ 8mm DIA.);					
			WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT					
			SHARP BUT DISRUPTED BY QUARTZ VEINLET AT 90° TO C.A.;					
			64.0-64.1: SILICEOUS IRON FORMATION - 5% GRUNERITE,					
			<1% SULPHIDES;					
			69.6-70.6: CHLORITE SCHIST					
			MINERALIZATION: PYRRHOTITE: GENERALLY ≤1% - DISS					
74.7	86.0		CHLORITE SCHIST: MED. GREEN; COMMONLY HOSTS ≤15% DISS					
			AND WISPY BANDED BIOTITE; NON-CALCAREOUS;					
			NON-MAGNETIC; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE					
			CONTACT SHARP AT 50° TO C.A.;					
			MINERALIZATION: PYRRHOTITE: <1% - DISS					
			CHALCOPYRITE: TRACE - DISS					
			- 3cm QUARTZ-CARBONATE-TOURMALINE VEIN AT 81.5m;					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
86.0	102.5		BIOTITE-CHLORITE SCHIST: SIMILAR TO 39.6-44.1; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT SHARP AT 40° TO C.A.;	101.5	102.5	1.0	3376	22	<.001
			MINERALIZATION: PYRRHOTITE: <1% - DISS						
102.5	116.5		BLUE QUARTZ-EYE SCHIST: 5-15% ROUNDED BLUE QUARTZ EYES (≤5mm DIA.) IN MUSCOVITE-BIOTITE-QUARTZO-FELDSPATHIC, LIGHT TO MED GREY MATRIX; NON-MAGNETIC; NON-CALCAREOUS; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT SHARP ACROSS 1cm QUARTZ VEINLET AT 40° TO C.A.;	102.5	104.5	2.0	3377	4	<.001
				104.5	106.5	2.0	3378	1	<.001
				106.5	108.5	2.0	3379	1	<.001
				108.5	110.5	2.0	3380	20	<.001
				110.5	112.5	2.0	3381	1	<.001
				112.5	114.5	2.0	3382	1	<.001
			NOTE: SOME BLUE PORPHYROCLASTS ON THE PROPERTY ARE CORDIERITE; OTHERS, LIKE THESE, ARE QUARTZ;	114.5	116.5	2.0	3383	1	<.001
			MINERALIZATION: PYRRHOTITE: ≤2% - DISS - ASSOCIATED WITH BIOTITE						
			ARSENOPYRITE: <<1% - DISS						
			PYRITE/SPHALERITE: TRACE - ASSOCIATED WITH MINOR QUARTZ VEINS TOWARD DOWNHOLE CONTACT.						

Diamond Drill Record

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COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
116.5	120.1		BIOTITE-CHLORITE SCHIST: SIMILAR TO 39.6-44.1m; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20cm; ALTERATION: 116.7-117.9m: 10% BLEACHED SECTIONS WITH 5% DISS. CHROMIUM MICA; MINERALIZATION: 116.5-116.9: DISS AND CLOTTY SULPHIDES → 10% PYRRHOTITE, 3% SPHALERITE, <1% PYRITE, <1% GALENA; 116.9-120.1: PYRRHOTITE: <1% - DISS	116.5	117.9	1.4	3384	2	<.001
120.1	137.3		BASALT: SIMILAR TO 19.5-20.9m; LOCAL SECTIONS OF CHLORITE-BIOTITE SCHIST; TYPICALLY POORLY FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT SHARP AT 45° TO C.A.; ALTERATION: 129.8-131.2m: MOD. SILICIFIED SECTION OF CHLORITE-BIOTITE SCHIST WITH ≤1% DISS PYRRHOTITE; MINERALIZATION: PYRRHOTITE: GENERALLY <1% - DISS.	129.8	131.2	1.4	3385	1	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-BB-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
137.3	146.2		CHLORITE-BIOTITE SCHIST: SIMILAR TO 1.5-16.3m; WELL FOLIATED AT 50° TO C.A.; GENERALLY NON-CALCAREOUS AND NON-MAGNETIC; DOWNHOLE CONTACT GRADATIONAL OVER 50 cm; MINERALIZATION: PYRRHOTITE: GENERALLY <1% - DISS					
146.2	157.1		BIOTITE SCHIST: SIMILAR TO 20.9-24.7m; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30 cm; MINERALIZATION: PYRRHOTITE: <<1% - DISS.					
157.1	162.0		BASALT: SIMILAR TO 19.5-20.9m; LOCALLY ≤10% BIOTITE; LOCALLY SLIGHTLY CALCAREOUS (1% DISS-CALCITE); NON-MAGNETIC; POORLY FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm; MINERALIZATION: PYRRHOTITE: <<1% - DISS AND IN VEINLETS PYRITE/CHALCOPYRITE: TRACE - IN VEINLETS ARSENOPYRITE: 157.1-157.3 - 1% - DISS					

Diamond Drill Record

COLLAR:
NORTH
EAST
ELEVATION
LOGGED BY
DATE LOGGED
MAP REFERENCE NO.

HOLE SURVEY	FOOTAGE	AZIMUTH	DIP
METHOD:			

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
162.0	174.2		BIOTITE-CHLORITE SCHIST: SIMILAR TO 39.6-44.1m WITH 15% SECTIONS OF BIOTITE SCHIST (AS 20.9-24.7m); LOCALLY CALCAREOUS (≤10% DISS CALCITE); NON-MAGNETIC; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 1m; MINERALIZATION: PYRRHOTITE: GENERALLY <1% - DISS.										
174.2	179.0		BIOTITE-GARNET-CHLORITE SCHIST: CONTINUATION OF ABOVE (162.0-174.2m) BUT WITH 10-30% PINK GARNETS (1-8mm DIA.) AND 10-30% BROWN GARNETS (1mm DIA); SIZE AND ABUNDANCE OF PINK GARNETS INCREASES DOWNHOLE; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT SHARP AT 55° TO C.A. PARALLEL TO FOLIATION; MINERALIZATION; GENERALLY <1% SULPHIDES - DISS. 178.3-179.0: PYRRHOTITE: 3% - ON FRACTURES AT 0° TO C.A. AND CLOTS AROUND GARNETS; CHALCOPYRITE: 2% - ASSOCIATED WITH PYRRHOTITE PYRITE: <1% - ASSOCIATED WITH PYRRHOTITE	178.3	179.0	0.7	3386	230	.04	.06	.21	.86	.007

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
179.0	179.2		PYRRHOTITE-SPHALERITE IRON FORMATION: MASSIVE SULPHIDE WITH 30% WHITE TO LIGHT GREY ROUNDED QUARTZ BRECCIA CLASTS (≤ 8mm DIA.); POORLY FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT SHARP AT 55° TO C.A.; MINERALIZATION: PYRRHOTITE: 48% - MASSIVE SPHALERITE: 20% - INTERGROWN WITH PYRRHOTITE; ARSENOPYRITE: 2% - DISS GALENA: <1% - DISS AND CLOTS CHALCOPYRITE: <<1% - DISS	179.0	179.2	0.2	3387	460	.77	10.34	.32	3.66	.013
179.2	181.4		PYRRHOTITE IRON FORMATION: WHITE TO LIGHT GREY QUARTZ (METACHERT) WITH DISS AND LARGE CLOTS (≤ 6 cm DIA) OF SULPHIDES (SEE BELOW); QUARTZ IS LOCALLY BRECCIATED; POOR SULPHIDE FOLIATION AT 40° TO C.A.; DOWNHOLE CONTACT SHARP AT 45° TO C.A.;	179.2	181.4	2.2	3388	46	.12	1.41	.07	.61	.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
			MINERALIZATION: PYRRHOTITE: 7%.					ppb	oz/ton
			SPHALERITE: 2%.						
			PYRITE: 1%.						
			GALENA: <<1%.						
			CHALCOPYRITE: TRACE						
			GRUNERITE/MAGNETITE: <1%.						
181.4	181.8		CHLORITE SCHIST: MED. GREEN, HOMOGENEOUS, NON-CALCAREOUS,	181.4	181.8	0.4	3389	12	<.001
			MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 50° TO C.A.;						
			40% INTERCALATED CALCAREOUS (20% DISS CALCITE)						
			BIOTITE SCHIST; DOWNHOLE CONTACT GRADATIONAL						
			OVER 1cm;						
			MINERALIZATION: PYRRHOTITE: 3% - DISS AND CLOTS						
181.8	183.3		TALC SCHIST: MOTTLED DARK GREY, MED. GREY AND						
			WHITE; HOMOGENEOUS; 5% CARBONATE VEINLETS;						
			MAGNETIC (MAGNETITE); WELL FOLIATED AT 50° TO C.A.;						
			DOWNHOLE CONTACT SHARP AT 45° TO C.A.;						
			MINERALIZATION: MAGNETITE: 3% - DISS.						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
183.3	187.1		CHLORITE SCHIST: SIMILAR TO 181.4-181.8m; NON-CALCAREOUS; MAGNETIC AT 183.3-184.3m (MAGNETITE); WELL FOLIATED AT 50° TO C.A.; BIOTITE SCHIST AT 184.4-185.0m AND 186.9-187.1m; DOWNHOLE CONTACT SHARP AT 55° TO C.A.; MINERALIZATION: PYRRHOTITE: GENERALLY <<1% - DISS MAGNETITE: 183.3-184.3m: 2% - DISS										
187.1	206.9		SILICEOUS IRON FORMATION: GENERALLY MASSIVE WHITE TO LIGHT GREY QUARTZ (METACHERT) WITH <1% DISSEMINATED AND CLOTTY SULPHIDES, AND 4% WISPY GRUNERITE-MAGNETITE BANDS; <1% BIOTITE-PINK GARNET BANDS (≤3cm WIDE); WEAKLY TO MOD. FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT SHARP AT 60° TO C.A. PARALLEL TO FOLIATION; MINERALIZATION: GRUNERITE: 3% MAGNETITE: 1% - ASSOCIATED WITH GRUNERITE PYRRHOTITE: <1% - DISS AND CLOTS / 206.8-206.9m: 50% PYRRHOTITE + 25% SPHALERITE ARSENOPYRITE/PYRITE/CHALCOPYRITE - <<1% - DISS AND CLOTS	187.1	189.6	2.5	3390	4					<.001
				189.6	192.1	2.5	3391	5					<.001
				192.1	194.6	2.5	3392	5					<.001
				194.6	197.1	2.5	3393	19					<.001
				197.1	199.6	2.5	3394	4					<.001
				199.6	202.1	2.5	3395	16					<.001
				202.1	204.6	2.5	3396	15					<.001
				204.6	206.9	2.3	3397	6	.02	.73	.01	.09	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
206.9	211.1		SILICEOUS IRON FORMATION + SCHISTS: HIGHLY VARIABLE	206.9	209.1	2.2	3398	4	<.001
			UNIT OF INTERBANDED 45% SILICEOUS IRON FORMATION (AS ABOVE),	209.1	211.1	2.0	3399	10	<.001
			30% LIGHT GREY SERICITE SCHIST, 20% BLACK CARBONACEOUS						
			SERICITE SCHIST AND ARGILLITE, AND 10% GREEN CHLORITE-PINK						
			GARNET SCHIST; LITHOLOGIES INTERCALATED ON SCALES						
			OF 0.2-4 cm BANDS; GENERALLY NON-CALCAREOUS; LOCALLY						
			MAGNETIC (PYRRHOTITE); MOD. TO VERY SILICEOUS THROUGHOUT;						
			POORLY TO WELL FOLIATED AT 60° TO C.A.; DOWNHOLE CONTACT						
			GRADATIONAL OVER 30cm;						
			ALTERATION: - SECTIONS OF SERICITE SCHIST MAY BE						
			BLEACHED AND SILICIFIED ARGILLITE						
			- 208.8-209.1m: 5% CHROMIUM MICA WISPS INTERGROWN						
			WITH PYRRHOTITE						
			MINERALIZATION: PYRRHOTITE: 6% AVG // LOCALLY MASSIVE OVER ≤5cm;						
			- MAINLY AS CLOTS AND DISS.						
			PYRITE: 4% - ASSOCIATED WITH PYRRHOTITE;						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
211.1	225.7		SERICITE-BIOTITE SCHIST: MED. TO DARK GREY SILICEOUS SERICITIC SCHIST WITH 10-30% DARK BROWN-GREY WISPY BIOTITIC BANDS (≤ 15cm WIDE); COMMONLY 1% PINK GARNETS (≤ 8mm DIA.) IN BIOTITIC BANDS; DOMINANT QUARTZO-FELDSPATHIC MATRIX; NON-CALCAREOUS; GENERALLY NON-MAGNETIC; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm;	211.1	212.3	1.2	3400	1	<.001
			212.0 - 212.3m: PYRRHOTITE IRON FORMATION: WHITE TO GREY QUARTZ WITH 15% CHLORITE AND 6% PYRRHOTITE WITH MINOR ASSOCIATED ARSENOPYRITE;						
			MINERALIZATION: PYRRHOTITE: GENERALLY <1% - DISS. AND CLOTS. CHALCOPYRITE: TRACE: ASSOCIATED WITH PYRRHOTITE						
225.7	237.4		CHLORITE SCHIST: SIMILAR TO 181.4-181.8m; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2cm;						
			MINERALIZATION: PYRRHOTITE - <<1% - DISS						

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-3
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS						
227.4	229.6		SERICITE-BIOTITE SCHIST: SIMILAR TO 211.1-225.7m; LOCALLY 10% CHLORITE; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT SHARP AT 35° TO C.A. PARALLEL TO FOLIATION; MINERALIZATION: PYRRHOTITE: <1% - DISS.											
229.6	236.3		SERPENTINE-TALC SCHIST: MOTTLED DARK GREY, LIGHT GREY, AND WHITE; HOMOGENOUS; MAGNETIC (MAGNETITE); NON-CALCAREOUS BUT WITH 1-5% WHITE CARBONATE VEINLETS INCREASING IN ABUNDANCE DOWNHOLE; MOD. FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT SHARP AT 45° TO C.A. PARALLEL TO FOLIATION; MINERALIZATION: MAGNETITE: 1-3% - DISS											
236.3	237.4		CHLORITIC ULTRAMAFIC: MASSIVE MEDIUM GREEN CHLORITE WITH 10-20% CHLORITIZED AMPHIBOLE PORPHYROCLASTS; NON-CALCAREOUS; MAGNETIC (MAGNETITE); <1% PINK GARNETS (≤5mm DIA), POORLY FOLIATED AT 45° TO C.A.;											

Diamond Drill Record

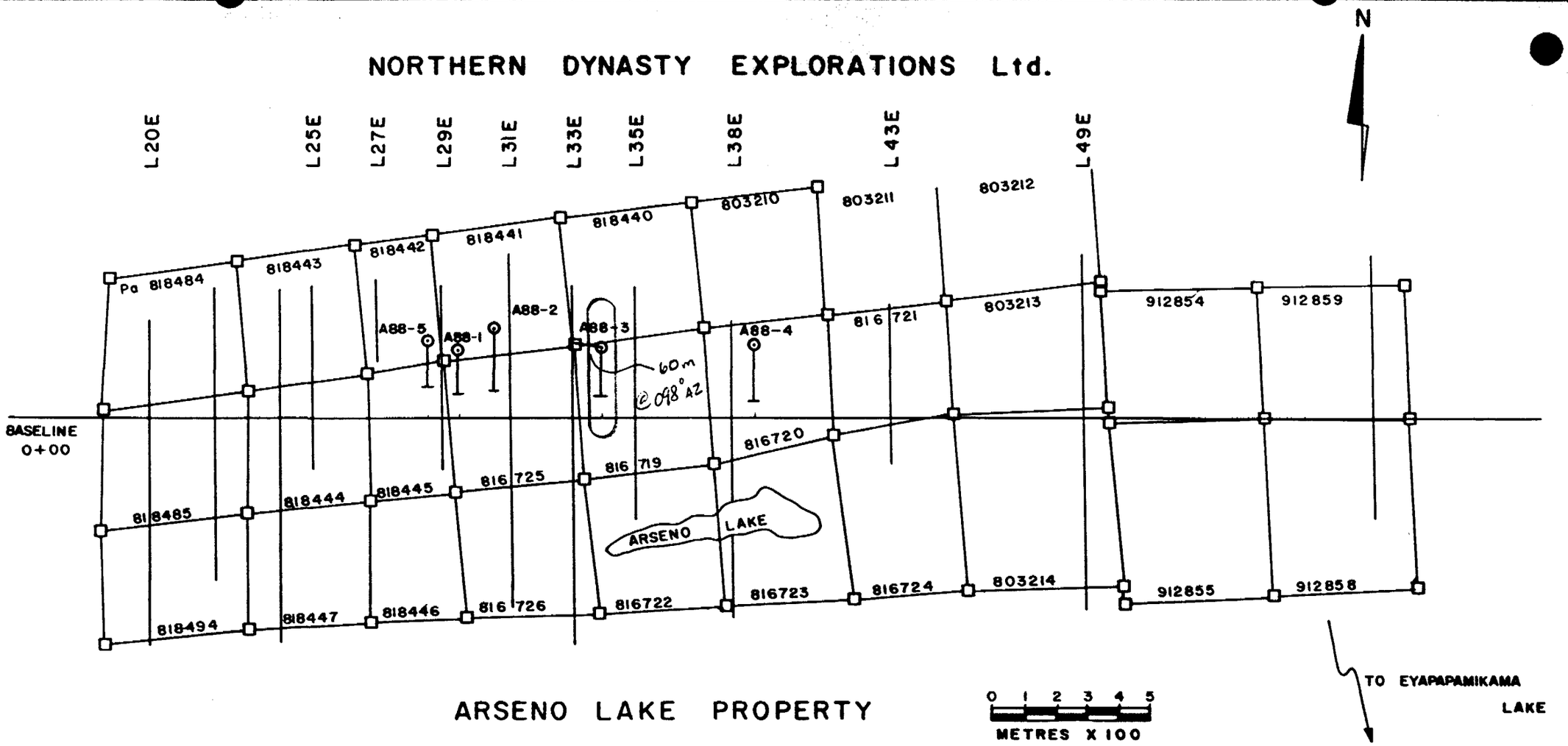
COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-3
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			Mineralization: Magnetite: 3% - diss					
			Pyrrhotite: <1% - clots in minor veinlets					
			Chalcopyrite: Trace - associated with pyrrhotite					
	237.4		End of Hole					
			Notes					
			1. Casing not left in hole.					
			G Gorzynski					

NORTHERN DYNASTY EXPLORATIONS Ltd.



ARSENO LAKE PROPERTY

1988 DIAMOND DRILL HOLE LOCATION MAP

CLAIM MAPS: KEEYASK LAKE / G-2085
SEESEEP LAKE / G-2204

NTS: 53B 14/15

0 1 2 3 4 5
METRES X 100

— CLAIM POST

— DRILL COLLAR, HOLE NUMBER

— SURFACE PROJECTION

A-88-4

Diamond Drill Record

COMPANY NAME	Northern Dynasty Explorations Ltd.
PROPERTY NAME	Arseno Lake Property
DRILLING CONTRACTOR	Langley Drilling / Brampton, Ontario
ASSAYER	Acme Analytical Laboratories Ltd. / Vancouver, B.C.
PURPOSE OF HOLE	To Test Depth Extension of Mineralization Encountered in DDH-A-87-7 and -8:

HOLE NO.	A-88-9
CLAIM NAME	Pa. B16720
COMMENCED	June 24, 1988
FINISHED	June 28, 1988
PROJECT NO.	ARS

DOLLARD	
NORTH	2+20N
EAST	38+75E
ELEVATION	—
LOGGED BY	G. Gorzynski
DATE LOGGED	June 25-29, 1988
MAP REFERENCE NO.	NTS-53B/14

HOLE SURVEY		
FOOTAGE	AZIMUTH	DIP
0.0 m	186°	-58
60.7	—	-56
121.6	—	-53
182.6	—	-49
243.5	—	-47
274.0	—	-44

METHOD: Acid

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			Summary Log					
0.0	5.5		Overburden					
5.5	23.0		Biotite-Sericite Schist					
23.0	24.9		Sericite Schist					
24.9	30.6		Biotite-Sericite Schist					
30.6	37.0		Calcareous Chemical Sediment (?)					
37.0	39.6		Grunerite Iron Formation					
39.6	48.1		Biotite-Chlorite Schist					
48.1	72.1		Basalt					
72.1	73.5		Biotite Schist					
73.5	121.3		Basalt					
121.3	123.0		Biotite-Sericite Schist					
123.0	129.1		Gabbro					
129.1	150.9		Biotite-Chlorite Schist					
150.9	160.5		Basalt					
160.5	162.0		Biotite-Chlorite Schist					
162.0	171.5		Biotite-Sericite Schist					
171.5	172.2		Biotite-Garnet-Muscovite Schist					

Diamond Drill Record

COORDINATES	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: Northern Dynasty
PROPERTY NAME: Arseno Lake
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-BB-4
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION Summary Log (continued)	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
172.2	175.4		Chlorite Schist					
175.4	183.1		Talc-Serpentine Schist					
183.1	185.5		Chlorite-Biotite Schist					
185.5	204.1		Siliceous Iron Formation - Target Horizon					
204.1	206.0		Grunerite Iron Formation					
206.0	208.6		Siliceous Iron Formation + Chlorite-Biotite Schist					
208.6	209.3		Biotite-Serecite-Garnet Schist					
209.3	219.1		Chlorite-Biotite Schist					
219.1	222.4		Talc-Serpentine Schist					
222.4	260.7		Biotite-Sericite Schist					
260.7	266.1		Siliceous Iron Formation					
266.1	270.8		Siliceous Sericite Schist					
270.8	274.0		Carbonaceous Sericite Schist					
	274.0		End of Hole					

Diamond Drill Record

COLLAR	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: Northern Dynasty
PROPERTY NAME: Arseno Lake
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-4
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
0.0	5.5		OVERBURDEN: VARIETY OF COBBLES AND BOULDERS CORED → PINK GRANITE, WHITE GRANITE, GABBRO AND BASALT;						
5.5	23.0		BIOTITE-SERICITE SCHIST: MED. GREY, BANDED TO HOMOGENEOUS; TYPICALLY 15% BIOTITE AND 15% SERICITE DISSEMINATED IN DOMINANT QUARTZO-FELDSPATHIC SILTY MATRIX; CHLORITE VARIES 0-15% AS DISS AND WISPY BANDS (≤2cm WIDE); 5-15% PINK GARNETS (≤6mm DIA.) AT 13.5-23.0m; GENERALLY NON-CALCAREOUS; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 30° TO C.A. DOWNHOLE CONTACT GRADATIONAL OVER 5cm;	15.8	17.6	1.8	3401	8	<.001
				21.2	23.0	1.8	3402	9	<.001
			15.8-17.6m: 20% CALCITE VEINS ≤7cm WIDE; ≤3% ASSOCIATED PYRRHOTITE; GENERALLY ≤2% CARBONATE VEINLETS ELSEWHERE;						
			MINERALIZATION: PYRRHOTITE: GENERALLY ≤1% - DISS AND CLOTS FREQUENTLY ASSOCIATED WITH VEINS; 21.2-23.0 → 3%						
			PYRITE: 21.2-23.0 → 1% - CLOTS ASSOCIATED WITH PYRRHOTITE:						
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE						

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
23.0	24.9		SERICITE SCHIST: LIGHT GREY, SOFT, HOMOGENEOUS; WITH 10% BROWN BIOTITIC BANDS (≤5mm WIDE); NON-CALCAREOUS, LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; MINERALIZATION: PYRRHOTITE: 4% - WISPY BANDS ASSOCIATED WITH BIOTITE; PYRITE: <1% - ASSOCIATED WITH PYRRHOTITE CHALCOPYRITE: <<1% - ASSOCIATED WITH PYRRHOTITE	23.0	24.9	1.9	3403	6	<.001
24.9	30.6		BIOTITE-SERICITE SCHIST: SIMILAR TO 5.5-23.0m; WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT SHARP AT 35° TO C.A. PARALLEL TO FOLIATION; 28.1-30.6m: 10% "CALCAREOUS CHEMICAL SEDIMENT" BANDS (≤1cm WIDE (AS 30.6-37.0m BELOW); MINERALIZATION: PYRRHOTITE: GENERALLY ≤1% - CLOTS AND DISS. 27.8-29.4 → 5% PYRITE/CHALCOPYRITE: <<1% - ASSOCIATED WITH PYRRHOTITE;	27.8	29.4	1.6	3404	5	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-A
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
30.6	37.0		CALCAREOUS CHEMICAL SEDIMENT (?): LIGHT GREEN AMOEBOID TO WISPY, SANDY, MASSIVE CARBONATE BANDS (≤3cm WIDE) INTERCALATED WITH 40% BIOTITE-SERICITE SCHIST BANDS (0.1-1.5cm WIDE); CARBONATE BANDS BECOME MODERATELY SILICEOUS TOWARD DOWNHOLE CONTACT; LOCALLY MAGNETIC (PYRRHOTITE); BANDING AND FOLIATION IN SCHIST AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30 cm; MINERALIZATION: PYRRHOTITE: AVG 1% - DISS AND CLOTS ARSENOPYRITE/PYRITE: TRACE - DISS AND CLOTS	30.6	32.8	2.2	3405	20	<.001
				32.8	35.0	2.2	3406	17	<.001
				35.0	37.0	2.0	3407	14	<.001
37.0	39.6		GRUNERITE IRON FORMATION: LIGHT GREY QUARTZ (METACHERT) WITH 10-70% LIGHT BROWN GRUNERITE WISPS AND RAGGED BANDS; 5-20% DISS. CARBONATE; 20% INTERCALATED BIOTITE-PINK GARNET SCHIST BANDS (≤3cm WIDE); MAGNETIC (MAGNETITE); FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT SHARP AT 40° TO C.A.; 39.4-39.6 - PYRRHOTITE IRON FORMATION WITH 30% ROUNDED QUARTZ BRECCIA CLASTS (≤1cm DIA);	37.0	38.3	1.3	3408	54	.002
				38.3	39.6	1.3	3409	21	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au	ASSAYS Au
			MINERALIZATION: MAGNETITE: 1-2% - DISS IN GRUNERITE WISPS AND BANDS					ppb	oz/ton
			PYRRHOTITE: GENERALLY <1% - DISS						
			39.4-39.6: 65% - MASSIVE						
			PYRITE: GENERALLY TRACE						
			39.4-39.6 - 5% - CLOTS						
			CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE;						
39.6	48.1		BIOTITE - CHLORITE SCHIST: DARK BROWN-GREY WITH 5-30% CHLORITIC BANDS (≤2cm WIDE) INCREASING IN ABUNDANCE DOWNHOLE; ALL IN DOMINANT SILTY QUARTZO-FELDSPATHIC MATRIX; LOCALLY CALCAREOUS (≤10% DISS CARBONATE); GENERALLY NON-MAGNETIC; <1% SECTIONS OF PINK GARNETS (≤6mm DIA); WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40 cm;	43.4	44.1	0.7	3410	36	.001
			43.4-44.1m: BLEACHED, SERICITIZED(?) AND SLIGHTLY SILICIFIED SECTION WITH 20% MASSIVE AND CLOTTY PYRRHOTITE;						
			MINERALIZATION: PYRRHOTITE: GENERALLY <1% - DISS AND CLOTS						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-4
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
48.1	72.1		BASALT: TYPICALLY MASSIVE MEDIUM GREEN TO GREEN-GREY, HOMOGENOUS, FINE GRAINED, NON-MAGNETIC, LOCALLY CALCAREOUS (≤5% DISS. CARBONATE); LOCALLY GRADES TO CHLORITE ± BIOTITE SCHIST; 1% CARBONATE AND/OR QUARTZ VEINING; LOCALLY FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm; MINERALIZATION: PYRRHOTITE: ~1% DISS AND IN VEINS CHALCOPYRITE: TRACE: ASSOCIATED WITH PYRRHOTITE;					
72.1	73.5		BIOTITE SCHIST: GREY-BROWN, HOMOGENOUS, 40% FINELY BANDED BIOTITE IN QUARTZO-FELDSPATHIC MATRIX; NON-CALCAREOUS, NON-MAGNETIC; WELL FOLIATED AT 0°→20° TO C.A.→ FOLD NOSE ?; DOWN HOLE CONTACT GRADATIONAL OVER 10cm; MINERALIZATION: PYRRHOTITE - TRACE - DISS					

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-4
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
73.5	121.3		BASALT: SIMILAR TO 48.1-72.1m; GENERALLY NON-MAGNETIC; MINOR CALCAREOUS SECTIONS (≤5% DISS CARBONATE); UNFOLIATED TO POORLY FOLIATED AT ~30° TO C.A. THROUGHOUT; DOWNHOLE CONTACT GRADATIONAL OVER 1.2m; 88.4-89.7m: 80% WHITE CALCITE VEINS; <1% ASSOCIATED PYRRHOTITE AND CHALCOPYRITE 109.5-109.9m: FAULT - BROKEN CORE AND BRECCIA; BRECCIA COMPRISES ANGULAR BASALT CLASTS (≤1cm DIA) IN BASALTIC MUD AND WHITE CALCITE CLOSED MATRIX; UPHOLE FAULT CONTACT AT 40° TO C.A.; DOWNHOLE CONTACT IN BROKEN CORE; ALTERATION: MINOR LOCAL BLEACHING MINERALIZATION: PYRRHOTITE: <<1% - DISS AND IN VEINLETS CHALCOPYRITE/PYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE;	88.4	89.7	1.3	3411	1	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: Northern Dynasty
PROPERTY NAME: Arseno Lake
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-1
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
121.3	123.0		BIOTITE-SERICITE SCHIST: SIMILAR TO 5.5-23.0m; WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 3cm; MINERALIZATION: PYRITE: <1% - DISS.						
123.0	129.1		GABBRO: MED. GREEN, HOMOGENEOUS, 15% DARK GREEN PYROXENE(?) PHENOCRYSTS (≤2mm DIA.) IN MED TO LIGHT GREEN CHLORITIC MATRIX; NON-CALCAREOUS; NON-MAGNETIC; POORLY FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 1cm; MINERALIZATION: PYRRHOTITE: TRACE - DISS AND IN VEINLETS CHALCOPYRITE: TRACE - IN VEINLETS.						
129.1	150.9		BIOTITE-CHLORITE SCHIST: SIMILAR TO 39.6-48.1m; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40cm; MINERALIZATION: SULPHIDES GENERALLY <1% 147.8-150.3: PYRRHOTITE 2%, CHALCOPYRITE <1% - DISS, FRACTURE-FILL AND VEINLETS	147.8	150.3	2.5	3412	5	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
150.9	160.5		BASALT: SIMILAR TO 48.1-72.1m; NON-CALCAREOUS; NON-MAGNETIC; POORLY TO MOD. FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20cm; MINERALIZATION: PYRRHOTITE: GENERALLY TRACE - DISS.					
160.5	162.0		BIOTITE - CHLORITE SCHIST: SIMILAR TO 39.6-48.1m; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 5 cm; MINERALIZATION: PYRRHOTITE: <1% - DISS.					
162.0	171.5		BIOTITE - SERICITE SCHIST: SIMILAR TO 5.5-23.0m; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 3 cm; MINERALIZATION: PYRITE - DISS - ≤1% PYRRHOTITE - DISS - ≤1%					

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-1
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
171.5	172.2		BIOTITE-GARNET-MUSCOVITE SCHIST: DARK GREY-BROWN MASSIVE BIOTITE BANDS (≤1.5cm WIDE) INTERCALATED WITH 30% LIGHT GREY MUSCOVITE BANDS (≤1cm WIDE); 30% PINK GARNETS (≤1cm DIA) MAINLY IN BIOTITIC BANDS; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT SHARP AT 55° TO C.A. PARALLEL TO FOLIATION; MINERALIZATION: PYRRHOTITE: 1% - DISS AND CLOTS. CHALCOPYRITE: TRACE: ASSOCIATED WITH PYRRHOTITE	171.5	172.2	0.7	3413	36	.001
172.2	175.4		CHLORITE SCHIST: MEDIUM GREEN, HOMOGENEOUS TO BANDED WITH BIOTITIC AND QUARTZO-FELSPATHIC LAYERS (≤2cm THICK); CALCAREOUS (≤20% DISS CALCITE); TYPICALLY NON-MAGNETIC; WELL FOLIATED AT 50° TO C.A.; DOWNHOLE CONTACT SHARP AT 50° TO C.A.; 174.2-175.4m ≈ 20% ALTERED ULTRAMAFIC (?) - VERY CALCAREOUS WITH ≤ 20% MAGNETITE;	172.2	174.2	2.0	3414	27	<.001
				174.2	175.4	1.2	3415	29	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-4
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
			MINERALIZATION: PYRRHOTITE: ≤2% - DISS.					ppb	oz/ton
			CHALCOPYRITE: <<1% - DISS						
			MAGNETITE: <1% - DISS; LOCALLY 20%;						
175.4	183.1		TALC-SERPENTINE SCHIST: FINELY MOTTLED DARK GREY, LIGHT GREY AND WHITE; HOMOGENEOUS; NON-CALCAREOUS BUT CUT BY 3% WHITE CARBONATE VEINLETS; MAGNETIC (MAGNETITE); MOD. TO WELL FOLIATED AT 55° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 70 cm;						
			MINERALIZATION: MAGNETITE: 1-3% - DISS.						
			PYRRHOTITE/CHALCOPYRITE: TRACE - DISS.						
183.1	185.5		CHLORITE-BIOTITE SCHIST: MED. GREEN CHLORITIC SCHIST WITH 5-90% DARK BROWN BIOTITE BANDS (≤3cm WIDE) INCREASING IN ABUNDANCE DOWNHOLE; 0→20% PINK GARNETS (≤6mm DIA) ASSOCIATED WITH BIOTITE AND INCREASING IN ABUNDANCE DOWNHOLE; COMMONLY CALCAREOUS (≤10% DISS CARBONATE); MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 60° TO C.A.; DOWNHOLE CONTACT SHARP AT ~65° TO C.A. PARALLEL TO FOLIATION;	183.1	185.5	2.4	3416	19	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-4
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
			MINERALIZATION: PYRRHOTITE: ≤2% - DISS MAINLY IN BIOTITE BANDS										
			PYRITE: <1% - DISS										
			CHALCOPYRITE: << 1% - DISS										
			ARSENOPYRITE: TRACE - DISS										
185.5	204.1		SILICEOUS IRON FORMATION: WHITE TO LIGHT GREY	185.5	187.8	2.3	3417	230	.72	.80	.10	1.75	.007
			QUARTZ, OFTEN SUGARY, WITH DISS. TO CLOTTY	187.8	189.5	1.7	3418	63					.002
			SULPHIDES, AND MASSIVE ZONES (≤20cm WIDE) TO RAGGED WISPY	189.5	190.8	1.3	3419	1580					.046
			BANDS (TYPICALLY ≤3 cm WIDE) OF GRUNERITE + MAGNETITE;	190.8	192.3	1.5	3420	13					<.001
			GENERALLY MASSIVE - LOCALLY GRUNERITE BANDS FOLIATED	192.3	194.6	2.3	3421	11					<.001
			AT 50° TO C.A.; DOWNHOLE CONTACT SHARP BUT IRREGULAR;	194.6	196.8	2.2	3422	4					<.001
			MINERALIZATION: GRUNERITE/MAGNETITE: 185.5-192.3 = 5%/2%	196.8	199.0	2.2	3423	39					.001
			192.3-199.0 = Tr/Tr	199.0	201.5	2.5	3424	113					.003
			199.0-200.5 = 8%/3%	201.5	204.1	2.6	3425	280					.008
			200.5-204.1 = 3%/<1%										
			ARSENOPYRITE: 185.5-192.3 = 1-2%										
			192.3-199.0 = <<1%										
			199.0-204.1 = 1%										
			SPHALERITE/GALENA: 185.5-187.8 = 1%/<<1%										
			187.8-204.1 = Tr/Tr										

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
			PYRRHOTITE: 185.5 - 192.3: ≤1%.						
			192.3 - 200.8: TRACE						
			200.8 - 204.1: ≤1%.						
			CHALCOPYRITE: TRACE						
204.1	206.0		GRUNERITE IRON FORMATION: WHITE TO LIGHT GREY QUARTZ WITH VERY RAGGED WISPS AND PATCHES (≤5mm) OF LIGHT BROWN TO GREEN GRUNERITE; SULPHIDES ARE FINELY DISS IN GRUNERITE; LOCALLY CRUDELY FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 5 cm;	204.1	206.0	1.9	3426	22	<.001
			MINERALIZATION: GRUNERITE: 20%						
			MAGNETITE: <1%						
			PYRRHOTITE: 3%						
			ARSENOPYRITE: ≤1%						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
206.0	208.6		SILICEOUS IRON FORMATION + CHLORITE-BIOTITE SCHIST: WHITE TO LIGHT GREY QUARTZ WITH DISS TO CLOTTY SULPHIDES AND RAGGED WISPS OF GRUNERITE; INTERCALATED WITH 35% CHLORITE-BIOTITE SCHIST BANDS (≤3cm WIDE) SIMILAR TO 183.1-185.5m; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); POORLY TO WELL FOLIATED AT 58-65° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 3cm; MINERALIZATION: PYRRHOTITE: 2% - DISS AND CLOTS IN IRON FORMATION AND SCHIST; GRUNERITE: 2% - WISPS IN IRON FORMATION MAGNETITE/ARSENOPYRITE: <1% - DISS IN IRON FORMATION;	206.0	208.6	2.6	3427	61	.002
208.6	209.3		BIOTITE-SERICITE-GARNET SCHIST: SIMILAR TO 5.5-23.0m BUT WITH 15% PINK GARNETS; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); MOD TO WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT SHARP AT 35° TO C.A. PARALLEL TO FOLIATION;	208.6	209.3	0.7	3428	114	.003

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
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DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			MINERALIZATION: PYRRHOTITE: 4% - FINELY DISS.					
			CHALCOPYRITE: << 1% - DISS.					
209.3	219.1		CHLORITE-BIOTITE SCHIST: MED. GREEN-GREY WITH 5-20%					
			WISPY BIOTITE BANDS (≤ 2cm WIDE); CALCAREOUS					
			(1-20% CARBONATE DISS. AND IN BANDS ≤ 2cm WIDE);					
			LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 40° TO C.A;					
			DOWNHOLE CONTACT GRADATIONAL OVER 2cm;					
			AND AT 217.6-218.0m:					
			214.5-214.5m: QUARTZ-CARBONATE HEALED CLOSED TECTONIC BRECCIA;					
			ALTERATION: MINOR SILICIFIED SECTIONS					
			MINERALIZATION: PYRRHOTITE: < 1% - DISS AND CLOTS.					
219.1	222.4		TALC-SERPENTINE SCHIST: SIMILAR TO 175.4-183.1m;					
			MOD. TO WELL FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT					
			GRADATIONAL OVER 1m;					
			MINERALIZATION: MAGNETITE: ≤ 2% - DISS					

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
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MAP REFERENCE NO.	METHOD:		

Diamond Drill Record

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Ag ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
222.4	260.7		BIOTITE-SERICITE SCHIST: DARK BROWN-GREY TO LIGHT GREY; GENERALLY HOMOGENEOUS, LOCALLY BANDED; 10-30% BIOTITE IN DOMINANT SERICITIC QUARTZO-FELDSPATHIC MATRIX; LOCALLY 5% DISS CHLORITE; NON-CALCAREAS; NON-MAGNETIC; 10% PINK GARNETS AT 260.1-260.7m; WELL FOLIATED AT 35° TO C.A. UPHOLE VARYING TO 45° TO C.A. DOWNHOLE; DOWNHOLE CONTACT SHARP AT 35° TO C.A. PARALLEL TO FOLIATION; ALTERATION: CHROMIUM MICA: ≤2% - DISS @ 230.2-239.8m AND MINOR PATCHES ELSEWHERE MINERALIZATION: PYRRHOTITE: GENERALLY <1% - DISS. 260.1-260.7: 2% PYRRHOTITE, <1% PYRITE - DISS.	230.7	232.7	2.0	3429	4					<.001
				260.1	260.7	0.6	3430	7					<.001
260.7	266.1		SILICEOUS IRON FORMATION: WHITE TO LIGHT GREY QUARTZ (METACHERT) WITH CLOTTY AND DISS. SULPHIDES AND THINLY, WISPY BANDED GRUNERITE (SEE BELOW); LOCALLY POORLY FOLIATED AT 45° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm; 260.0-260.1m: SANDY, QUARTZITIC GREY MUD SEAM	260.7	262.9	2.2	3431	1160	2.18	3.11	.20	7.29	.033
				262.9	266.1	3.2	3432	33					<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
			MINERALIZATION: 260.7-262.9: ARSENOPYRITE 2%, SPHALERITE 2%, PYRRHOTITE 1%, GALENA ≤1%, PYRITE <1%; GRUNERITE 2%;						
			262.9-265.7: ARSENOPYRITE/SPHALERITE/PYRRHOTITE/PYRITE/GALENA: <1%						
			265.7-266.1: GRUNERITE 10%, PYRRHOTITE <1%, ARSENOPYRITE << 1%;						
266.1	270.8		SILICEOUS SERICITE SCHIST: LIGHT TO MED. GREEN GREY; HOMOGENEOUS TO BANDED; TYPICALLY 20% SERICITE/MUSCOVITE DISS. IN SILICEOUS QUARTZITIC MATRIX; NON-CALCAREOUS; MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm;	266.1	268.4	2.3	3433	14	.001
				268.4	270.8	2.4	3434	52	.002
			ALTERATION: MINOR DISS- CHROMIUM MICA						
			MINERALIZATION: PYRRHOTITE: 3% -DISS						
			PYRITE/GALENA: TRACE - CLOTS						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

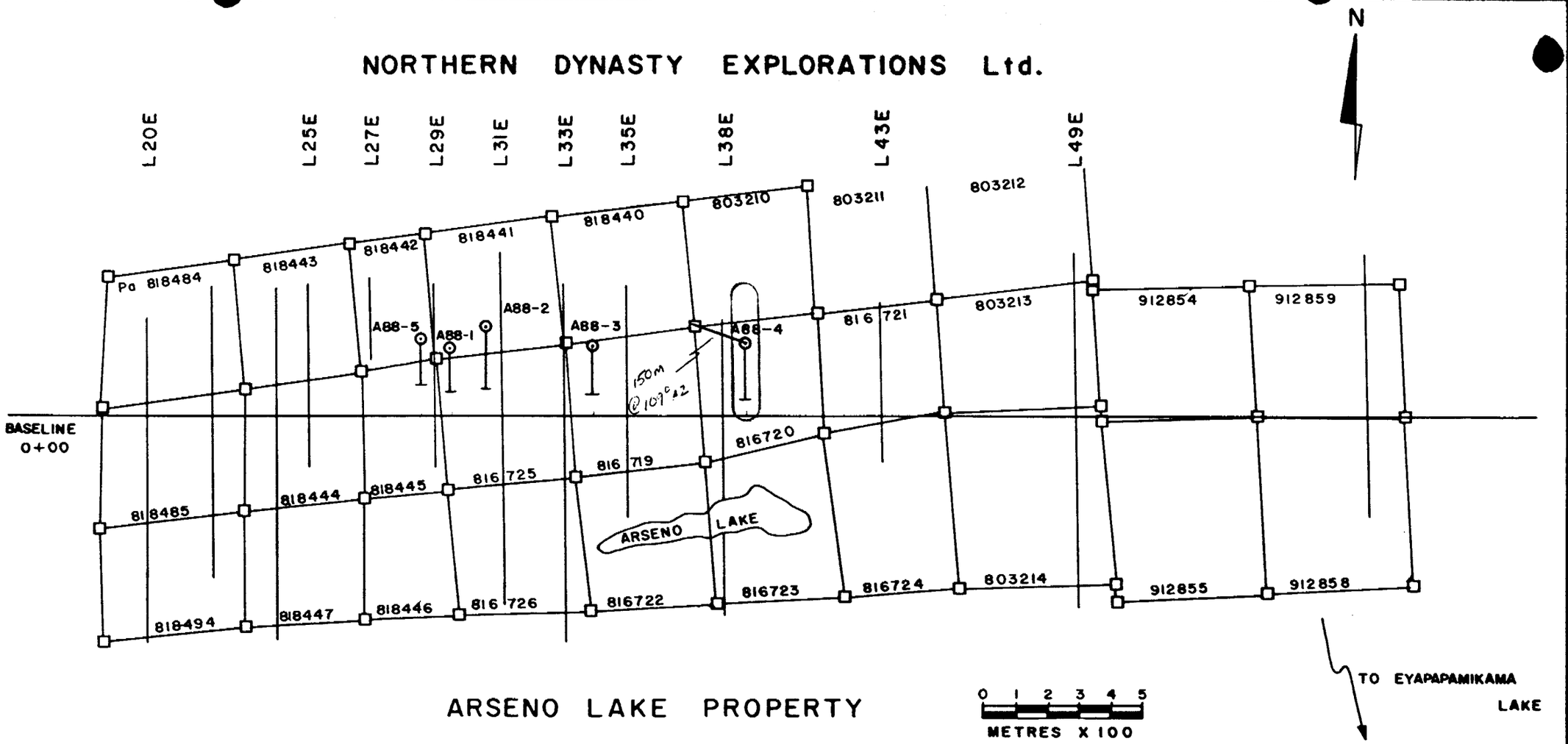
COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-4
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
270.8	274.0		Carbonaceous Sericite Schist: Dark grey, homogenous,	270.8	272.4	1.6	3435	18	<.001
			Locally ≤10% thin bands of biotite; Non-calcareous;	272.4	274.0	1.6	3436	14	<.001
			Magnetic (Pyrrhotite); Well foliated at 40° to C.A.;						
			Mineralization: Pyrrhotite: 3% -diss						
			Arsenopyrite: Trace-diss						
	274.0		End of Hole						
			Notes						
			1. No casing left in hole						

G. Gorzynski

NORTHERN DYNASTY EXPLORATIONS Ltd.



ARSENO LAKE PROPERTY

1988 DIAMOND DRILL HOLE LOCATION MAP

CLAIM MAPS: KEEYASK LAKE / G-2085
SEESEEP LAKE / G-2204

NTS: 53B 14/15

0 1 2 3 4 5
METRES X 100

— CLAIM POST

— DRILL COLLAR, HOLE NUMBER

SURFACE PROJECTION

A-88-5

Diamond Drill Record

HOLE SURVEY			
	FOOTAGE	AZIMUTH	DIP
COLLAR	0.0m	186°	-69
	60.7	=	-69
	121.6	=	-65
	182.6	=	-63
	243.5	=	-63
	304.5	=	-61
METHOD: ACID			

ELEVATION —
LOGGED BY G. GORZYNSKI
DATE LOGGED JUNE 30-JULY 4, 1988
MAP REFERENCE NO. NTS-53 B/14

COMPANY NAME [illegible] Exploration Ltd.
PROPERTY NAME ARGENTA LAKE PROPERTY
DRILLING CONTRACTOR LANGLEY DRILLING / BRAMPTON, ONTARIO
ASSAYER ACME ANALYTICAL LABORATORIES LTD. / VANCOUVER, B.C.
PURPOSE OF HOLE TO TEST EXTENSION OF MINERALIZATION ENCOUNTERED IN DDH's A-87-19,20 AND A-88-1

HOLE NO. A-88-3
CLAIM NAME Pt. 810942 Pt. 810943
COMMENCED JUNE 29, 1988
FINISHED JULY 4, 1988
PROJECT NO. ARS

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS						
			SUMMARY LOG											
0.0	6.1		OVERBURDEN											
6.1	48.5		BIOTITE-SERICITE-CHLORITE SCHIST											
48.5	52.1		BASALT											
52.1	61.0		BIOTITE-CHLORITE SCHIST											
61.0	69.3		CHLORITE-BIOTITE SCHIST											
69.3	102.2		BIOTITE-CHLORITE SCHIST											
102.2	112.0		BASALT											
112.0	119.9		BIOTITE-CHLORITE SCHIST											
119.9	121.6		BASALT											
121.6	126.7		BIOTITE-CHLORITE SCHIST											
126.7	160.5		BASALT											
160.5	166.3		CHLORITE-BIOTITE SCHIST											
166.3	188.0		BIOTITE SCHIST											
188.0	198.6		BASALT											
198.6	206.7		CHLORITE-BIOTITE SCHIST											
206.7	215.0		BASALT											
215.0	226.1		CHLORITE SCHIST											

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO: A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION Summary Log (continued)	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS						
				✓										
226.1	231.0		BIOTITE SCHIST											
231.0	237.7		CHLORITE-BIOTITE SCHIST											
237.7	255.8		BIOTITE SCHIST	✓										
255.8	262.0		BIOTITE-CHLORITE SCHIST											
262.0	267.3		BIOTITE-SERICITE SCHIST	✓										
267.3	268.8		CHLORITE-BIOTITE-SERICITE SCHIST	✓										
268.8	274.1		SERICITE-BIOTITE SCHIST											
274.1	275.3		SILICEOUS IRON FORMATION	✓										
275.3	277.0		PYRRHOTITE-PYRITE IRON FORMATION-TARGET HORIZON	✓										
277.0	278.4		BIOTITE-CHLORITE SCHIST	✓										
278.4	286.5		MUSCOVITE-BIOTITE SCHIST	✓										
286.5	292.4		CHROMIUM MICA-MUSCOVITE SCHIST	✓										
292.4	295.7		SILICEOUS IRON FORMATION	✓										
295.7	297.3		MUSCOVITE-CHROMIUM MICA-BIOTITE SCHIST	✓										
297.3	304.5		SILICEOUS IRON FORMATION	✓										
304.5	311.2		PYRRHOTITE IRON FORMATION	✓										
311.2	313.6		SILICEOUS IRON FORMATION	✓										
313.6	315.0		PYRRHOTITE IRON FORMATION	✓										
315.0	318.0		SILICEOUS IRON FORMATION											

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION Summary Log (continued)	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
318.0	320.2		Pyrrhotite Iron Formation	✓				
320.2	324.7		Pyrite-Sphalerite Iron Formation	✓				
324.7	325.5		Sericite Schist	✓				
325.5	326.9		Biotite-Sericite Schist	✓				
326.9	330.2		Sericite Schist	✓				
330.2	335.4		Siliceous Iron Formation + Sericite Schist + Argillite					
335.4	341.1		Biotite-Garnet Schist					
	341.1		End of Hole					

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE PROPERTY
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-BB-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
0.0	6.1		OVERBURDEN - VARIETY OF COBBLES AND BOULDERS CORED → WHITE GRANITOID, GREY GRANITOID, PINK GRANITOID;					
6.1	48.5		BIOTITE - SERICITE - CHLORITE SCHIST: TYPICALLY LIGHT TO MED GREY WITH 20-70% BROWN-GREY BIOTITIC BANDS (≤1cm WIDE) AND GREEN CHLORITIC BANDS (≤3cm WIDE); DOMINANT SERICITIC QUARTZO-FELDSPATHIC MATRIX; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 25° TO C.A. THROUGHOUT; DOWNHOLE CONTACT SHARP AT 30° TO C.A. PARALLEL TO FOLIATION; 10% SECTIONS OF PINK GARNETS; MINERALIZATION: PYRRHOTITE: <1% - DISS AND CLOTS CHALCOPYRITE: TRACE: DISS - ASSOCIATED WITH PYRRHOTITE AND GARNETS;					
48.5	52.1		BASALT: MED. GREY-GREEN, RELATIVELY HOMOGENOUS, NON-CALCAREOUS; NON-MAGNETIC; MOD. FOLIATED AT 30° TO C.A.; DOWN HOLE CONTACT GRADATIONAL OVER 10cm; MINERALIZATION: PYRRHOTITE: <1% - DISS					

Diamond Drill Record

PAGE 5 OF 11

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-BB-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
52.1	61.0		BIOTITE-CHLORITE SCHIST: MED. BROWN-GREY WITH 5-30% GREEN CHLORITIC BANDS (≤2cm WIDE); DOMINANT QUARTZO-FELDSPATHIC MATRIX; NON-CALCAREOUS; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; 54.8-61.0m: 10% PINK GARNETS (≤5mm DIA.); MINERALIZATION: PYRRHOTITE: GENERALLY ≤1% - DISS AND CLOTS CHALCOPYRITE: <1% - ASSOCIATED WITH PYRRHOTITE						
61.0	69.3		CHLORITE-BIOTITE SCHIST: MED. GREEN WITH 5-40% WISPY BROWN BIOTITE BANDS (≤1cm WIDE); CALCAREOUS (5-20% DISS. WHITE CARBONATE); LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2cm; MINERALIZATION: PYRRHOTITE: TYPICALLY <1% - DISS 64.5-68.0m: 30% QUARTZ-CARBONATE VEINS WITH ASSOCIATED 2% PYRRHOTITE (DISS AND CLOTS);	64.5	66.2	1.7	3438	6	<.001
				66.2	68.0	1.8	3439	43	.001

Diamond Drill Record

COLLAR		HOLE SURVEY		
		FOOTAGE	AZIMUTH	DIP
NORTH				
EAST				
ELEVATION				
LOGGED BY				
DATE LOGGED				
MAP REFERENCE NO.		METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-BB-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
69.3	102.2		BIOTITE - CHLORITE SCHIST: SIMILAR TO 52.1 - 61.0m;	70.2	71.7	1.5	3440	12	<.001
			CHLORITIC BANDS VARY IN ABUNDANCE FROM 35%	71.7	73.5	1.8	3441	43	.001
			UPHOLE TO <3% DOWNHOLE; LOCALLY CALCAREOUS	73.5	75.1	1.6	3442	3	<.001
			UPHOLE (≤10% DISS WHITE CARBONATE IN CHLORITIC	75.1	76.9	1.8	3443	3	<.001
			BANDS); LOCALLY MAGNETIC (PYRRHOTITE); WELL						
			FOLIATED AT 30° TO C.A. THROUGHOUT; DOWNHOLE						
			CONTACT GRADATIONAL OVER 70cm;						
			MINERALIZATION: PYRRHOTITE - TYPICALLY <1% - DISS						
			70.2-76.9m: PYRRHOTITE: 4% - DISS & CLOTS USUALLY						
			ASSOCIATED WITH 10% QUARTZ - CARBONATE						
			VEINS HERE (PARALLEL TO FOLIATION);						
			CHALCOPYRITE: <1% - ASSOCIATED WITH						
			PYRRHOTITE;						
102.2	112.0		BASALT: SIMILAR TO 48.5 - 52.1m; LOCAL WISPY BIOTITE;						
			POORLY TO MOD. FOLIATED AT 30° TO C.A;						
			DOWNHOLE CONTACT GRADATIONAL OVER 1m;						
			MINERALIZATION: PYRRHOTITE: <<1% - DISS						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
112.0	119.9		BIOTITE-CHLORITE SCHIST: SIMILAR TO 52.1-61.0m; WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30cm; 15% SECTIONS OF BIOTITE SCHIST; ALTERATION: 118.5-118.9m: MOD. BLEACHED/SERICITIZED MINERALIZATION: PYRRHOTITE: <1% - DISS AND CLOTS CHALCOPYRITE: TRACE - DISS AND CLOTS PYRITE: LOCALLY 1% - ASSOCIATED WITH QUARTZ-CARBONATE VEINS;					
119.9	121.6		BASALT: SIMILAR TO 48.5-52.1m; POORLY FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20cm; MINERALIZATION: PYRRHOTITE: <<1% - DISS.					

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
121.6	126.7		BIOTITE-CHLORITE SCHIST: SIMILAR TO 52.1-61.0m; LOCALLY CALCAREOUS (≤10% DISS. CALCITE); WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 15cm; MINERALIZATION: PYRRHOTITE: ≤1% - DISS AND CLOTS PYRITE/SPHALERITE: TRACE - CLOTS ASSOCIATED WITH PYRRHOTITE;					
126.7	160.5		BASALT: SIMILAR TO 48.5-52.1m; LOCALLY CALCAREOUS (≤5% DISS. CALCITE); NON-MAGNETIC; TYPICALLY POORLY FOLIATED AT 25° TO C.A. THROUGHOUT; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; LOCAL BIOTITIC SECTIONS; 158.1-158.9m: GABBROIC (?) MINERALIZATION: PYRRHOTITE: ≤1% - DISS AND CLOTS CHALCOPYRITE: TRACE - ASSOCIATED WITH PYRRHOTITE;					

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								Au ppb	Au oz/ton
160.5	166.3		CHLORITE-BIOTITE SCHIST: GREEN-GREY TO BROWN-GREY; 25% DISS. BIOTITE IN CHLORITIC QUARTZO-FELDSPATHIC MATRIX; HOMOGENOUS; CALCAREOUS (≤10% DISS CALCITE); NON-MAGNETIC; WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40 cm; MINERALIZATION: PYRRHOTITE - DISS - <1%						
166.3	188.0		BIOTITE SCHIST: DARK BROWN-GREY; 20-40% DISS. BIOTITE IN SILTY QUARTZO-FELDSPATHIC MATRIX; ≤5% WISPY CHLORITIC BANDS (≤1 cm WIDE); NON-CALCAREOUS; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 60 cm; 166.3-177.7m; 4% GREEN SILICEOUS CALCAREOUS CHEMICAL SEDIMENT (??) BANDS (≤2cm WIDE) → SIMILAR TO 24.7-33.5m m IN DDH-A-88-2;	167.6	170.6	3.0	3494	2 ✓	<.001
				174.5	177.7	3.2	3495	1 ✓	<.001

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: Northern Dynasty
PROPERTY NAME: Arseno Lake
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS
			MINERALIZATION: PYRRHOTITE/PYRITE: TYPICALLY <1%-DISS 167.6-170.6m: PYRITE ≤2%, PYRRHOTITE ≤1%-MAINLY IN CALCAREOUS CHEMICAL SEDIMENT(?) BANDS 174.5-177.7m: 10% QUARTZ-CARBONATE VEINS WITH ≤2% PYRRHOTITE AND <1% CHALCOPYRITE;					
188.0	198.6		BASALT: SIMILAR TO 48.5-52.1m; POORLY FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40cm; MINERALIZATION: PYRRHOTITE: <<1%-DISS CHALCOPYRITE: TRACE-ASSOCIATED WITH PYRRHOTITE;					
198.6	206.7		CHLORITE-BIOTITE SCHIST: SIMILAR TO 160.5-166.3m EXCEPT MATRIX IS MORE CHLORITIC; NON-CALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2m; MINERALIZATION: PYRRHOTITE: <1%-DISS					

Diamond Drill Record

COLLAR

	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY

PROPERTY NAME: ARSENO LAKE

DRILLING CONTRACTOR

ASSAYER

PURPOSE OF HOLE

HOLE NO. A-88-5

CLAIM NAME

COMMENCED

FINISHED

PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
				-				ppb	oz/ton
206.7	215.0		BASALT: SIMILAR TO 48.5-52.1m; ≤10% DISS. BIOTITE; NON-CALCAREOUS; NON-MAGNETIC; POORLY TO MOD. FOLIATED AT 20° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 3cm; MINERALIZATION: PYRRHOTITE: <<1% - DISS						
215.0	226.1		CHLORITE SCHIST: MED. GREEN TO GREEN GREY; HOMOGENEOUS; SOFT TO VERY SOFT, LOCALLY TALCOSE; NON-MAGNETIC; MOD. TO WELL FOLIATED AT 20° TO C.A.; DOWNHOLE CONTACT SHARP AT 25° TO C.A. PARALLEL TO FOLIATION; 225.1-226.1m: 10% QUARTZ VEINS MINERALIZATION: PYRRHOTITE: TRACE: DISS AND CLOTS	225.1	227.3	2.2	3446	2	<.001
226.1	231.0		BIOTITE SCHIST: SIMILAR TO 166.3-188.0m; WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20cm; MINERALIZATION: PYRRHOTITE: TYPICALLY <<1% - DISS 226.7-227.3m: PYRRHOTITE-1%, CHALCOPYRITE <1% - CLOTS						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
231.0	237.7		CHLORITE-BIOTITE SCHIST: SIMILAR TO 61.0-69.3m; WELL FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT SHARP AT 25° TO C.A. PARALLEL TO FOLIATION. MINERALIZATION: PYRRHOTITE: <1% - DISS. AND IN VEINS. GALENA: TRACE - IN QUARTZ VEIN @ 231.8m;						
237.7	255.8		BIOTITE SCHIST: SIMILAR TO 166.3-188.0m; ≤10% PINK GARNETS (≤8mm DIA) THROUGHOUT; ABUNDANT BROWN GARNETS (1mm DIA) TOWARD DOWNHOLE CONTACT; WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30 cm; MINERALIZATION: PYRRHOTITE: TYPICALLY <1% - DISS AND CLOTS. 240.0-241.8m: 20% QUARTZ-CARBONATE-CHLORITE VEINS WITH 1% PYRRHOTITE AND <<1% CHALCOPYRITE 245.3-246.9m: 10% QUARTZ-CARBONATE-CHLORITE VEINS WITH 1% PYRRHOTITE, <<1% CHALCOPYRITE, AND <<1% SPHALERITE;	240.0	241.8	1.8	3447	6	<.001
				245.3	246.9	1.6	3448	1	<.001

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
255.8	262.0		BIOTITE - CHLORITE SCHIST: SIMILAR TO 52.1 - 61.0m; 5-20% PINK GARNETS (≤6mm DIA.); WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20cm; MINERALIZATION: PYRRHOTITE/PYRITE: <1% - DISS AND CLOTS CHALCOPYRITE: TRACE - DISS.						
262.0	267.3		BIOTITE - SERICITE SCHIST: MED. TO DARK BROWN-GREY; HOMOGENOUS TO BANDED; 10-30% BIOTITE IN SERICITIC QUARTZO-FELDSPATHIC MATRIX; 5-10% PINK GARNETS (≤6mm DIA) AND 5-10% BROWN GARNETS (≤1mm DIA) DISSEMINATED THROUGHOUT; NON-MAGNETIC; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 30cm; MINERALIZATION: PYRRHOTITE - TYPICALLY <1% - DISS 264.7 - 267.0m: 2% PYRRHOTITE, <1% CHALCOPYRITE, <1% SPHALERITE/GALENA - DISS AND CLOTS	264.7	267.0	2.3	3449	20	<.001

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM	SAMPLE TO	SAMPLE WIDTH	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
267.3	268.8		CHLORITE-BIOTITE-SERICITE SCHIST: SIMILAR TO 61.0-69.3m BUT WITH 40% BIOTITIC, SERICITIC BANDS (≤3cm WIDE); WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; MINERALIZATION: PYRRHOTITE/PYRITE: <1% - DISS						
268.8	274.1		SERICITE-BIOTITE SCHIST: LIGHT GREY WITH 20% DARK BROWN-GREY BIOTITIC BANDS (≤10cm WIDE); 5% PINK GARNETS (≤6mm DIA) MAINLY IN BIOTITIC BANDS; NON-MAGNETIC; WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2cm; ALTERATION: 273.7-274.1: 10% DISS. CHROMIUM MICA IN SECTION OF SPARSE GARNETS; MINERALIZATION: PYRRHOTITE 2%, PYRITE <1%, CHALCOPYRITE/SPHALERITE/GALENA - <1% AT 270.0-271.4m AND 272.5-274.1m;	270.0	271.4	1.4	3450	18	<.001
				272.5	274.1	1.6	3451	110	.003

Diamond Drill Record

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COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arsenio Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
274.1	275.3		SILICEOUS IRON FORMATION: LIGHT GREY SUGARY QUARTZ WITH DISS, CLOTTY AND PATCHY SULPHIDES; UNFOLIATED; DOWNHOLE CONTACT GRADATIONAL OVER 30 cm; MINERALIZATION: PYRRHOTITE: 4%. SPHALERITE: 1-2%. CHALCOPYRITE: <1%.	274.1	275.3	1.2	3452	37	.12	2.78	.13	.71	.001
275.3	277.0		PYRRHOTITE-PYRITE IRON FORMATION: 20% LIGHT GREY ROUNDED QUARTZ BRECCIA CLASTS IN MASSIVE SULPHIDE MATRIX; 5% CHLORITE CLASTS (<1 cm DIA); UNFOLIATED; DOWNHOLE CONTACT GRADATIONAL OVER 1 cm; MINERALIZATION: PYRRHOTITE: 60%. PYRITE: 18% - MAINLY AS <1 cm DIA CUBES; SPHALERITE: 2% - DISS AND CLOTS CHALCOPYRITE: <1% - DISS.	275.3	277.0	1.7	3453	380	.44	3.28	.11	1.57	.011

Diamond Drill Record

COLLAR	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
277.0	278.4		BIOTITE-CHLORITE SCHIST: SIMILAR TO 52.1-61.0m; 5% PINK GARNETS (≤8mm DIA) AND 15% BROWN GARNETS (1mm DIA.); WELL FOLIATED AT 35° TO C.A; DOWNHOLE CONTACT GRADATIONAL OVER 20cm; MINERALIZATION: PYRRHOTITE: 4% - DISS AND CLOTS PYRITE/SPHALERITE/GALENA: <1% - DISS & CLOTS	277.0	278.4	1.4	3454	88	.80	.25	.04	.87	.003
278.4	286.5		MUSCOVITE-BIOTITE SCHIST: LIGHT GREEN WITH 30% DARK BROWN, WISPY BIOTITIC BANDS (≤1cm WIDE); 5-10% PINK GARNETS MAINLY ASSOCIATED WITH BIOTITE; LOCALLY MAGNETIC (PYRRHOTITE); WELL FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 40 cm; ALTERATION: LOCAL BANDS (≤2cm) OF DISS CHROMIUM MICA MINERALIZATION: PYRRHOTITE/PYRITE: TYPICALLY <1% - DISS. 284.7-286.5m: 3% PYRRHOTITE, 1% PYRITE, <1% CHALCOPYRITE AS DISS AND CLOTS;	284.7	286.5	1.8	3455	19					<.001

Diamond Drill Record

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COLLAR		HOLE SURVEY		
NORTH		FOOTAGE	AZIMUTH	DIP
EAST				
ELEVATION				
LOGGED BY				
DATE LOGGED				
MAP REFERENCE NO.		METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-BB-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								Au ppb	Au oz/ton
286.5	292.4		CHROMIUM MICA-MUSCOVITE SCHIST: APPLE GREEN, HOMOGENOUS, NON-MAGNETIC; 20% SECTIONS OF BIOTITE-SERICITE SCHIST (AS 262.0-267.3m); WELL FOLIATED AT 25° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2cm;	289.8	292.4	2.6	3456	4	<.001
			290.5-291.2m: PYRRHOTITE IRON FORMATION: LIGHT GREY QUARTZ WITH 6% DISS AND CLOTTY PYRRHOTITE; <1% PYRITE;						
			MINERALIZATION: PYRITE/PYRRHOTITE: <1% TYPICALLY - DISS. 289.8-292.4m (EXCLUDING IRON FORMATION): 1% PYRITE, <1% PYRRHOTITE, TRACE SPHALERITE - DISS AND CLOTS						
292.4	295.7		SILICEOUS IRON FORMATION: LIGHT GREY TO WHITE QUARTZ WITH DISS TO CLOTTY SULPHIDES; LOCALLY SULPHIDES POORLY FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT SHARP AT 35° TO C.A.;	292.4	294.0	1.6	3457	1	<.001
				294.0	295.7	1.7	3458	4	<.001
			MINERALIZATION: PYRRHOTITE: 3%						
			PYRITE: <1%						
			SPHALERITE: <1%						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
295.7	297.3		MUSCOVITE-CHROMIUM MICA-BIOTITE SCHIST: WISPY BANDED LIGHT GREEN, LIGHT GREY AND DARK BROWN WITH 3% DISS PINK GARNETS (≤3mm DIA); 10% INTERCALATED BANDS (≤15cm WIDE) OF SILICEOUS IRON FORMATION (AS 292.4-295.7m); WELL FOLIATED AT 30° TO C.A.; DOWNHOLE CONTACT SHARP AT 45° TO C.A.; ALTERATION: CHROMIUM MICA: 0-30%-DISS (AVG 5%) MINERALIZATION: PYRRHOTITE: 3%-DISS AND CLOTS PYRITE: <1%-DISS AND CLOTS CHALCOPYRITE/SPHALERITE: <<1%-CLOTS	295.7	297.3	1.6	3459	30	<.001
297.3	304.5		SILICEOUS IRON FORMATION: SIMILAR TO 292.4-295.7m; UNFOLIATED; DOWNHOLE CONTACT GRADATIONAL OVER 10cm; 298.7-298.8m: CHLORITE (60%) - TOURMALINE (30%) - PYRRHOTITE (10%) SCHIST;						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
NORTH	FOOTAGE	AZIMUTH	DIP
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME NORTHERN DYNASTY
PROPERTY NAME ARSENO LAKE
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
			MINERALIZATION: 297.3 - 298.9m: PYRRHOTITE 1%, CHALCOPYRITE - Tr.					ppb	%	%	%	oz/ton	oz/ton
			298.9 - 301.4m: PYRRHOTITE/PYRITE/SPHALERITE - <<1%.	297.3	298.9	1.6	3460	1					<.001
			301.4 - 304.5m: PYRRHOTITE 3%, PYRITE <1%,	298.9	301.4	2.5	3461	1					<.001
			CHALCOPYRITE/SPHALERITE - <<1%, GALENA - Trace	301.4	304.5	3.1	3462	3					<.001
304.5	311.2		PYRRHOTITE IRON FORMATION: LIGHT GREY TO WHITE QUARTZ WITH DISS., CLOTTY AND PATCHY SULPHIDES; LOCALLY SULPHIDES CRUDELY FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 2cm;										
			MINERALIZATION: PYRRHOTITE: 8%	304.5	307.0	2.5	3463	1					<.001
			PYRITE: 2%	307.0	309.5	2.5	3464	27					<.001
			SPHALERITE: TYPICALLY <<1%; 310.9 - 311.2 = 2%	309.5	311.2	1.7	3465	23					<.001
			CHALCOPYRITE - TRACE										
311.2	313.6		SILICEOUS IRON FORMATION: SIMILAR TO 292.5 - 295.7m; LOCALLY SULPHIDES CRUDELY FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 50cm;	311.2	313.6	2.4	3466	43	.18	.70	.02	.61	.001
			MINERALIZATION: PYRRHOTITE: 3%										
			SPALERITE: 1%										
			PYRITE: <1%										

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-BB-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
313.6	315.0		PYRRHOTITE IRON FORMATION: SIMILAR TO 304.5-311.2m; LOCALLY SULPHIDES CRUDELY BANDED AT 40° TO C.A.; DOWNHOLE CONTACT GRADATIONAL; MINERALIZATION: PYRRHOTITE: 12%. SPHALERITE: 2%. PYRITE: 1%. CHALCOPYRITE: TRACE GRUNERITE: TRACE	313.6	315.0	1.4	3467	23	.07	1.97	.05	.61	<.001
315.0	318.0		SILICEOUS IRON FORMATION: SIMILAR TO 292.4-295.7m; UNFOLIATED; DOWNHOLE CONTACT GRADATIONAL; MINERALIZATION: PYRRHOTITE: 2%. PYRITE/SPHALERITE/ARSENOPYRITE: <1%. CHALCOPYRITE: <<1%.	315.0	318.0	3.0	3468	107					.003

Diamond Drill Record

COLLARS	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME Northern Dynasty
PROPERTY NAME Arseno Lake
DRILLING CONTRACTOR
ASSAYER
PURPOSE OF HOLE

HOLE NO. A-88-5
CLAIM NAME
COMMENCED
FINISHED
PROJECT NO.

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	Pb %	Zn %	Cu %	Ag oz/ton	Au oz/ton
318.0	320.2		PYRRHOTITE IRON FORMATION: SIMILAR TO 304.5-311.2m; UNFOLIATED; LOCAL ROUNDED QUARTZ BRECCIA FRAGMENTS IN SULPHIDE MATRIX; DOWNHOLE CONTACT GRADATIONAL; MINERALIZATION: PYRRHOTITE: 8% PYRITE: 2% SPHALERITE: 1% CHALCOPYRITE: <1%	318.0	320.2	2.2	3469	3	.02	2.01	.04	.18	<.001
320.2	324.7		PYRITE-SPHALERITE IRON FORMATION: WHITE, LIGHT GREY AND CLEAR QUARTZ WITH DISS, CLOTTY AND MASSIVE SULPHIDE SECTIONS; LOCALLY SULPHIDES CRUDELY FOLIATED AT 30-50° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 10 cm; 321.3m → 1cm SULPHIDE SAND SEAM; MINERALIZATION: 320.2-322.6m: PYRITE: 7%, SPHALERITE 3%, ARSENOPYRITE: <1%, GALENA - TRACE	320.2	322.6	2.4	3470	20	.20	7.66	.01	.66	<.001
				322.6	323.4	0.8	3471	120	.55	14.02	.01	1.20	.004
				323.4	324.7	1.3	3472	21	.94	4.46	.01	1.86	<.001
			322.6-323.3m: 70% ROUNDED PYRITE (≤2mm DIA) AND 5% ROUNDED QUARTZ (≤1cm DIA) IN 25% SPHALERITE MATRIX; MAGNETITE 1% - DISS										

Diamond Drill Record

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COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: Northern Dynasty
PROPERTY NAME: Arseno Lake
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au	ASSAYS Au
			323.3 - 324.7m: Pyrite: 10%.					ppb	oz/ton
			Sphalerite: 3%.						
			Pyrrhotite: <1%.						
			Galena: Trace						
324.7	325.5		Sericite Schist: Light grey to light green, non-calcareous, non-magnetic; well foliated at 35° to c.a.; downhole contact sharp at 40° to c.a. parallel to foliation; 20% intercalated siliceous iron formation bands ≤ 10cm wide;	324.7	325.5	0.8	3473	7	<.001
			Mineralization: Pyrrhotite 4%: diss, clots and bands						
			Pyrite 4%: associated with pyrrhotite						
			Sphalerite: <1% - associated with pyrrhotite						
325.5	326.9		Biotite - Sericite Schist: Similar to 262.0 - 267.3m; well foliated at 40° to c.a.; downhole contact gradational over 20cm;	325.5	326.9	1.4	3474	6	<.001
			Mineralization: Pyrrhotite: 2% - diss and clots						

Diamond Drill Record

COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO.: A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
								ppb	oz/ton
326.9	330.2		SERICITE SCHIST: LIGHT GREY, HOMOGENOUS, WITH 10% PINK GARNETS (≤ 3mm DIA) AND 2-5% DISS BIOTITE; NONCALCAREOUS; NON-MAGNETIC; WELL FOLIATED AT 40° TO C.A.; DOWNHOLE CONTACT CUTS ACROSS FOLIATION AT 60° TO C.A.;	326.9	328.3	1.4	3475	13	<.001
			327.5-328.3: SILICEOUS IRON FORMATION WITH 3% CLOTTY PYRRHOTITE, <1% PYRITE, <<1% CHALCOPYRITE						
			MINERALIZATION: 326.9-327.5: 2% PYRRHOTITE, <1% PYRITE						
			328.3-330.2: <1% PYRRHOTITE, <1% MAGNETITE						
330.2	335.4		SILICEOUS IRON FORMATION (50%) + SERICITE SCHIST (40%) + BLACK ARGILLITE (10%); INTERCALATED ON SCALES OF 1-30 cm; IRON FORMATION SIMILAR TO 292.4-295.7m; SERICITE SCHIST SIMILAR TO 324.7-325.5m; ARGILLITE IS SILICEOUS AND FINELY BANDED WITH PYRRHOTITE (5%) AND QUARTZ-SERECITE; NON-CALCAREOUS; NON-MAGNETIC; FOLIATED AT 35° TO C.A.; DOWNHOLE CONTACT GRADATIONAL OVER 20 cm;	330.2	333.4	3.2	3476	5	<.001
				333.4	335.4	2.0	3477	9	<.001

Diamond Drill Record

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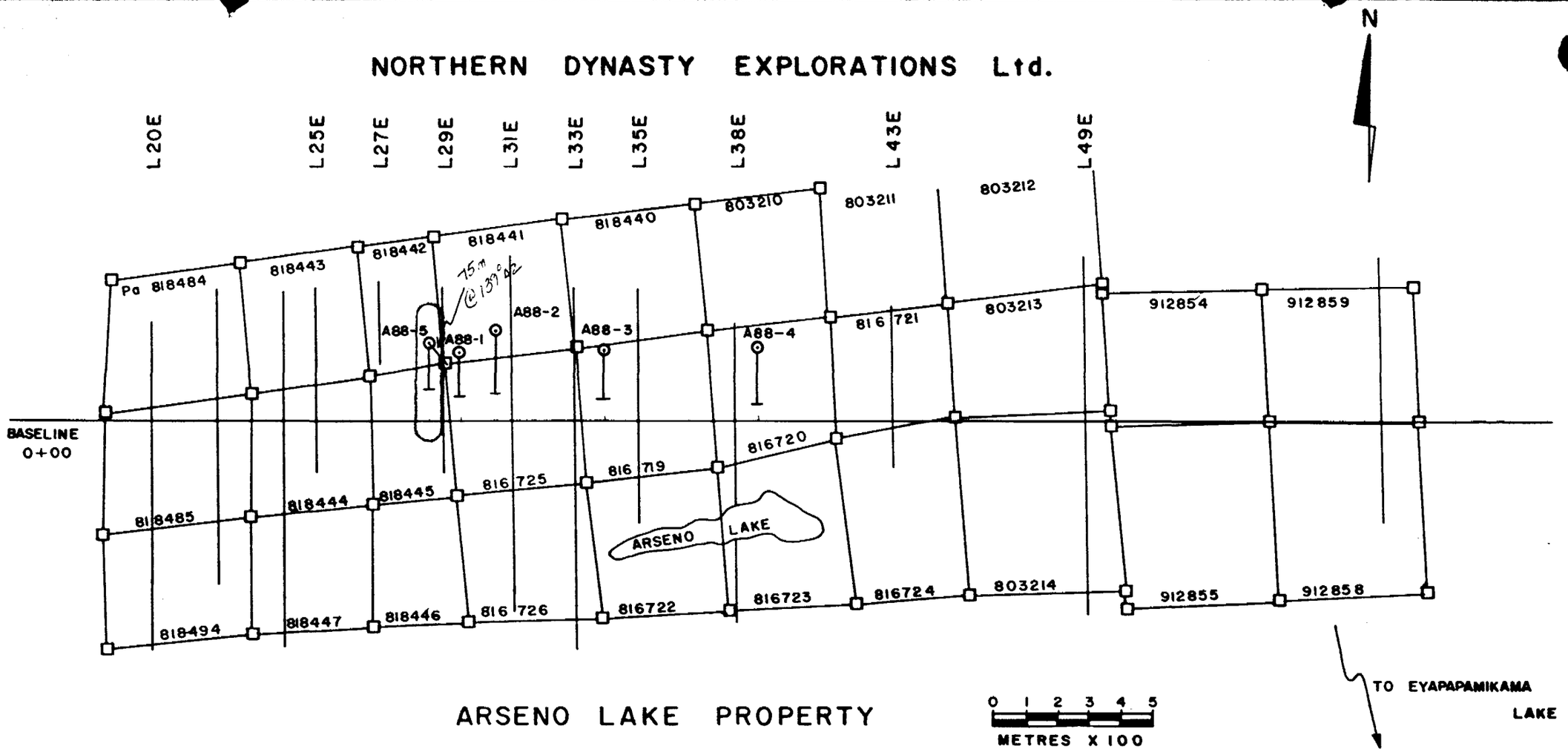
COLLAR:	HOLE SURVEY		
	FOOTAGE	AZIMUTH	DIP
NORTH			
EAST			
ELEVATION			
LOGGED BY			
DATE LOGGED			
MAP REFERENCE NO.	METHOD:		

COMPANY NAME: NORTHERN DYNASTY
PROPERTY NAME: ARSENO LAKE
DRILLING CONTRACTOR:
ASSAYER:
PURPOSE OF HOLE:

HOLE NO. A-88-5
CLAIM NAME:
COMMENCED:
FINISHED:
PROJECT NO.:

FROM m	TO m	RECOVY	DESCRIPTION	SAMPLE FROM m	SAMPLE TO m	SAMPLE WIDTH m	SAMPLE NO.	ASSAYS Au ppb	ASSAYS Au oz/ton
			MINERALIZATION: PYRRHOTITE: 1-8% (AVG 4%) - DISS. & CLOTS					ppb	oz/ton
			PYRITE/SPHALERITE/CHALCOPYRITE: <1% - DISS						
335.4	341.1		BIOTITE-GARNET SCHIST: LIGHT TO DARK BROWN-GREY; HOMOGENOUS TO BANDED; 5-50% BIOTITE DISSEMINATED IN QUARTZ-FELDSPAR MATRIX WITH 10-20% PINK GARNETS (≤ 10mm DIA) AND 10-20% BROWN GARNETS (1mm DIA.); WELL FOLIATED AT 35° TO C.A.; MINERALIZATION: PYRRHOTITE: TYPICALLY <1% - DISS. AND CLOTS	338.0	339.4	1.4	3478	2	<.001
			338.0-339.4m: 10% QUARTZ VEINS WITH 3% PYRRHOTITE, <1% PYRITE, AND TRACE CHALCOPYRITE						
	341.1m		END OF HOLE						
			NOTES						
			1. CASING LEFT IN HOLE						

NORTHERN DYNASTY EXPLORATIONS Ltd.



ARSENO LAKE PROPERTY

1988 DIAMOND DRILL HOLE LOCATION MAP

CLAIM MAPS: KEEYASK LAKE / G-2085
SEESEEP LAKE / G-2204

NTS: 53B 14/15

— CLAIM POST

— DRILL COLLAR, HOLE NUMBER

SURFACE PROJECTION

Ministry of Northern Development and Mines
Ontario

Report of Work

DOCUMENT No. W8903.072

Mining

Assess. Library

53B14NE9433 19 KEEYASK LAKE

900

Name and Postal Address of Recorded Holder

NORTHERN DYNASTY EXPLORATION

844 W. HASTINGS STREET, VANCOUVER, B.C., V6C 1C8

Summary of Work Performance and Distribution of Credits KEEYASK LAKE G-2085 & SEESEEP LAKE G-2204

Total Work Days Cr. claimed	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.	Mining Claim Prefix	Mining Claim Number	Work Days Cr.
4805	—	SEE ATTACHED SHEET —							

for Performance of the following work. (Check one only)

- ☐ Manual Work
- ☐ Shaft Sinking Drifting or other Lateral Work.
- ☐ Compressed Air, other Power driven or mechanical equip.
- ☐ Power Stripping
- ☒ Diamond or other Core drilling
- ☐ Land Survey

All the work was performed on Mining Claim(s): Pa. 816719, 816720, 818441, 818 [illegible] 816725 & 818445

RECEIVED MAR 22 1989 PATRICIA MINING DIVISION

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

Recorded

ARSENO LAKE DRILL PROGRAM

CONTRACTOR: LANGLEY DRILLING, 49 JAYFIELD Rd., BRAMPTON, ON [illegible] 3G3

GEOLOGISTS: GEORGE GORZYNSKI, DAVE WARD (NORTHERN DYNASTY EXPLORATIONS Ltd.)

CREDITS: 4805 feet of DRILLING (DDH's 88A-1→5) = 4805 CREDITS

WORK SKETCHES AND DRILL LOGS ATTACHED

DIAMETER OF CORE: BQ

DATES OF OPERATION: 01 JUNE - 06 July, 1988

ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES APR 3 1989 RECEIVED

Date of Report	Recorded Holder or Agent (Signature)
22 FEBRUARY, 1989	Darren C. Elsby

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

DARREN C. ELSBY, 844 W. HASTINGS St. VANCOUVER, B.C. V6C 1C8

Date Certified	Certified by (Signature)
22 FEBRUARY, 1989	Darren C. Elsby

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific information per type	Other information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work/operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment		
Power Stripping	Type of equipment and amount expended. **Note:** Proof of actual cost must be submitted within 30 days of recording.	Names and addresses of owner or operator together with dates when drilling/stripping done.	
Diamond or other core drilling	Signed core log showing; footage, diameter of core, number and angles of holes.		Work Sketch (as above) in duplicate
Land Survey	Name and address of Ontario land surveyor.	Nil	Nil

768 (85/12)

NORTHERN DYNASTY EXPLORATIONS LTD.
ARSENO LAKE DRILL PROGRAM
SUBMITTAL FOR DRILL FOOTAGE CREDITS
FEBRUARY 22, 1989

CLAIM NUMBER	WORK DAY CREDITS	CLAIM NUMBER	WORK DAY CREDITS	CLAIM NUMBER	WORK DAY CREDITS
Pa.803210	9	818480	9	912874	180
803211	9	818481	9	912875	180
803212	9	818482	9	912876	108.21
803213	9	818483	9	912877	109.21
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803215	9	818485	9	914529	40
803216	21.21	818486	9	914531	32.21
803217	21.21	818487	9	914539	9
816719	9	818488	9	914540	16.52
816720	9	818489	9	978126	180
816721	20.21	818490	9		
816722	9	818491	9		
816723	9	818492	9		
816724	9	818493	9		
816725	9	818494	9		
816726	9	818495	60		
818432	60	818496	59.45		
818433	60	818502	55.31		
818434	60	818503	58.45		
818435	60	818504	22.21		
818440	9	912854	109.21		
818441	21.21	912855	77		
818442	29	912856	109.21		
818443	21.21	912857	117		
818444	9	912858	77		
818445	9	912859	109.21		
818446	49	912860	109.21		
818447	21.21	912861	79.53		
818448	21.21	912862	117		
818449	60	912863	180		
818450	21.21	912864	88.21		
818451	60	912865	109.21		
818458	59.45	912866	109.21		
818459	59.45	912867	108.21		
818460	60	912868	180		
818464	60	912869	180		
818465	58.45	912870	108.21		
818466	58.45	912871	109.21		
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818468	59.45	912873	108.21		

TOTAL CREDITS APPLIED FOR = 4805 ✓
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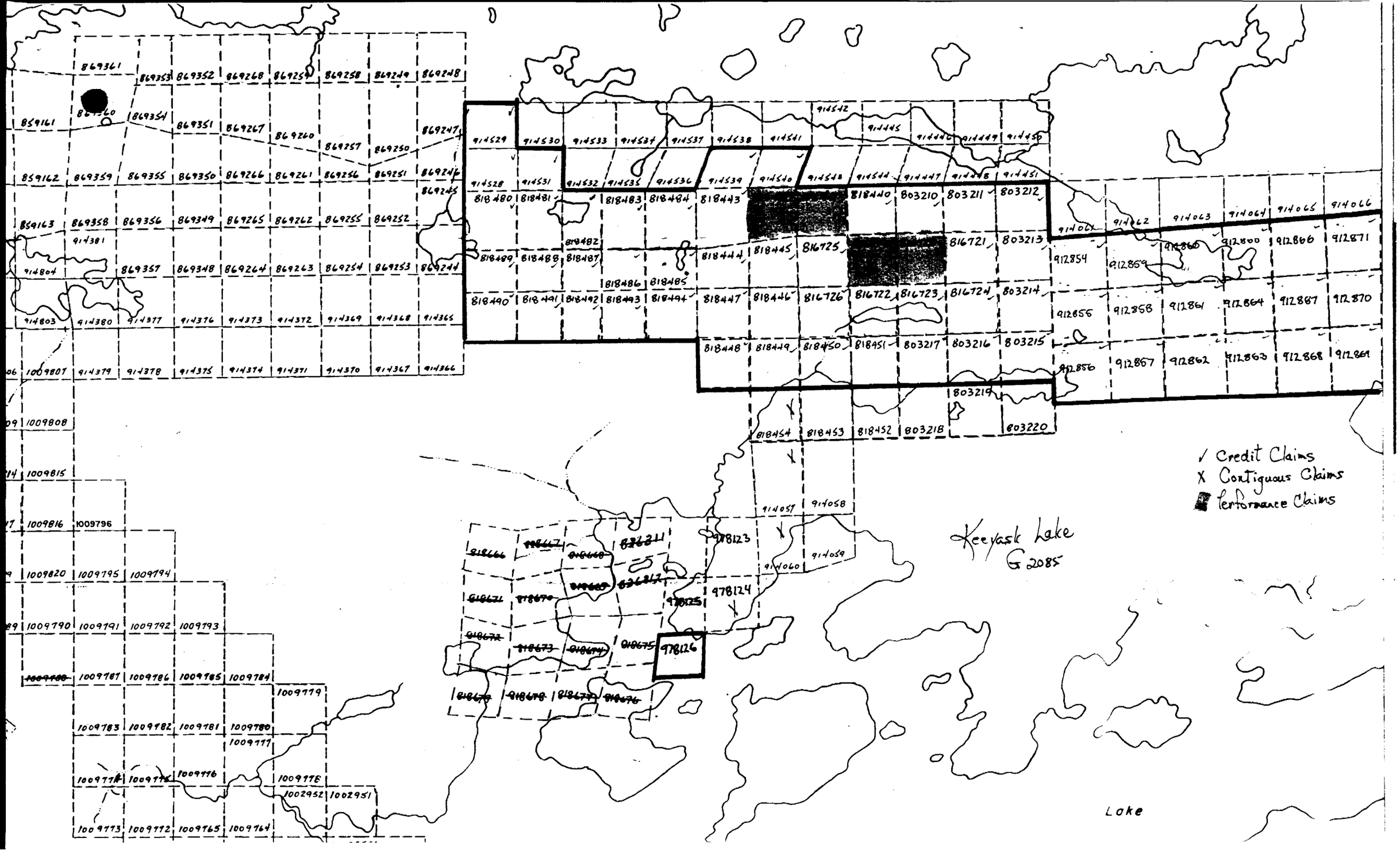
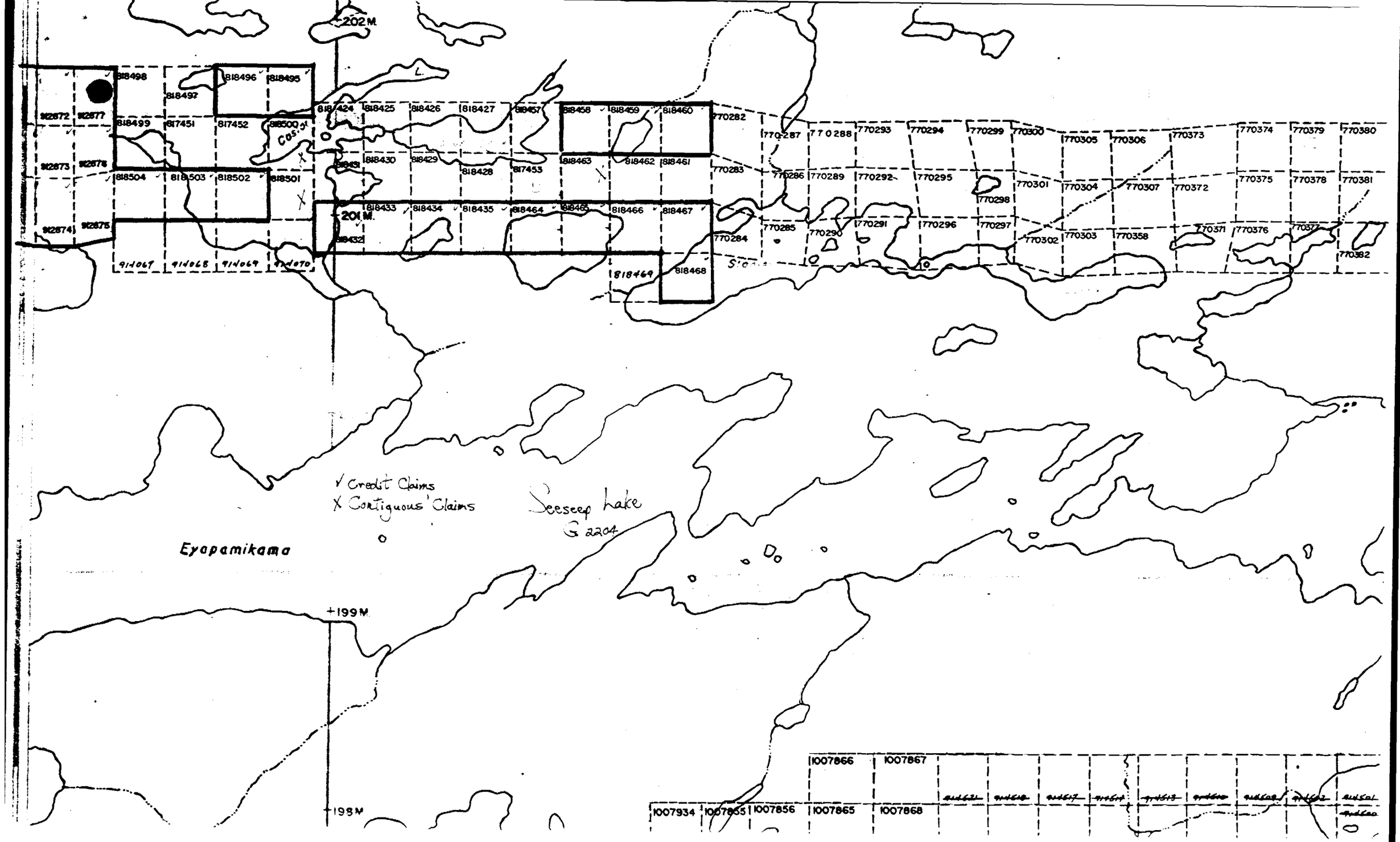

✓ Credit Claims
X Contiguous Claims
Performance Claims
Keeyask Lake
G 2085
Lake


202M
818498
818496
818495
818492
912872
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817451
817452
818500
Cost
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818432
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770302
770303
770358
770371
770376
770377
770382
911067
911068
911069
911070
✓ Credit Claims
X Contiguous Claims
Seeseep Lake
G 2204
Eyopamikama
199M
198M
1007866
1007867
1007934
1007855
1007856
1007865
1007868

L E G E N D

- 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
- PIT OR TRENCH
- ROCK SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- A87-12 DIAMOND DRILL HOLE, YEAR & NUMBER, VERTICAL PROJECTION
- TRENCH
- X SMALL OUTCROP / BOULDER
- 1988 DIAMOND DRILL HOLE, VERTICAL PROJECTION

GEOLOGICAL LEGEND

METAMORPHIC LITHOLOGIES

PHYLLITES

- **Pt** — PHYLLITIC TURBIDITE ± QUARTZ-BIOTITE-CHLORITE SCHIST

DEBRIS FLOW

- **Dc** — SEDIMENTARY DEBRIS FLOW ; CONTAINS SCHISTOSE FLATTENED AND SHEARED POLYMICTIC CONGLOMERATE - BRECCIA ; LOCALLIZED MYLONITES AND CHROMIUM - MICA ALTERATION

PELITIC-VOLCANICLASTIC SCHIST

- **St** — SCHISTOSE TURBIDITE ; CHLORITE-BIOTITE-QUARTZ-GARNET SCHIST ; LOCAL CHROMIUM-MICA ALTERATION, LOCAL SERICITE
- **Sc** — CHLORITE SCHIST ± GARNET ± BIOTITE ± SERICITE ; LOCAL CHROMIUM-MICA ALTERATION
- **Scr** — CHLORITE SCHIST CONTAINING POSITIVE RELIEF RIBS OF CHLORITE AND AMPHIBOLE ±GARNET ±BIOTITE ; LOCAL CHROMIUM-MICA ALTERATION ±SERICITE
- **Sq** — QUARTZ-BIOTITE SCHIST OFTEN CONTAINING QUARTZ AUGEN ; POSSIBLY A QUARTZ-EYE PORPHYRY DIKE

CHEMICAL METASEDIMENTS

- **If** — QUARTZ-GRUNERITE IRON FORMATION ; MOSTLY RECRYSTALLIZED ; ALSO INCLUDES METACHERT HORIZONS ± ARGILLITE

MAFIC VOLCANICS

- **Vm** — CHLORITE SCHIST, MASSIVE TO APHANITIC, MAY CONTAIN FLATTENED PILLOWS ±SERICITE
- **Vg** — COARSE GRAINED CHLORITE SCHIST CONTAINING AMPHIBOLE AND PYROXENE, OFTEN DISPLAYS A GABBROIC TEXTURE (POSSIBLE REMANTS OF DIKES AND/OR SILLS)

ULTRAMAFICS

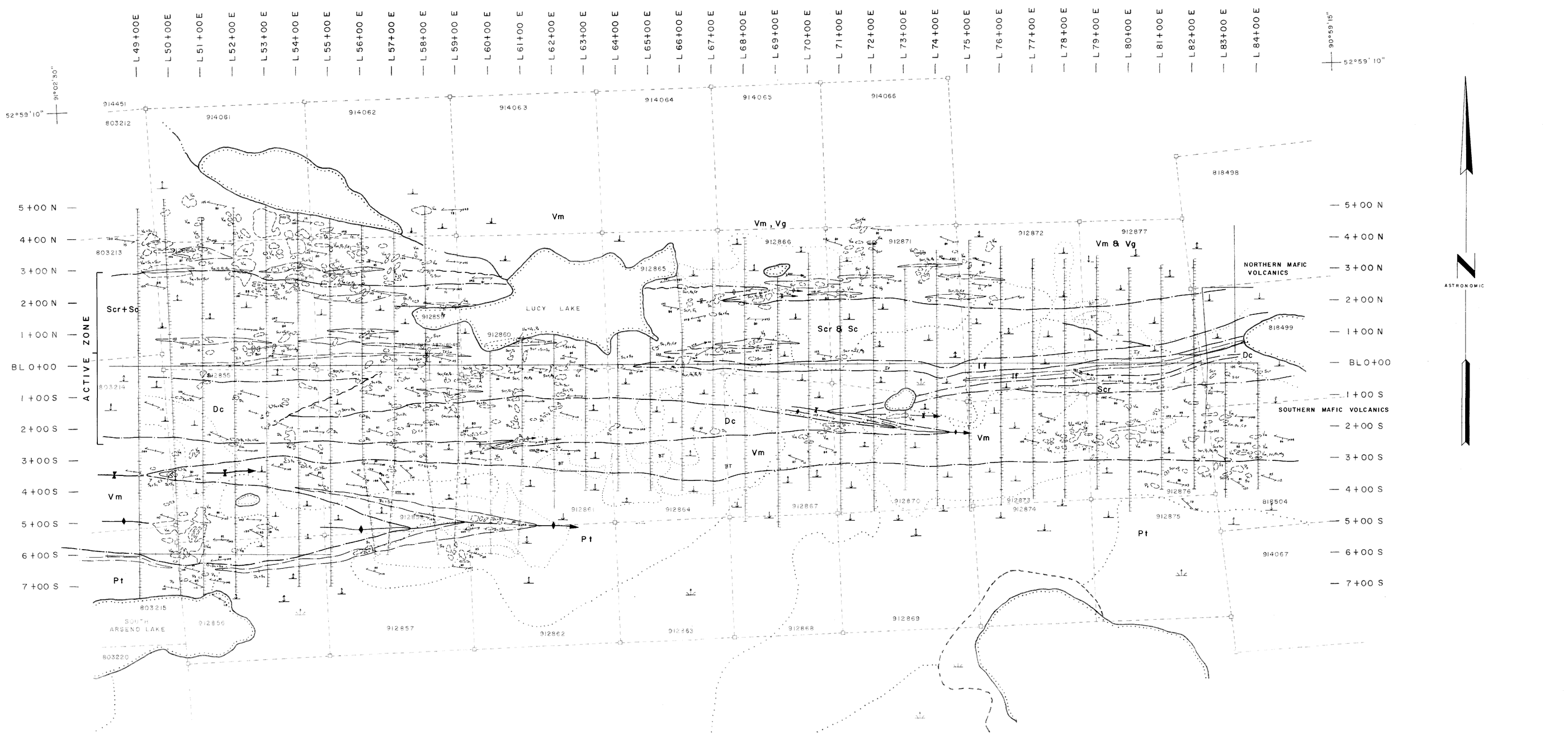
- **Um** — CARBONATE-TALC-SERPENTINE SCHIST ± ACTINOLITE
- **Uc** — IRON-CARBONATE SCHIST ±CHROMIUM MICA

ACCESSORY MINERALS

- As — arsenopyrite
- Py — pyrite
- Po — pyrrhotite
- Mg — magnetite
- Gr — grunerite
- To — tourmaline
- Cm — chromium mica
- Gt — garnet
- At — actinolite
- Fe — iron carbonate
- Ag — argillite (graphite)
- Cp — chalcopyrite

STRUCTURAL GEOLOGICAL SYMBOLS

- So — BEDDING / COMPOSITIONAL LAYERING
- S1 — PHASE-ONE REGIONAL TRANSPOSED FOLIATION
- S2 — PHASE-TWO FOLIATION / CLEAVAGE (oriented parallel to phase-one foliation within main shear zone and vicinity)
- S3 — PHASE-THREE SPACED PRESSURE-SOLUTION CLEAVAGE
- L2 — PHASE-TWO MINERAL LINEATION (oriented parallel to phase-2 fold axis) — 093 / 60
- L2 — PHASE-TWO MINOR FOLD AXIS WITH SENSE OF ROTATION — 095 / 63
- L3 — PHASE-THREE INTERSECTION LINEATION — 095 / 80
- JOINT PLANE — 025
- PHASE-TWO, ANTIFORMAL, SYNFORMAL AXIAL TRACE
- PHASE-ONE, ANTIFORMAL, SYNFORMAL AXIAL TRACE
- GEOLOGICAL CONTACT
- INFERRED GEOLOGICAL CONTACT
- FAULT



GEOLOGICAL LEGEND

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
- PIT OR TRENCH
- ROCK SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- 48747 — DIAMOND DRILL HOLE, YEAR & NUMBER
- TRENCH
- X — SMALL OUTCROP / BOULDER

METAMORPHIC LITHOLOGIES

PHYLLITES

- **Pt** — PHYLLITIC TURBIDITE ± QUARTZ-BIOTITE-CHLORITE SCHIST

DEBRIS FLOW

- **Dc** — SEDIMENTARY DEBRIS FLOW; CONTAINS SCHISTOSE FLATTENED AND SHEARED POLYMICTIC CONGLOMERATE-BRECCIA; LOCALLIZED MYLONITES AND CHROMIUM-MICA ALTERATION

PELITIC-VOLCANICLASTIC SCHIST

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- **Vg** — COARSE GRAINED CHLORITE SCHIST CONTAINING AMPHIBOLE AND PYROXENE, OFTEN DISPLAYS A GABBROIC TEXTURE (POSSIBLE REMANTS OF DIKES AND/OR SILLS)

ULTRAMAFICS

- **Um** — CARBONATE-TALC-SERPENTINE SCHIST ± ACTINOLITE
- **Uc** — IRON-CARBONATE SCHIST ±CHROMIUM MICA

ACCESSORY MINERALS

- As — arsenopyrite
- Py — pyrite
- Po — pyrrhotite
- Mg — magnetite
- Gr — grunerite
- To — tourmaline
- Cm — chromium mica
- Gt — garnet
- At — actinolite
- Fe — iron carbonate
- Ag — argillite (graphite)
- Cp — chalcopyrite

STRUCTURAL GEOLOGICAL SYMBOLS

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- S3 — PHASE-THREE SPACED PRESSURE-SOLUTION CLEAVAGE
- 093 60 — L2 — PHASE-TWO MINERAL LINEATION (oriented parallel to phase-2 fold axis)
- 095 63 — L2 — PHASE-TWO MINOR FOLD AXIS WITH SENSE OF ROTATION
- 095 80 — L3 — PHASE-THREE INTERSECTION LINEATION
- 025 — JOINT PLANE
- PHASE-TWO, ANTIFORMAL, SYNFORMAL AXIAL TRACE
- PHASE-ONE, ANTIFORMAL, SYNFORMAL AXIAL TRACE
- GEOLOGICAL CONTACT
- INFERRED GEOLOGICAL CONTACT
- FAULT

ONTARIO GOLD JOINT VENTURE

NORTHERN DYNASTY EXPLORATIONS LTD.

ARSENO LAKE CLAIM BLOCK (EAST-HALF)

GEOLOGY

NTS: 53B/14/15, KEEYASK LAKE G-2085, SEESEEP LAKE G-2204

SCALE 1:5,000

metres 100 50 0 100 200 300 400 500 600 metres

feet 500 250 0 500 1000 1500 2000 2500 feet

JULY - OCTOBER 1987

PLATE - 2

Problem Page
The original page in this document had a problem when scanned and as a result was unable to convert to Portable Document Format (PDF).

We apologize for the inconvenience.

Problème de conversion de page
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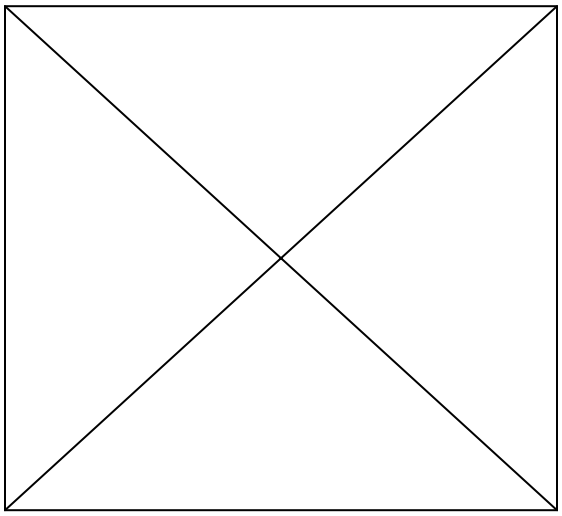
Nous regrettons tout inconvénient occasionné par ce problème.



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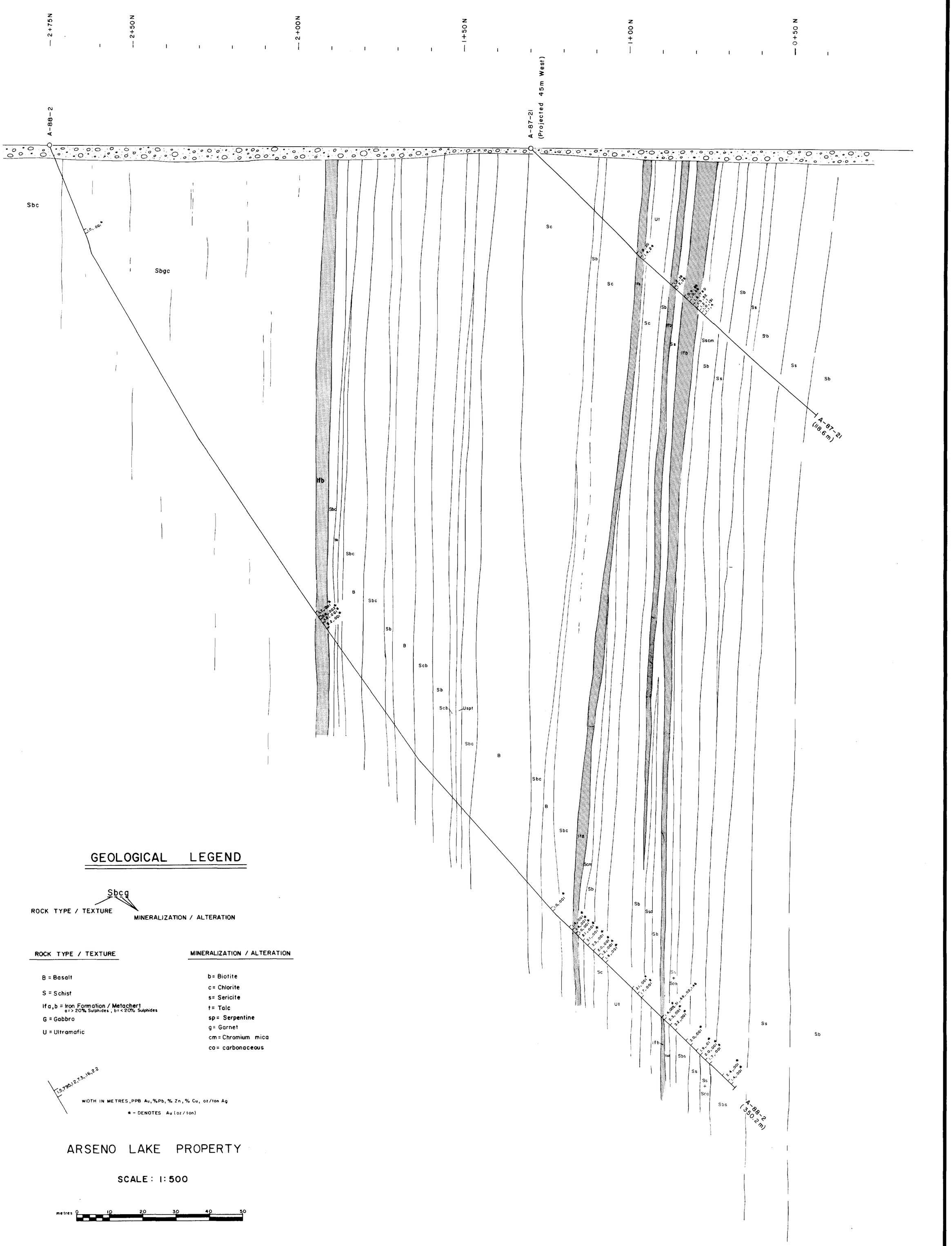


GEOLOGICAL LEGEND

Sbcg
ROCK TYPE / TEXTURE
MINERALIZATION / ALTERATION

ROCK TYPE / TEXTURE

B = Basalt
S = Schist
Ifa,b = Iron Formation / Metachert
a=> 20% Sulphides , b= < 20% Sulphides
G = Gabbro
U = Ultramafic

MINERALIZATION / ALTERATION

b= Biotite
c= Chlorite
s= Sericite
t= Talc
sp= Serpentine
g= Garnet
cm= Chromium mica
co= carbonaceous

1.5,795,1,2.7,3.,16,2.2
WIDTH IN METRES, PPB Au, %Pb, % Zn, % Cu, oz/ton Ag
* - DENOTES Au (oz/ton)

ARSENO LAKE PROPERTY

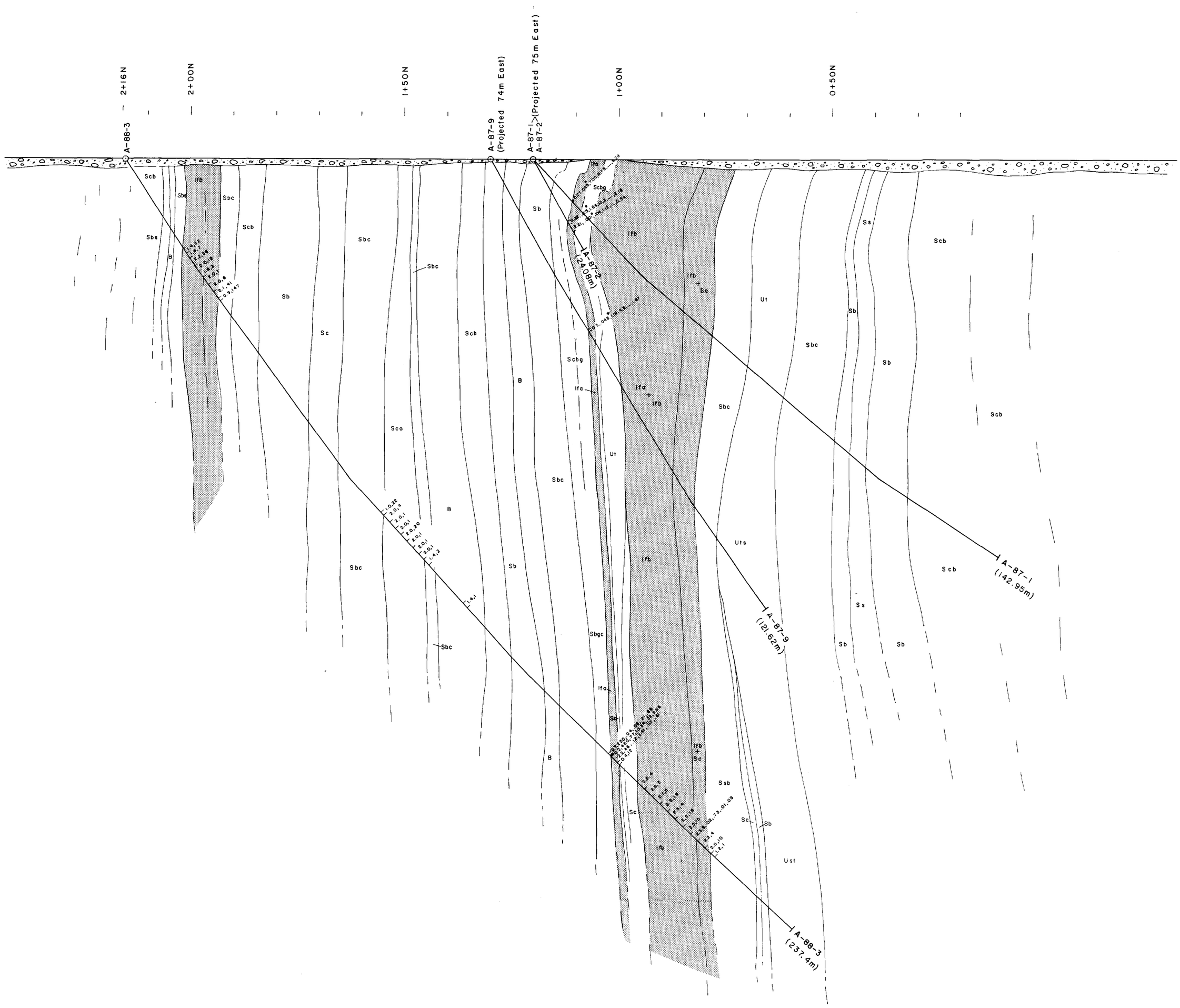
SCALE: 1:500

metres 0 10 20 30 40 50

DIAMOND DRILL HOLE SECTION 30+55 E

PI ΔTF-4

FEBRUARY 1989



GEOLOGICAL LEGEND

Sbcg

ROCK TYPE / TEXTURE

MINERALIZATION / ALTERATION

ROCK TYPE / TEXTURE

B = Basalt

S = Schist

Ifa,b = Iron Formation / Metachert
a = > 20% Sulphides , b = < 20% Sulphides

G = Gabbro

U = Ultramafic

MINERALIZATION / ALTERATION

b = Biotite
c = Chlorite
s = Sericite
t = Talc
sp = Serpentine
g = Garnet
cm = Chromium mica
co = carbonaceous

1.5,7.95\1.2,7.3,.16,2.2

WIDTH IN METRES, PPB Au, %Pb, % Zn, % Cu, oz/ton Ag

* - DENOTES Au (oz/ton)

ARSENO LAKE PROPERTY

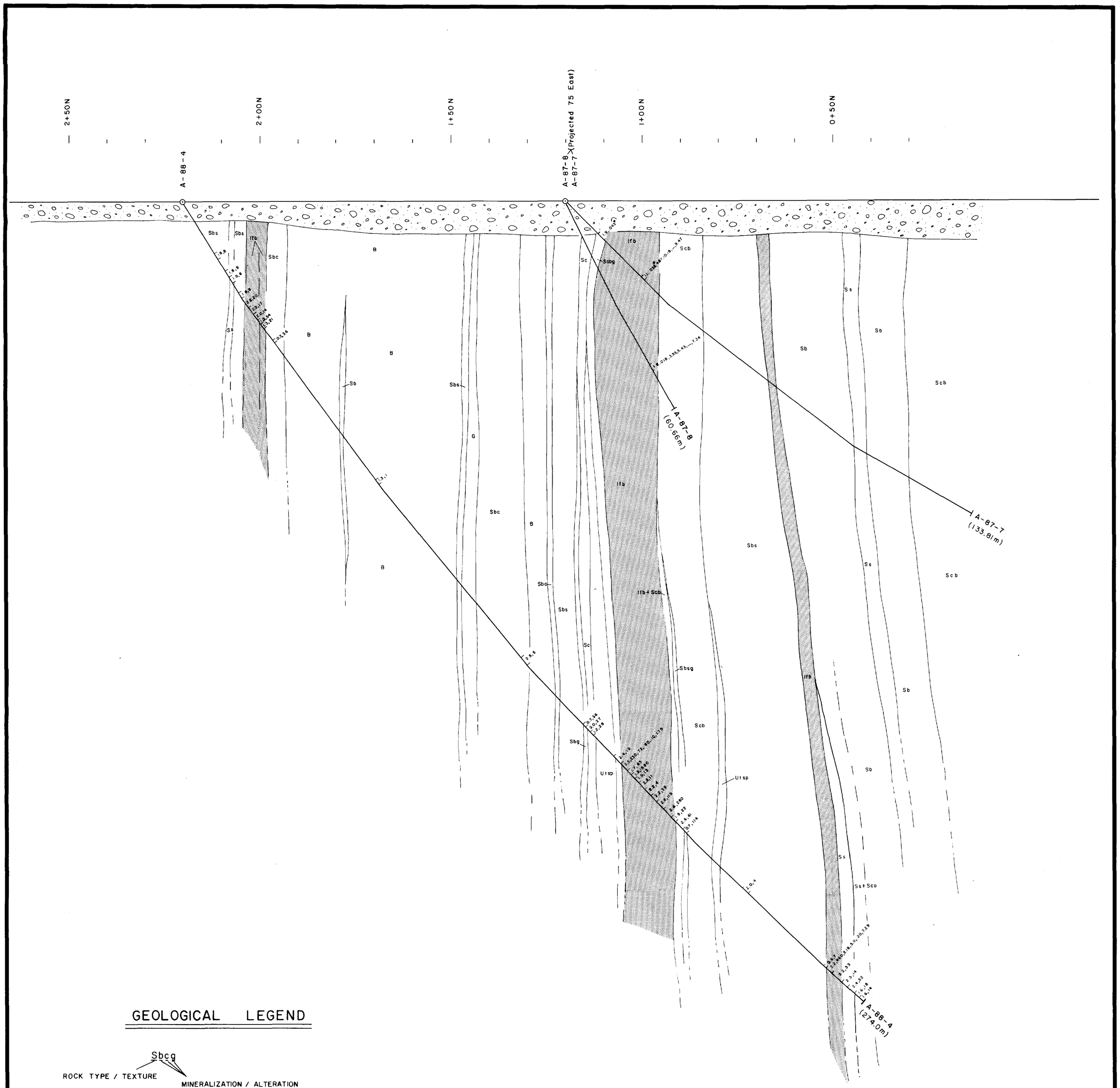
SCALE: 1:500

metres 0 10 20 30 40 50

DIAMOND DRILL HOLE SECTION 33+87E

PLATE-5

FEBRUARY 1989



GEOLOGICAL LEGEND

Sbcg

ROCK TYPE / TEXTURE

MINERALIZATION / ALTERATION

ROCK TYPE / TEXTURE

B = Basalt

S = Schist

If a,b = Iron Formation / Metachert
a=> 20% Sulphides , b= < 20% Sulphides

G = Gabbro

U = Ultramafic

MINERALIZATION / ALTERATION

b= Biotite
c= Chlorite
s= Sericite
t= Talc
sp= Serpentine
g= Garnet
cm= Chromium mica
ca= carbonaceous

I 5,795, I 2,7 3, I 6, 2 2

WIDTH IN METRES, PPB Au, %Pb, % Zn, % Cu, oz/ton Ag

* - DENOTES Au (oz/ton)

ARSENO LAKE PROPERTY

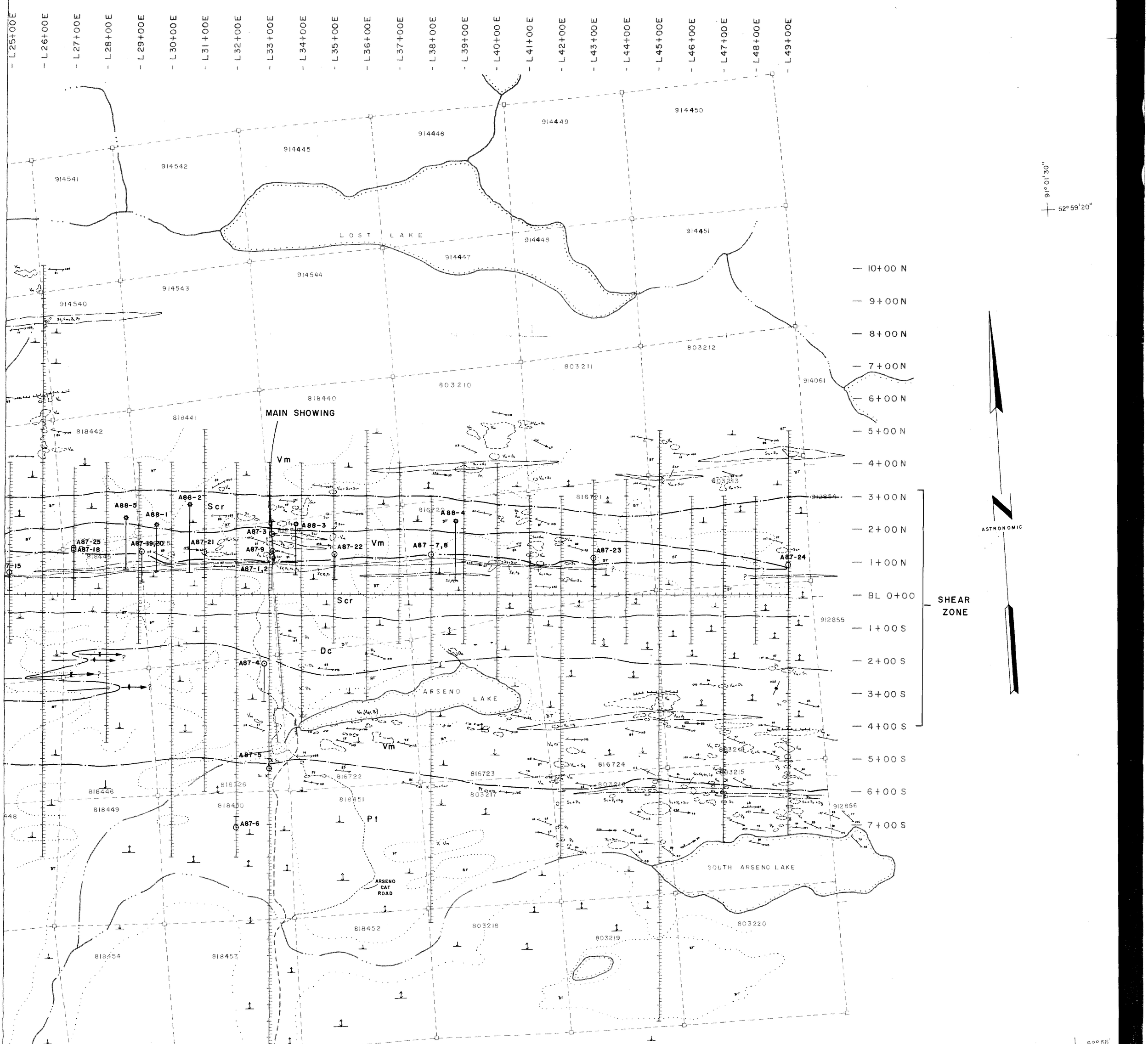
SCALE: 1:500

metres 0 10 20 30 40 50

DIAMOND DRILL HOLE SECTION 38+75 E

PLATE - 6

FEBRUARY 1989



LEGEND

ACCESSORY MINERALS

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- Py — pyrite
- Po — pyrrhotite
- Mg — magnetite
- Gr — gruneriste
- To — tourmaline
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- Gt — garnet
- At — actinolite
- Fe — iron carbonate
- Ag — argillite (graphite)
- Cp — chalcopyrite

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- 095 80 — L3 — PHASE-THREE INTERSECTION LINEATION
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- PHASE-ONE, ANTIFORMAL, SYNFORMAL AXIAL TRACE
- GEOLOGICAL CONTACT
- INFERRED GEOLOGICAL CONTACT
- FAULT

ONTARIO GOLD JOINT VENTURE

NORTHERN DYNASTY EXPLORATIONS LTD.

ARSENO LAKE CLAIM BLOCK **(WEST-HALF)**

GEOLOGY

NTS : 53B/14 , KEEYASK LAKE G-2085

SCALE 1:5,000

metres 100 50 0 100 200 300 400 500 600 metres

feet 500 250 0 500 1000 1500 2000 2500 feet

JULY - OCTOBER 1987 , JUNE-JULY 1988

PLATE 1