REPORT ON
GEOLOGY AND GEOCHEMISTRY
ON THE
LIZARD GROUP

LIZARD 276(10), DINOSAUR 277(10), DIPLODOCUS 866(5) &
CRINOSAURUS 867(5) CLAIMS
ALBERNI MINING DIVISION
N.T.S. 92F/2
Latitude 49°8.5'N Longitude 124°40.5'W

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Noranda Exploration Company, Limited (no personal liability)
January 10, 1988

Owner : Umex Inc.

Operator: Noranda Exploration Company, Limited (no personal liability)

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1.0 INTRODUCTION

The Lizard project described in this report encompasses work performed by Noranda Exploration Company, Limited (no personal liability) (hereinafter called "Noranda") during the year 1987 relevant to the Lizard Group of claims.

1.1 Location

The Lizard group of claims is located 15 km southeast of Port Alberni, B.C. between Patlicant Mountain and Douglas Peak (Figure 1). The centre of the claim group is at latitude 49°8.30'N, longitude 124°40.30'W on N.T.S. map 92F/2.

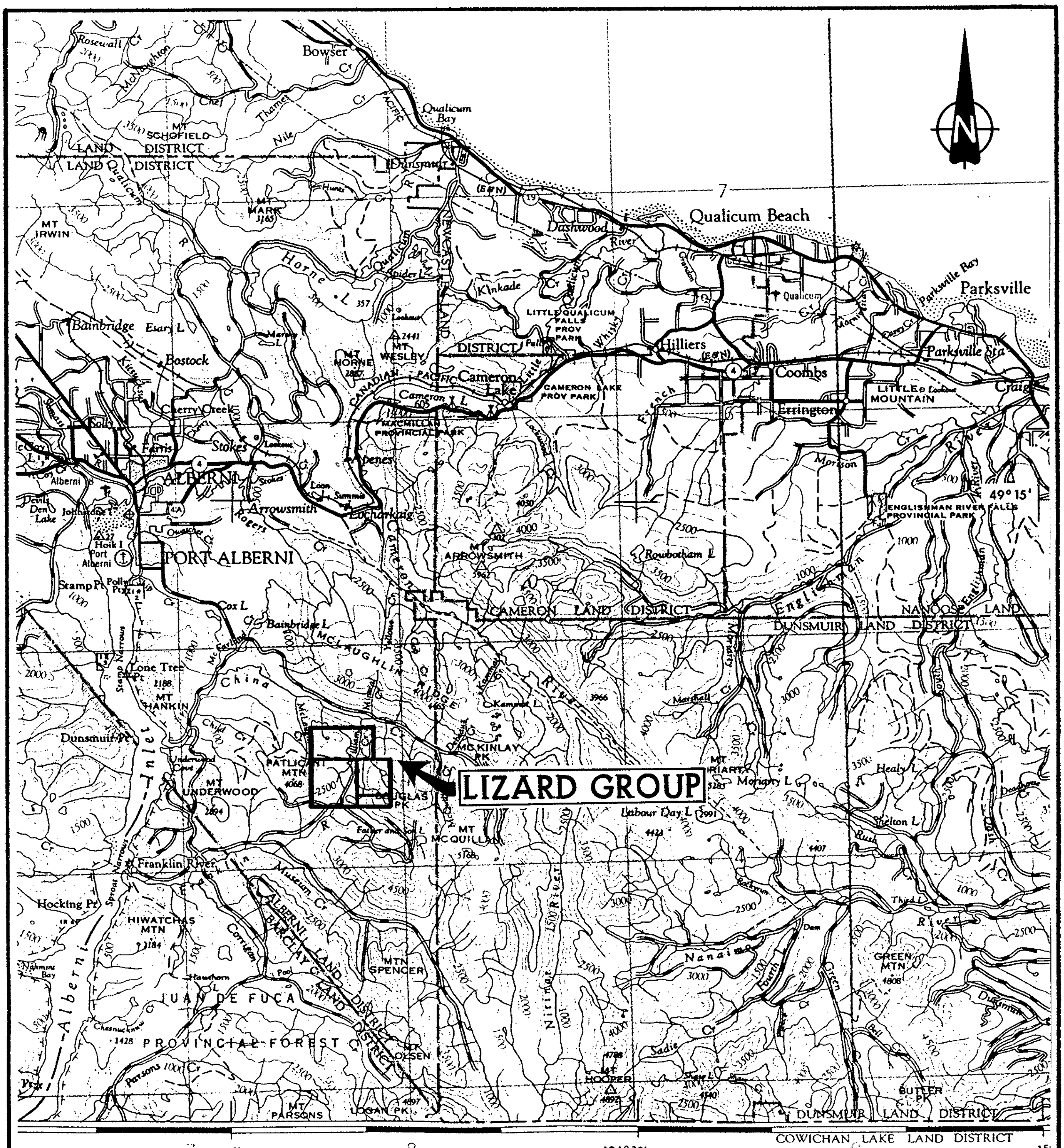
1.2 Access

The Lizard property can be reached by two different routes from MacMillan Bloedel's Cameron Lake divisional office at Port Alberni, B.C. The first route follows Franklin, Thistle and Lizard Mains respectively to Lizard Lake in the centre of the claim group. The second route follows China Creek and Duck Main to Duck Lake on the eastern edge of the property. Travel time from Port Alberni to the property by either route is approximately 30 minutes.

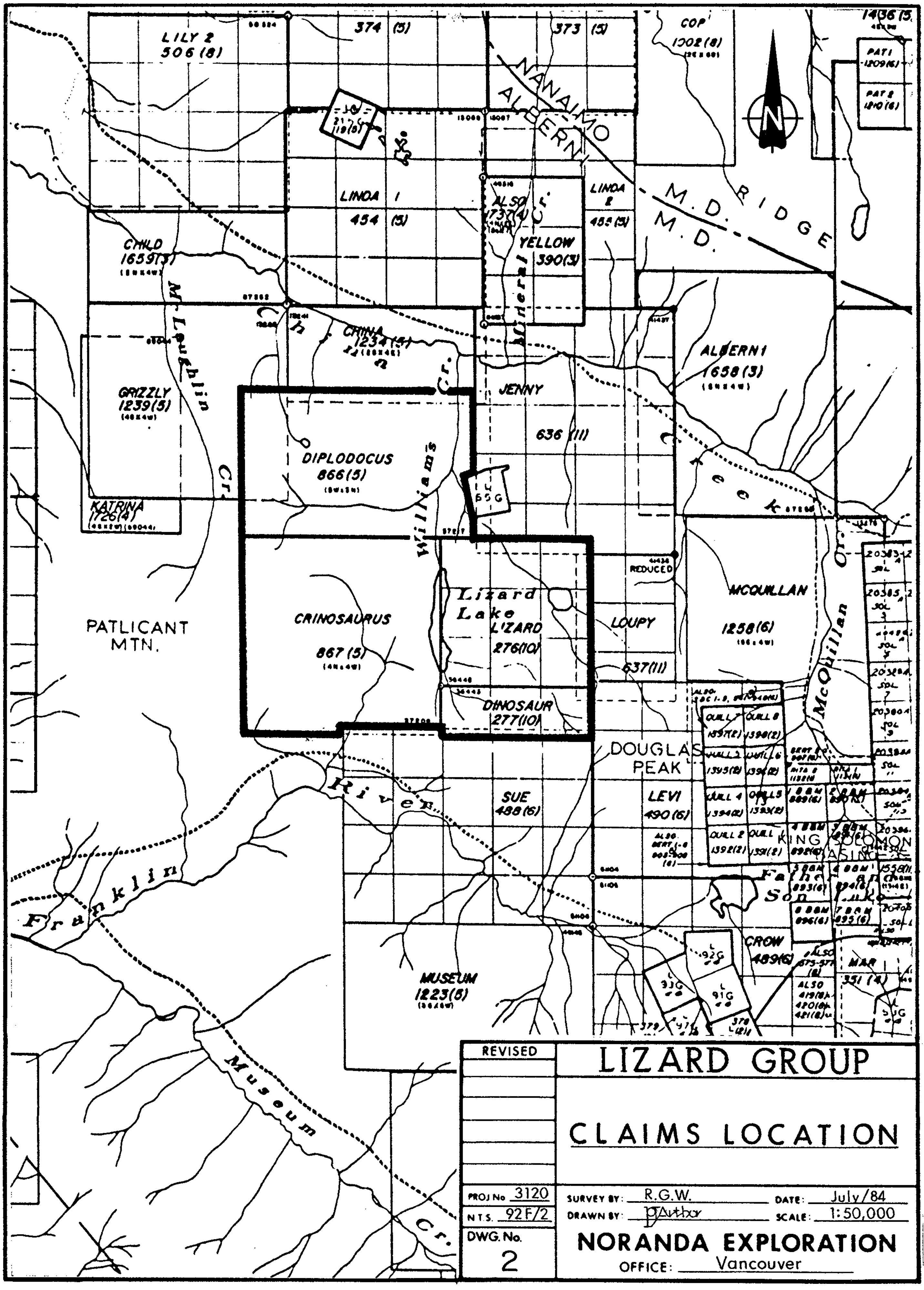
1.3 Property Description

The Lizard Group, situated in the Alberni Mining Division, is comprised of the following claims (Figure 2):

NAME	RECORD NO.	UNITS	EXPIRY DATE
Lizard	276 (10)	9	Oct. 16, 1991
Dinosaur	277 (10)	3	Oct. 16, 1994
Dipludocus	866 (5)	15	May 20, 1991
Crinosaurus	867 (5)	16	May 20, 1991



REVISED	LIZARD GROUP
	LOCATION MAP
PROJ.No. 3120	SURVEY BY: R.G.W. DATE: July/84
N.T.S. 92F/2	DRAWN BY: [signature] SCALE: 1:250,000
DWG. No. 1	NORANDA EXPLORATION OFFICE: Vancouver


LILY 2
506 (8)
374 (5)
373 (5)
COP
1302 (8)
PAT 1
1209(6)
PAT 2
1210(6)
NANAIMO
ALBERNI
M.D.
RIDGE
M.D.
LINDA 1
454 (5)
ALSO
737(4)
LINDA 2
455 (5)
YELLOW
390(3)
CHILD
1659(3)
McLaughlin Cr.
Mineral Cr.
China Cr.
CHINA
1234(5)
GRIZZLY
1239(5)
ALBERNI
1658 (3)
JENNY
636 (11)
DIPLODOCUS
866(5)
Williams Cr.
KATRINA
1726(4)
Creek
REDUCED
Lizard Lake
LIZARD
276(10)
CRINOSAURUS
867 (5)
LOUPY
637(11)
MCQUILLAN
1258(6)
McQuillan Cr.
PATLICANT
MTN.
DINOSAUR
277(10)
DOUGLAS
PEAK
River
SUE
488 (6)
LEVI
490 (6)
KING SOLOMON
BASIN
Franklin
Father and Son Lake
CROW
489(6)
MUSEUM
1223(5)
MAR
351 (4)
Museum Cr.
REVISED
LIZARD GROUP
CLAIMS LOCATION
PROJ No 3120
N.T.S. 92F/2
DWG. No.
2
SURVEY BY: R.G.W.
DRAWN BY:
DATE: July/84
SCALE: 1:50,000
NORANDA EXPLORATION
OFFICE: Vancouver

Noranda is the current operator and has earned 51% interest in the Lizard group with Umex Inc. the owner retaining a 49% interest. Addresses of the owner and operator are shown below.

<u>OPERATOR:</u> Noranda Exploration Company, Limited
P.O. Box 2380,
Vancouver, B.C.
V6B 3T5

<u>OWNER :</u> Umex Inc.,
P.O. Box 22,
Sun Life Tower,
150 King Street West,
Toronto, Ontario
M5H 1J9

1.4 Topography

The Lizard Group is situated on the lower slopes of two mountains with Lizard Lake trending north-south, central to the claims. The slope west of Lizard Lake rises gently contrasting with a very steep eastern slope. The bulk of the claim group lies above 720 m (2360') and the highest area reaches 1160 m (3800').

1.5 Physiography

The Lizard Lake area lies within the Vancouver Island Ranges section of the Vancouver Island Mountains subdivision of the Insular Mountains physiographic zone.

The area is 75% logged with both juvenile forests and recently planted second growth areas. Underbrush in logged areas is generally low and foot travel is relatively good. The mature timber stands occur on the steepest slopes and these areas have virtually no underbrush.

Outcrop exposure on the property is highly variable, ranging from less than 5% on flat ground to over 5% on some steeper slopes.

1.6 Climate

Climatically the area is classified as Coastal Rain Forest and although heavy rain can be expected at any time during the year, July and August are the dryest months. Snow accumulations of about 1 m can be expected from December to March.

1.7 Local Resources

Lizard Lake is in the watershed for the City of Port Alberni. A dam was constructed by the City of Port Alberni to raise the water level of Lizard Lake approximately 4 m to a new high water level of 732 m (2,401') elevation asl. With the completed dam, Lizard Lake is now Port Alberni's secondary water reservoir. The elevated water level has not affected access to the property.

1.8 History

There has been interest in the area since 1898 when the Regina Crown Grant (L55G) was established by the Alberni Gold Development Syndicate on the north-west boundary of the property. A trail to the property and a cabin was built but no other early work was recorded. A new owner began work in 1930 on 5 adits, 1 shaft and an open cut. Several Au-Ag showings were established but no production was recorded.

Little is known of the area until 1971 when Nippon Mining of Canada Limited completed geological mapping and soil sampling of an area near the southern boundary of the Lizard group. No assessment work appears to have been filed.

In 1976 the area was regionally mapped by Western Mines Ltd., now Westmin Resources Ltd. The present claims were staked by Umex Inc. in 1978 as a result of a regional programme designed to evaluate the Sicker Volcanics for their massive sulphide potential.

Regional soil geochemical surveys carried out by Umex Inc. in 1979 and 1980 outlined a number of strong gold anomalies. Backhoe trenching totalling 305 m was done in the fall of 1980 to determine the source of the anomalies. Trenching results were inconclusive, and additional soil sampling was done in 1981-82 to confirm and further define the anomalies. E.M. 16 and E.M. 16R surveys were carried out in 1981 over the main anomalies. Again results were generally inconclusive.

No work was carried out in 1982. In 1983 Noranda optioned the property, and completed I.P. and magnetometer geophysical surveys in conjunction with very detailed soil geochemistry.

In early 1984 the property was geologically remapped to provide better control for a diamond drill programme which commenced later that spring. Five holes totalling 544.4 m of diamond drilling was completed.

In 1985 a programme of gridding; soil sampling; geological mapping; VLF, magnetometer, HLEM, and I.P. geophysical surveying; and three holes totalling 318.5 m of diamond drilling was completed.

No work occurred on the property in 1986.

Six assessment reports have been written on the Lizard group. The Ministry of Energy, Mines and Petroleum Resources has assigned numbers 7719, 8568, 8981, 10401, 12664 and 13214 to reports on the property.

1.9 Personnel

The 1987 Lizard project was staffed by Noranda personnel. Below are listed all field staff for the 1987 programme:

NAME	TITLE
Pete Bland	Prospector
Dennis Bull	Geologist
Darren Frew	Geologist - Field Party Chief
Derek Lewis	Field Assistant
Terry McIntyre	Geologist
Bruce Northcote	Field Assistant
Ivor Saunders	Senior Field Technician
Rob Wilson	Project Geologist

Overall office supervision was by Gavin Dirom - District Geologist, Southern Cordillera District.

2.0 SUMMARY OF WORK DONE

2.1 Line Cutting

A cut grid was established to provide control for all future surveys. Baselines were cut to a 1 metre width along a direction of 155° - 335° azimuth. Cross lines at 100 m and 200 m intervals were slashed to line of sight along directions 065° - 265° azimuth. Stations were established at 25 m intervals using both pickets and orange and blue flagging. A total of 7.275 km of baseline and 45.425 km of crossline was established.

2.2 Geology

Geological mapping at a scale of 1:2,500 was completed along roads, creek beds and along grid lines covering an area of approximately 1.11 square kilometers.

2.3 Geochemistry

A geochemical survey consisting of soil and rock chip sampling was completed on the Lizard Group. The total number of samples are listed below:

Soils: 1842 samples analyzed for Cu, Ag, Au, As

Rocks: 79 samples analyzed for Cu, Ag, Au, As

2.4 Claims Worked

The 1987 surveys were conducted over the Dinosaur, Diplodocus and Crinosaurus claims. Grid construction and geochemical sampling occurred on all three claims while geological mapping was mainly restricted to the Diplodocus claim.

3.0 DETAILED TECHNICAL DATA

3.1 Geology

3.1.1 Purpose

Geological mapping at a scale of 1:2,500 was completed over that part of the property not previously mapped at this scale. The mapping was completed to define the geology and structure of the property and was done in conjunction with soil geochemical sampling to help interpret the geochemical results.

3.1.2 Regional Geology

The Lizard Lake area has been mapped by J.E. Muller and J.T. Carson (G.S.C. Paper 68-50) with revisions by J.E. Muller (G.S.C. Paper 79-30) to be underlain by Devonian and/or older Nitnat +/- Myra Formations of the Sicker Group and Upper Triassic Vancouver Group Karmutsen Formation.

The Karmutsen Formation, consisting of pillow-basalt, pillow-breccia, massive basalt flows and minor tuff volcanic breccia underlies the Lizard claims west of Lizard Lake.

The Sicker Group consists of the basal Nitnat Formation, Middle Myra Formation and upper sediment sill unit or Buttle Lake Formation. The following descriptions are in part after and in part condensed from J.E. Muller's paper on the Sicker Group, G.S.C. Paper 79-30; The Paleozoic Sicker Group of Vancouver Island, British Columbia, (1980). The reader is referred to this paper for fuller, more concise descriptions of the Sicker Group rocks. The Lizard claims are underlain by the Nitnat, Myra and Buttle Lake Formations east of Lizard Lake.

The Nitnat Formation, which is predominantly basic volcanic rocks is the oldest member of the Sicker Group. It is mainly basaltic flows, flow-breccias, tuffs and rarely pillowed. The rocks are described as "metabasaltic lavas, pillowed or agglomeratic, commonly with large conspicuous uralitized (actinolite pseudomorph of diopside) pyroxene phenocrysts and amygdules of quartz and dark green minerals; minor massive to banded tuff".

Metamorphism is generally lower greenschist facies to occasionally amphibolite grade (near intrusions). The most common alteration assemblage is epidote-actinolite-chlorite-albite. The Nitnat volcanics are shear folded with steeply dipping axial planes and foliated and lineated metamorphic fabrics. Alignment of fibrous and platy minerals are seen parallel to the plane of foliation.

The base of the Nitnat Formation is not well known but is thought to be gabbroic rocks that partly intrude and underlie it. The thickness of the Nitnat is estimated to be around 2,000 m.

The Myra Formation, which is a thick succession of basic to rhyodacitic bedded volcanic and sedimentary rocks, overlies the Nitnat with possible minor unconformity and is the second oldest member of the Sicker Group.

The Myra Formation can be divided into four stratigraphic sections. The base of the Myra is defined as being the first appearance of bedded volcaniclastic rocks. The basal section is maroon and green volcaniclastic greywacke, grit and breccia which displays a crude layering. Occasionally this section contains lenses, layers and fragments of jasper. The maroon and green breccia is succeeded by a section of widely banded basaltic tuff and breccia which may be reworked volcanics. These tuffs and breccias are overlain by light and dark thinly banded petitic albite-trachyte tuff and argillite that appear to be graded greywacke-argillite turbidite sequences. The uppermost section of the Myra is a thick bedded, medium grained albite-trachyte tuff and breccia.

The Myra Formation is the host for the Buttle Lake Kuroko type massive sulphide deposit and is estimated to be between 750 to 1000 m thick in the Cameron River Valley.

The two uppermost divisions of the Sicker Group are the Sediment-Sill unit and the Buttle Lake Formation. The main rocks of the uppermost divisions are limestones and clastic sediments of argillite, siltstone, chert, greywacke and calcarenite plus or minus intruded sills of plagioclase diabase.

Sections containing calcareous beds with or without interbedded argillite and greywacke are called Buttle Lake Formation. Sections of interbedded argillite and siltstone without the carbonate but interlayered with basic sills are called the Sediment-Sill unit.

The exact stratigraphic sequence and relationship of these two divisions is not well understood except to say that one or the other generally overlies the Myra Formation and forms the top of the Sicker Group sequence. Only the Buttle Lake Formation occurs on the Lizard claims.

The structure of the Sicker Group has not been studied in detail but involves asymmetric folding, normal to transcurrent faulting and repeated intrusions. Following a middle to late Paleozoic Formation, major folding and dynamothermal metamorphism occurred with plutonism during the Jurassic. Major faulting in the Tertiary affected not only the Sicker Group but also the overlying Triassic Vancouver Group volcanics and Upper Cretaceous Nanaimo Group sediments. Intrusive activity occurred during the Devonian, late Triassic, early Jurassic, and early Tertiary times.

Two northerly trending faults have been mapped over the claim group, one centering on Lizard Lake and Williams Creek and one on the eastern edge of the claim group. Ground evidence for the eastern fault has not been seen by the writer and the fault location is assumed to be interpretations based upon airphoto lineations.

3.1.3 Property Geology

During August 1987, 15 days were spent by D.R. Bull geological mapping and rock sampling. Additional rock samples were collected by C.D. Frew, R.G. Wilson and P. Bland.

Mapping was completed along logging roads and in creek beds, as these generally offer the best outcrop exposures. In addition, several mapping traverses were performed on grid lines to the northwest of Lizard Lake.

Outcrop locations, geological rock types and rock sample geochemistry results are shown on Figures 4-2, 4-3, 4-5 and 4-6 (1:2,500).

Lithologies

1a) Siliceous Volcanic

Exposed in the lower part of Williams Creek, this unit appears to be lowest in stratigraphic section. It is probably part of the Nitinat Formation of the Sicker Group.

This siliceous volcanic is very fine grained, porphyritic in part, with phenocrysts of plagioclase feldspar up to 1 mm. The fine grained groundmass exhibits flow textures. Fresh surfaces are chloritic green, weathered surfaces are greenish grey. Deformed pillow structures with quartz in-filling between the pillows are exposed in some outcrops. Some tuffaceous horizons were also observed. Quartz-epidote veins up to 5 cm wide are quite common, minor quartz-carbonate veinlets with minor pyrite in small cubes and blebs were also observed.

1b) Pebble Conglomerate

Exposed in West Creek, and on the south side of the road immediately south of, and parallel to, West Creek. The stratigraphic relationship of this unit is at present uncertain, as in the field, it appeared to be a volcanic agglomerate associated with the Sicker Group rocks. However, thin section studies indicate that this unit is sedimentary with rounded pebbles of various lithologies (mafic volcanics, sandstones and siltstones, quartz) in a fine grained matrix of silt, clays and carbonate, with minor pyrite.

In a recent geological interpretation Sutherland-Brown (GSC Open File 1272) has suggested that this unit may be part of the Cretaceous Comox Formation. In the location in which this unit was mapped, it is topographically lower than Vancouver Group Karmutsen Formation basalts. However, it may be stratigraphically higher than the Karmutsen and could therefore be part of the Comox Formation sedimentary rocks. Further study is necessary in order to clarify these relationships.

1c) Porphyritic Intermediate to Mafic Volcanic

Observed in only one outcrop, in a road section south of West Creek, this unit is believed, because of its location, to be part of the Sicker Group.

The rock is composed of massive flows of a very fine grained groundmass of plagioclase and mafic minerals, too small to identify optically, with phenocryst of plagioclase up to 5 mm and glomerophenocrysts up to 2 mm across. It is pervasively fractured, with fillings of quartz and sericite.

1d) Intermediate Volcanic

This unit is exposed in West Creek, Duck Creek, and in the upper part of Williams Creek. It is a very fine grained intermediate volcanic, mostly crystalline tuffs which in some outcrops contain phenocrysts of hornblende 2~5 mm long. Interbedded with the tuffs are flows, which are generally equigranular but occasionally porphyritic, and deformed pillow lavas with fine grained quartz in-filling around the pillows.

Fresh surfaces are chloritic green to black in some outcrops, greenish grey in others. The rock weathers greenish grey to black, and rusty brown. This unit is believed to be part of the Sicker Group.

2a) Mafic Volcanic

Exposures of this unit were found in outcrops on the hills to the north and south of West Creek, also in roadcuts along the Lizard main logging road to the southwest of Lizard Lake.

This fine grained to very fine grained mafic volcanic forms massive flows up to several metres thick, and pillow lavas with quartz in-filling around the pillows.

Fresh surfaces are dark grey-green to dark chloritic green. Weathered surfaces are dark greenish grey and buff to dark rusty brown.

The rock is quite pervasively fractured, with Fe and Mn staining throughout, some fractures are filled with quartz-epidote. This unit has the typical appearance of Karmutsen Formation basalts of the Vancouver Group.

2b) Intermediate to Mafic Volcanic

Outcrops of this unit were mapped on the hills to the north and south of West Creek.

This very fine grained intermediate to mafic volcanic forms massive flows and pillow lavas with in-fillings of quartz-epidote around the pillows. Fresh surfaces are dark greenish grey, weathered surfaces are dark grey to rusty brown. The rock is quite fractured with quartz-epidote fracture fillings.

Because of its observed lithological characteristics and location, this unit is believed to be a more intermediate phase of the Karmutsen Formation.

2c) Intermediate Volcanic

Observed in outcrops on the hills to the north and south of West Creek, this very fine grained intermediate volcanic is comprised of interbedded tuffs and deformed pillow lavas with minor pyroclastic breccias.

Fresh surfaces are medium to light chloritic green, weathered surfaces are buff to grey in colour.

Fine grained quartz in-filling surrounds the pillow structures, and aids in their identification. The pyroclastic breccias consist of very irregular angular to sub-angular fragments of granule to pebble size intermediate volcanic fragments, in a very fine grained tuffaceous matrix.

As with Unit 2b, Unit 2c is believed to be an intermediate phase of the Karmutsen Formation.

Structure

Geological mapping in Williams, West and Duck Creeks revealed fault zones, most of which are sub-parallel to the trends of their respective creeks. Minor secondary fault zones were also observed in the creeks, the orientations of these are variable.

The Williams Creek fault zone is part of a much larger linear feature which extends for at least 4 km both north and south of the area mapped. This linear feature has been interpreted (Muller GSC Paper 68-50, Map 17-1968, Sutherland Brown et al. GSC Open File 1272) as a fault zone with left lateral strike slip movement. This sense of movement was confirmed by mapping done in Williams Creek by this author.

The fault zone mapped in Williams Creek has a strike of 170° +/- 10°. Dips vary between 45°E and 70°W but are generally sub-vertical. The width of the fault zone was difficult to determine, due to cover, but was estimated to vary between 3 and 10 metres.

Fault zones mapped in West Creek have strikes of 120° +/- 20° and dips of between 40°N and 60°N. The width of these fault zones were, again, difficult to determine, but are probably no more than 3 m.

In Duck Creek, two sets of fault zone orientations were observed. The first set, with a strike of between 106° and 173° and dips of 80°E to vertical, approximates the course of the creek bed. The second set with strikes of between 045° and 025° and dips of 80°S to vertical cuts across the creek and is interpreted as being a separate generation from the first.

Across the area mapped, joint plane orientations were measured and noted wherever they were observed. The major joint plane orientation in the area mapped strikes approximately east-west and is sub-vertical. The cause of this dominant joint plane orientation is uncertain, but may be related to the north-south trending Williams Creek fault. Once again, more detailed mapping and further geological studies of the area are required.

Southwest of Lizard Lake, in the ditch along the east side of the Lizard main logging road, another fault zone was observed. This fault zone, which is no more than 2 m wide, displays evidence of both ductile and brittle deformation, with brecciation quite common. The zone strikes between 027° and 040° and dips eastward between 60° and 80°.

A second fault zone was observed in outcrop just north of a south verging "Y" junction (Figure 4-5). This fault zone strikes 088° and is approximately vertical. The rock within this fault zone has a burled texture, and looks as though it has been rolled around considerably during ductile/brittle deformation process.

Hydrothermal Alteration and Mineralization

All of the fault zones in Williams, West, and Duck Creeks, as well as the zone beside the Lizard main road show varying degrees of hydrothermal alteration.

The hydrothermal alteration takes the form of leaching, silicification and carbonatization, often with sericitization and reduction of previously existing rocks to clays and iron oxides and hydroxides. Sulfide mineralization, mostly pyrite with minor chalcopyrite, was observed in some alteration zones, but was generally minor, being approximately 1% total sulfides. Exceptions to this, in zones mapped by this author, were as follows: An alteration zone in Williams Creek (sample R-17301, Figure 4-2) contained narrow quartz veins with up to 20% pyrite. An alteration zone in Williams Creek (sample R-17303, Figure 4-2) contained ribbon quartz and 1~5% pyrite. An alteration zone with quartz-carbonate fracture fillings in Duck Creek (sample R-17316, Figure 4-2) contained approximately 5% pyrite. An alteration zone in Duck Creek (sample R-17319, Figure 4-6) contained secondary calcium carbonate and 10% sulfides consisting mostly of pyrite with minor chalcopyrite.

3.2 Geochemistry

3.2.1 Purpose

Soil geochemical sampling was completed within the gridded area. Property sampling at 100 x 25 m and 200 x 25 m sample spacing (Figures 5-12) was completed to check and better define anomalous trends outlined by past (Umex) regional sampling.

3.2.2 Techniques

Both soil and rock samples were collected during the Lizard geochemical survey. B horizon soil samples were collected from 25 cm deep mattock dug holes and placed in brown Kraft bags. These soil bags were partly air dried prior to being packed for shipment. Rock samples were either collected as whole grab samples or as rock chip samples across a measured width and placed in 6 mil poly bags for shipment.

A total of 1842 soil and 79 rock samples were collected on the Lizard group and sent for analysis to Noranda's geochemical laboratory at 1050 Davie Street, Vancouver, B.C. Appendix l is a flow sheet of the analytical techniques of analysis used by the Noranda laboratory. Appendix ll is a list of all rock samples collected together with their rock types and geochemical results.

3.2.3 Results - Gold

All soil samples taken were analyzed for gold (Figure 5). The lower limit of detection is 10 ppb. The interpretive results are displayed in "value magnitude" or "bullseye" format where increasing value ranges are assigned larger diameter circles (Figure 6). This form of interpretative plot has the advantage that there is no bias for contouring direction and tends to filter spurious highs and lows.

Gold results show several sporadic high values which can be correlated with lower order anomalies on adjoining lines. Other isolated gold highs may be spurious and will require ground checking, resampling and possibly detail sampling. There are few distinct zones of anomalous gold values, unlike anomalies from previous surveys.

3.2.4 Results - Arsenic

All soil samples taken were analyzed for arsenic (Figure 7). Two background values of arsenic are recognized, apparently reflecting different underlying lithologies. Background levels east of the Lizard Lake - Williams Creek fault range between 14 and 24 ppm As and is thought to reflect areas underlain by Sicker Formation. The background west of the fault is 1 ppm As, and is thought to reflect areas underlain by Karmutsen Formation. Three distinct anomalous As zones can be recognized from the value magnitude plot for arsenic (Figure 8). One zone on the N.E. corner of the grid is a continuation of the zone defined by previous sampling. The zone which is open to the east and at least 100-125 m wide extends from L.123+00N to L.128+00N. A second shorter and parallel zone 100 m west of the first extends from L.126+00N to L.128+00N and is between 50 and 125 m wide. The third zone occurs on the west edge of the grid from L.116+00N to L.120+00N. This zone is up to 300 m wide and trends off the grid to the S.W.

A number of one and two line anomalies exist but are of lower magnitude and occur within the Karmutsen (?) region of the lower background. Ground checks will be required to determine if these apparent anomalies are real or reflect windows to underlying Sicker Formation (?).

3.2.5 Results - Copper

All soil samples taken were analyzed for copper (Figure 9). The background range of 14-60 ppm Cu is lower than expected for soils underlain by Karmutsen volcanics. There are also no significant Cu anomalies save for a few spot highs to 460 ppm Cu. The value magnitude plot (Figure 10) for Cu shows a few one or two line anomalies requiring minimal follow-up.

3.2.6 Results - Silver

All soil samples taken in 1987 were analyzed for silver (Figure 11), however, in previous years sampling silver was not consistently analyzed. Background for silver is 0.2 ppm Ag and values equal to or greater than 1.0 ppm are considered anomalous. Minor spot anomalies to 3.0 ppm Ag occur sporadically across the grid but no major anomalous zones are noted.

The value magnitude plot (Figure 12) for Ag shows limited areas of anomalous Ag values and no distinct zones of silver enhancement.

3.2.7 Rock Geochemistry Results

Rock samples were taken from all of the hydrothermal alteration zones observed during the course of the geological mapping were taken and geochemical analysis was performed for Cu, Ag, Au, As. Rock sample locations and results of geochemical analyses are shown in Figures 4-2, 4-3, 4-5 & 4-6.

From these results, two trends are apparent:

1) Alteration zones with quartz or quartz-carbonate veins, accompanied by increased sulfide content coincides with increased values for Cu, Ag, Au, As.

2) Generally, increased values for Cu, Ag, Au & As are coincident.

4.0 INTERPRETATION

4.1 Geological Interpretation

On the basis of the limited amount of geological data collected during a relatively short time spent mapping on the property, the following preliminary interpretation is offered. As previously stated, more data and study is required, in order to further complete the geological picture of the property.

Units 1a, 1c, and 1d are siliceous, siliceous to intermediate, and intermediate volcanics respectively. For the reasons described above, these are believed to belong to the Sicker Group. Unit 1b, a pebble conglomerate, was originally thought to be a volcano-agglomerate member of the Sicker Group. However, thin section studies suggest that this is a pebble conglomerate which may belong to the Cretaceous Comox Formation, as proposed by Sutherland Brown (GSC Open File 1272)

Units 2a, 2b, and 2c are mafic, intermediate to mafic and intermediate respectively flow lavas, pillow lavas and tuffs of the Vancouver Group Karmutsen Formation of Triassic age and older.

The major fault zones in Williams, West, and Duck Creeks have, for the most part, controlled the courses of those creeks. Left lateral strike slip motion in the Williams Creek fault zone was confirmed during mapping. Amount of displacement along the Williams Creek fault is unknown, but may not have been very much, as lithologies do not appear to change across the fault.

4.2 Geochemical Interpretation

The 1987 soil geochemical programme defined N to NNE trending weak, Au, Ag, Cu, As zones which contain spot high geochemical anomalies. A weak to moderate correlation exists between anomalous Au, As and Cu geochemical values. With the exception of the north east corner and central west side of the grid these zones are lower in magnitude and smaller in size than anomalies derived from previous sampling.

The north-east corner is an extension from L.122+00N to L.133+00N of the zone previously defined by anomalous Au and As between L.117+00N and L.122+00N. The zone, which is open to the north and east, lies within regionally mapped Sicker Group rocks. Detailed mapping has not been completed in this area.

The central west zone is an arsenic-silver anomaly extending from L.120+00N to L.116+00N and trending off the grid to the SW. This area has not been mapped in detail but lies at the base of slope near a regionally mapped Karmutsen-Tertiary Intrusive contact.

5.0 CONCLUSIONS

The following conclusions may be stated as a result of the 1987 Lizard programme:

- In that part of the property mapped, rock types observed were; siliceous to intermediate volcanics, probably of the Sicker Group, intermediate to mafic volcanics, probably of the Karmutsen Formation, and a pebble conglomerate of uncertain affinity.

- Fault zones, often with evidence of hydrothermal alteration, were identified and sampled. Several rock samples were anomalous in Cu, Ag, Au, & As.

- Anomalous values in rock samples appear to coincide with quartz-carbonate veining and visible sulfides in the alteration zones.

- Two zones of anomalous soil geochemistry are recognized from 1987 soil sampling.

- The northeast zone is a Au, Ag, Cu, As anomaly with a strike length of 800 m and is open to the northeast.

- The west central zone is a Ag, As anomaly with a strike length of 400 m and is open to the west.

- Several lower level and one line soil anomalies exist which require more detailed sampling.

APPENDIX I

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyses geological materials by the Noranda Geochemical Laboratory at Vancouver.

Preparation of Samples:

Sediments and soils are dried at approximately 80°C and sieved with a 80 mesh nylon screen. The -80 mesh (0.18 mm) fraction is used for geochemical analysis.

Rock specimens are pulverized to -120 mesh (0.13 mm). Heavy mineral fractions (panned samples * from constant volume), are analysed in its entirety, when it is to be determined for gold without further sample preparation.

Analysis of Samples:

Decomposition of a 0.200 g sample is done with concentrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. Pulps of rock or core are weighed out at 0.4 g and chemical quantities are doubled relative to the above noted method for digestion.

The concentrations of Ag, Cd, Co, Cu, Fe, Mn, Mo, Ni, Pb, V and Zn can be determined directly from the digest (dissolution) with a conventional atomic absorption spectrometric procedure. A Varian-Techtron, Model AA-5 or Model AA-475 is used to measure elemental concentrations.

Elements Requiring Specific Decomposition Method:

Antimony - Sb: 0.2 g sample is attacked with 3.3 ml of 6% tartaric acid, 1.5 ml conc. hydrochloric acid and 0.5 ml of conc. nitric acid, then heated in a water bath for 3 hours at 95°C. Sb is determined directly from the dissolution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0.2 - 0.3 g sample is digested with 1.5 ml of perchloric 70% and 0.5 ml of conc. nitric acid. A Varian AA-475 equipped with an As-EDL is used to measure arsenic content in the digest.

Barium - Ba: 0.1 g sample digested overnight with conc. perchloric, nitric and hydrofluoric acid; Potassium chloride added to prevent ionization. Atomic absorption using a nitrous oxide-acetylene flame determines Ba from the aqueous solution.

Bismuth - Bi: 0.2 - 0.3 g is digested with 2.0 ml of perchloric 70% and 1.0 ml of conc. nitric acid. Bismuth is determined directly from the digest with an AA-475 complete with EDL.

Gold - Au: 10.0 g sample is digested with aqua regia (1 part nitric and 3 parts hydrochloric acid). Gold is extracted with MIBK from the aqueous solution. AA is used to determine Au.

Magnesium - Mg: 0.05 - 0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the range of atomic absorption. The AA-475 with the use of a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentration.

Uranium - U: An aliquot from a perchloric-nitric decomposition, usually from the multi-element digestion, is buffered. The aqueous solution is exposed to laser light, and the luminescence of the uranyl ion is quantitatively measured on the UA-3 (Scintrex).

N.B.: If additional elemental determinations are required on panned samples, state this at the time of sample submission. Requests after gold determinations would be futile.

LOWEST VALUES REPORTED IN PPM:

Ag - 0.2	Mn - 20	Zn - 1	Au - 0.01
Cd - 0.2	Mo - 1	Sb - 1	W - 2
Co - 1	Ni - 1	As - 1	U - 0.1
Cu - 1	Pb - 1	Ba - 10	
Fe - 100	V - 10	Bi - 1	

EJvL/ie

APPENDIX II

ROCK DESCRIPTIONS AND RESULTS

NORANDA EXPLORATION COMPANY, LIMITED.

N.T.S. 92F/2

PROJECT LIZARD

DATE August '8

PROJECT # 174

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH	ASSAYS Cu	Ag	Au	As	Sampled By
R-17293	Layered ankeritic quartz-calcite body.	<5%	GRAB		36	0.2	5	24	C.D.F.
R-17294	Altered limonitic clayey layer, fault gouge?	NIL	GRAB	1m	16	0.2	5	14	C.D.F.
R-17295	Altered quartz vein, ankerite clay.	NIL	GRAB	0.3m	244	1.2	5	90	C.D.F.
R-17296	Ankeritic vuggy quartz vein.	<5%	GRAB	0.1m	296	0.6	5	8	C.D.F.
R-27527	Medium grey intermediate tuff.	65%		0.11m	20	0.4	5	6	
R-27528	Buff-coloured, altered quartz vein.	NIL	CHIP	0.28	12	0.2	5	2	
R-27529	Altered ankeritic quartz vein.	<5%	CHIP	0.22m	14	0.4	5	14	C.D.F.
R-27530	Ankeritic chert breccia.	5%	CHIP	0.39m	136	0.4	5	36	D.A.L.
R-27531	Altered quartz/calcite volcanic (?)	NIL	CHIP	0.15m	470	0.4	5	34	
R-27532	Ankeritic altered intermediate tuff.	NIL	CHIP	0.27	184	0.4	5	20	
R-27533	Intermediate tuff unaltered.	RARE	CHIP	0.58	148	0.4	5	12	C.D.F.
R-27534	Intermediate tuff with quartz.	<5%	CHIP	0.34m	120	0.4	5	18	D.A.L.
R-27535	Intermediate tuff with chert.	NIL	CHIP	0.28m	50	0.2	5	8	
R-27536	Interbedded chert & intermediate tuff	<5%	CHIP	0.8m	166	0.2	5	12	
R-27537	Clayey altered intermediate tuff.	NIL	CHIP	0.5m	90	0.8	5	64	C.D.F. D.A.L.
R-27538	Pale grey chert	5%	CHIP	0.6m	32	0.2	5	24	
R-27539	Pale grey chert	<5%	CHIP	0.4m	80	0.2	5	10	

NORANDA EXPLORATION COMPANY, LIMITED.

N.T.S. 92F/2

PROJECT LIZARD

DATE August '8

PROJECT # 174

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH	ASSAYS Cu	Ag	Au	As	Sampled By
R-17278	Altered intermediate tuff	NIL	GRAB		120	0.2	10	44	C.D.F.
R-17279	Altered, rusty, siliceous tuff	NIL	GRAB	1m	140	0.2	10	140	C.D.F.
R-17280	Altered, rusty, siliceous tuff	NIL	GRAB	1m	90	0.2	10	1	C.D.F.
R-61565	Altered rusty (Tuff?)	NIL	GRAB	1m	94	0.2	10	1	
R-61566	Rusty quartz with barite	<5%	GRAB	3m	110	0.2	10	14	
Lizard trench 3	Pyritiferous quartz	50%	GRAB		150	6.0	3800	240	
R-17297	Ankeritic chert, intermediate tuff, calcite	<5%	GRAB	0.5m	630	10.6	5	8	C.D.F.
R-17298	Ankeritic altered intermediate tuff	5%	GRAB	0.5m	184	0.8	5	78	C.D.F.
R-17299	Ankeritic intermediate tuff, quartz & chert.	<5%	GRAB		190	0.6	5	58	C.D.F.
R-17300	Altered chert & intermediate tuff.	RARE	GRAB	0.1m	220	0.2	5	24	C.D.F.
R-27540	Ankeritc altered intermediate tuff.	RARE	GRAB	0.3m	148	0.4	5	34	C.D.F.
R-27541	Altered interbedded intermediate tuff and chert.	<5%	GRAB	0.5m	68	0.6	5	48	C.D.F.
R-27544	Altered ankeritic dark red jasper.	NIL	GRAB	Float	38	0.2	5	10	C.D.F.
R-27545	Aplite, occasional mariposite.	NIL	GRAB	2m	8	0.4	30	86	C.D.F.
R-17281	Medium grey felsite	<5%	GRAB		210	0.6	10	46	

NORANDA EXPLORATION COMPANY, LIMITED.

N.T.S. 92F/2

PROJECT LIZARD

DATE Oct. 10/8

PROJECT # 174

ROCK SAMPLE REPORT

GCI 5116

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH	ASSAYS Cu	Ag	Au	As	Sampled By
R-17282	Moderately altered diorite porphyry	NIL	GRAB	2m	14	0.2	5	18	C.D.F.
R-17301	Hydrothermally altered shear zone in siliceous volcanic.	<20%	GRAB		16	0.4	440	12	DRB
R-17302	Very fine grained chloritized siliceous volcanic tuff.		GRAB		54	0.2	5	10	DRB
R-17303	Fault zone in siliceous volcanic tuff. Py	1~5%	GRAB		530	4.8	160	20	DRB
R-17304	Boulder of chert & red jasper Py	<20%	GRAB		14	0.2	5	22	DRB
R-17305	Hydrothermally altered fault zone in Int. to mafic volcanic Py	<1%	GRAB		72	0.2	5	16	DRB
R-17306	Hydrothermally altered fault zone. Quartz veinlets Py	5%	GRAB		130	0.2	50	78	DRB
R-17307	Hydrothermally altered fault zone in Int. volcanic Py	<1%	GRAB		36	0.2	5	26	DRB
R-17308	Mariposite bearing hydrothermally altered tuff		GRAB		74	0.2	5	48	DRB
R-17309	Hydrothermally altered fault zone in Int. volcanic tuff Py	<<1%	GRAB		78	0.2	5	66	DRB
R-17310	As above.	<<1%	GRAB		36	0.2	5	32	DRB
R-17311	Rusty leached alteration zone in intermediate volcanic Py	1%	GRAB		82	0.2	5	80	DRB
R-17312	As Above Py	1%	GRAB	2 m	134	0.2	30	126	DRB
R-17313	Altered fault zone in intermediate volcanics. Py	1%	GRAB		120	0.4	5	84	DRB
R-17314	Rusty altered fault zone in intermediate volcanic		GRAB	1 m	88	0.2	5	16	DRB
R-17315	Fault zone with quartz-carbonate veining		GRAB	0-3 m	104	1.2	5	10	DRB
R-17316	Altered shear zone with quartz carbonate veining Py	5%	GRAB		76	5.8	400	2880	DRB

NORANDA EXPLORATION COMPANY, LIMITED.

N.T.S. 92F/2

PROJECT LIZARD

DATE Oct. 10/8

PROJECT # 174

ROCK SAMPLE REPORT

GCI 5116

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH	ASSAYS Cu	Ag	Au	As	Sampled By
R-17317	Altered fault zone with mariposite, C_aCO_3 Py	<1%	GRAB		110	0.2	140	2800	DRB
R-17318	Fault zone with quartz-carbonate veinelets		GRAB		10	0.2	5	20	DRB
R-17319	Fault zone with quartz-carbonate veinlets Py Cpy	10%	GRAB		5400	1.8	5	30	DRB
R-17320	Rusty altered fault zone in intermediate volcanic Py	1%	GRAB		100	0.2	5	78	DRB
R-17321	Altered fault zone, leached and C_aCO_3 Py	<1%	GRAB		26	0.2	5	70	DRB
R-17322	Altered fault zone in intermediate volcanic Py	<1%	GRAB		22	0.2	5	234	DRB
R-62680	Quartz veins in leached tuff	<1 %	CHIP	.3m	16	0.2	5	10	RGW
R-62681	Hydrothermally leached intermediate tuff Py	<1%	PANEL	2m	112	0.2	5	58	RGW
R-62682	Leached alteration zone in volcanic tuff Py	<1%	CHIP	1m	184	0.2	5	10	RGW
R-62683	Siliceous altered chloritic tuff	<1%	GRAB	-	94	0.2	5	98	RGW
R-62684	Hydrothermally altered fault zone in tuff	1-3%	CHIP	.3m	74	0.8	860	282	RGW
R-62676	Int. tuff, very minor limonite, no su's.	<1%	CHIP	.3m	16	0.2	10	6	RGW
R-62677	Soft, buff coloured tuff (frag. ghosts) with minor pods of 15-20% Py. Continuation from 62676	15-20%	CHIP	.4m	30	1.0	30	62	RGW
R-62678	Recessive weathering limonitic skarn zone of a shear with pods of 15-20% Py. Continuation from 62677	15-20%	CHIP	.6m	56	0.6	70	800	RGW
R-62679	Pod of massive (40-60%) pyrite with quartz and calcite veins (difficult obtain good sample).	40-60%	CHIP	.35m	360	2.2	120	98	RGW

NORANDA EXPLORATION COMPANY, LIMITED.

N.T.S. 92F/2

PROJECT LIZARD

DATE August '8

PROJECT # 174

ROCK SAMPLE REPORT

SAMPLE NO.	LOCATION & DESCRIPTION	% Sulph.	TYPE	WIDTH	ASSAYS Cu	Ag	Au	As	Sampled By
R-29607	Rusty clay rich altered fault zone Quartz-carbonate.		GRAB		82	0.2	5	76	P.B.
R-29608	Altered, leached zone of fine grained, int. volcanics.		GRAB		136	6.2	700	3860	P.B.
R-29609	Altered zone with $CaCO_3$, Mariposite (Py).	1%	GRAB		100	0.2	210	980	P.B.
R-29606	Altered zone, Rusty, Clays, CaC03.		GRAB		2380	0.6	5	32	P.B.
R-29604	Altered leached fault zone in int. volcanic (Py).	1%	GRAB		40	0.2	5	26	P.B.
R-29538	Rusty leached alteration zone $CaCO_3$ (Py)	1%	GRAB		152	0.2	5	76	P.B.
R-17284	Ankeritic/limonitic recrystallized quartz vein. Located @ 128+00N/113+55E	NIL	GRAB	2cm	26	0.2	5	8	C.D.F.
R-17285	Altered, interbedded quartz, chert & tuff fracture filling. Located @ 108+25N/92+25E	5%	GRAB	1m	940	4.4	5	76	C.D.F.
R-17286	As in R-17285 with less mineralization. Located @ 108+00N/92+20E	<5%	GRAB	1m	28	0.6	5	18	D.A.L.
R-17287	Altered quartz vein.	NIL	GRAB	5cm	14	0.4	5	4	C.D.F.
R-17288	Massive sulphides.	80%	GRAB	5cm	1320	4.0	780	130	C.D.F.
R-17289	Calcitic/ankeritic breccia.	NIL	GRAB	-	60	0.4	5	16	C.D.F.
R-17290	Massive sulphides	100%	GRAB	25cm	+10,000	7.2	680	20	C.D.F.
R-17291	Altered tuff (?), ankerite	15%	GRAB	30cm	9500	10.6	330	62	C.D.F.
R-17292	Altered quartz/calcite, "volcanic"	RARE	GRAB	50cm	200	0.4	5	12	C.D.F.

APPENDIX III

STATEMENT OF COSTS

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COSTS

PROJECT: LIZARD DATE: JANUARY, 1988

TYPE OF REPORT: GEOLOGY, GEOCHEMISTRY

a) Wages:

No. of Days	166 Mandays	
Rate per Day	$ 105.20 / day avg.	
Dates From:	July 22, 1987 to September 10, 1987	
Total Wages	166 x $ 105.20	$ 17,463.20

b) Food & Accomodations:

No. of Days	166 Mandays	
Rate per Day	$ 30.00	
Dates From:	July 22, 1987 to September 10, 1987	
Total Costs	166 x $ 30.00	$ 4,980.00

c) Transportation:

No. of Days	51 Truck days	
Rate per Day	$ 37.10	
Dates From:	July 22, 1987 to September 10, 1987	
Total Costs	51 x $ 37.10	$ 1,892.10

d) Instrument Rental:

Type of Instrument		
No. of Days		
Rate per Day	$	
Dates From:		
Total Costs	x $	

Type of Instrument		
No. of Days		
Rate per Day	$	
Dates From:		
Total Costs	x $	

$ 24,335.30

e) Analysis: $ 16,475.90
(See attached schedule)

f) Cost of preparation of Report

Author:	$ 1,000.00
Drafting:	$ 1,000.00
Typing:	$ 500.00

g) Other:

Contractor Bushworks Exploration Support Services
111 - 32808 Ventura Avenue
Clearbrook, B.C.
V2S 6J3

July 10 to August 15, 1987

7.25 Km Baseline	@ 380.00/Km.	2,764.50	$ 16,918.50
25.875Km Crossline	@ 320.00/Km.	8,280.00	
19.55 Km Crossline	@ 280.00/Km.	5,474.00	
MOB/DEMOB		400.00	
		16,918.50	

Total Cost

TOTAL PAGE 1	$ 24,335.30
TOTAL PAGE 2	$ 35,894.40
	$ 60,229.70

h) Unit costs for LINECUTTING

No. of Days 36

No. of Units 52.7 Km.

Unit costs $ 16,918.50 / 52.7 Km. = $ 321.03/Km.

Total Cost $ 321.03 x 52.7 = $ 16,918.28 $ 16,918.28

i) Unit cost for GEOCHEMISTRY

No. of Days 51

No. of Units 1921

Unit Costs $ 37,459.50 / 1921 samples =

Total Cost 1921 x 19.50 = $ 37,459.50 $ 37,459.50

j) Unit cost for GEOLOGY

No. of Days 30 Mandays

No. of Units -- $ 5,851.92

Unit Costs $ 5,851.92 / 30 = 195.06

Total Cost 30 x $ 195.06 = $ 5,851.92 $ 60,229.70

NORANDA EXPLORATION COMPANY, LIMITED

(WESTERN DIVISION)

DETAILS OF ANALYSES COSTS

PROJECT: LIZARD

ELEMENT	NO. OF DETERMINATIONS	COST PER DETERMINATION	TOTAL COSTS
Au	1842	3.50	6,447.00
As	1842	1.50	2,763.00
Cu	1842	1.60	2,947.20
Ag	1842	.60	1,105.20
Soil Prep	1842	.50	921.00
Data Entry	1842	.85	1,565.70
Au	79	3.50	276.50
As	79	1.50	118.50
Cu	79	1.60	126.40
Ag	79	.60	47.40
Rock Prep	79	2.00	158.00
			16,475.90

APPENDIX IV

STATEMENT OF QUALIFICATIONS

AUTHORS QUALIFICATIONS
****

I Robert G. Wilson of the City of Vancouver, Province of British Columbia, do hereby certify that:

- I am a geologist residing at 3328 West 15th. Avenue, Vancouver, B.C.

- I graduated from the University of British Columbia in 1976 with a BSc degree in Geology.

- I have worked in mineral exploration since 1973 and have practised my profession as a geologist since 1976.

- I am presently a Project Geologist with Noranda Exploration Company, Limited.

- I am a member of the Geological Association of Canada (Cordillera Division).

R.G. Wilson

AUTHORS QUALIFICATIONS
****

I Dennis R. Bull of the City of Vancouver, Province of British Columbia, do hereby certify that:

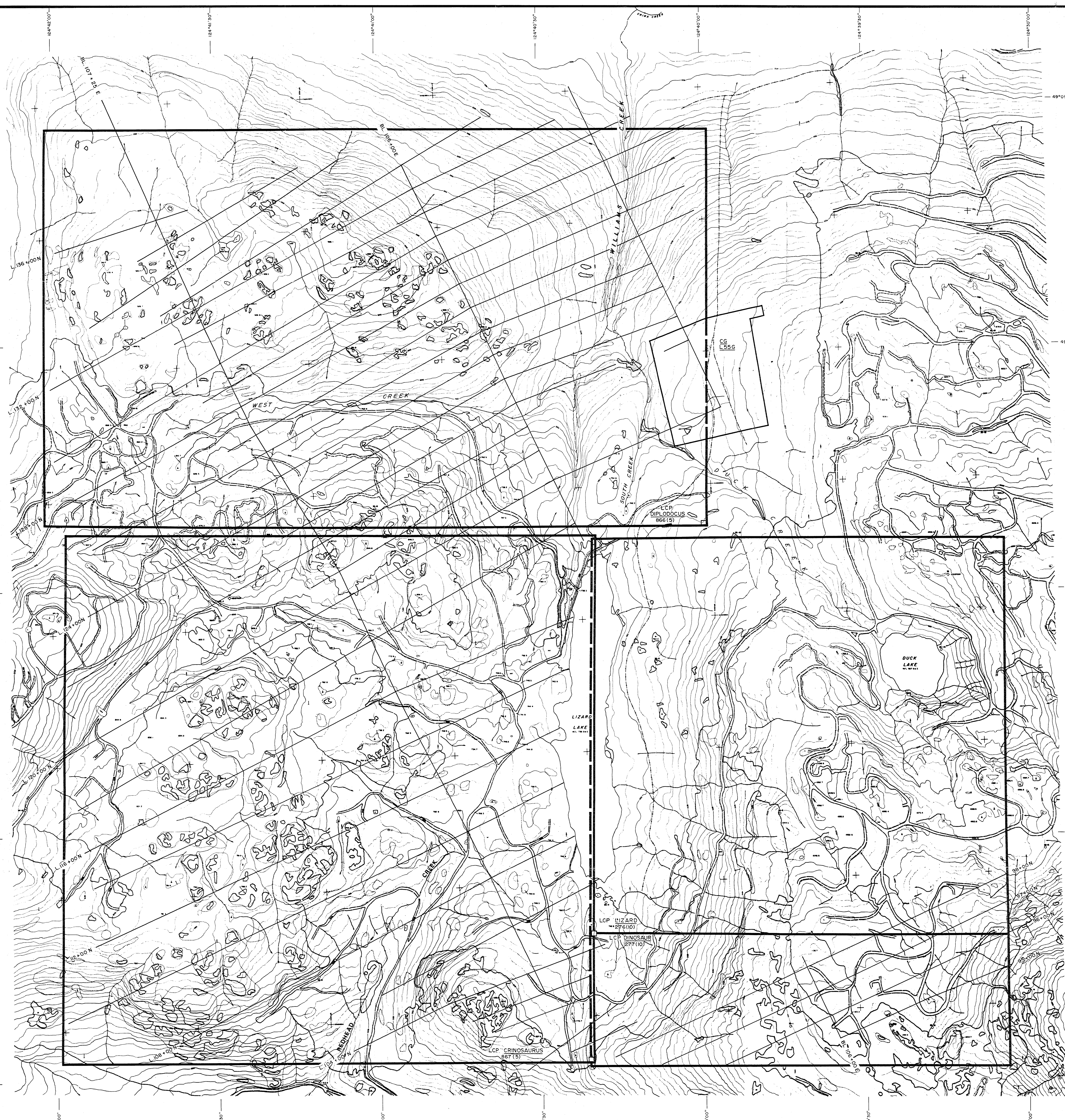
- I am a Geologist residing at #206, 941 West 13th. Avenue, Vancouver, B.C.

- I graduated from the University of Alberta in 1986 with a BSc (Honours) degree in Geology.

- I have worked in Mineral Exploration since 1974 and have practiced my profession as a Geologist since May 1987.

- I am presently a Geologist with Noranda Exploration Company Limited.

Dennis R. Bull



LEGEND

- Photo Centre — MB102 132
- Photo Point — 132-7
- Creek
- Creek (Indefinite)
- Dam - Falls — DAM, FALLS
- Shoreline
- Lake — L
- Swamp / Treed Swamp
- Main Haul Road
- Secondary Haul Road
- Skid Trail
- Landing / Pullout — L, P.O
- Bridge
- Abandoned Railway
- Trail
- Gravel Pit — PIT
- Rock Outcrop
- Canopy Opening (Brush / Clear) — Br
- Slide
- Lone Snag
- Lone Tree
- Lone Windfall
- Timberline — CUT, TREED
- Immature — Imm
- Logged
- Index Contour — 350
- Intermediate Contour
- Spot Elevation — 322.7, 322.7

GEOLOGICAL BRANCH
ASSESSMENT REPORT

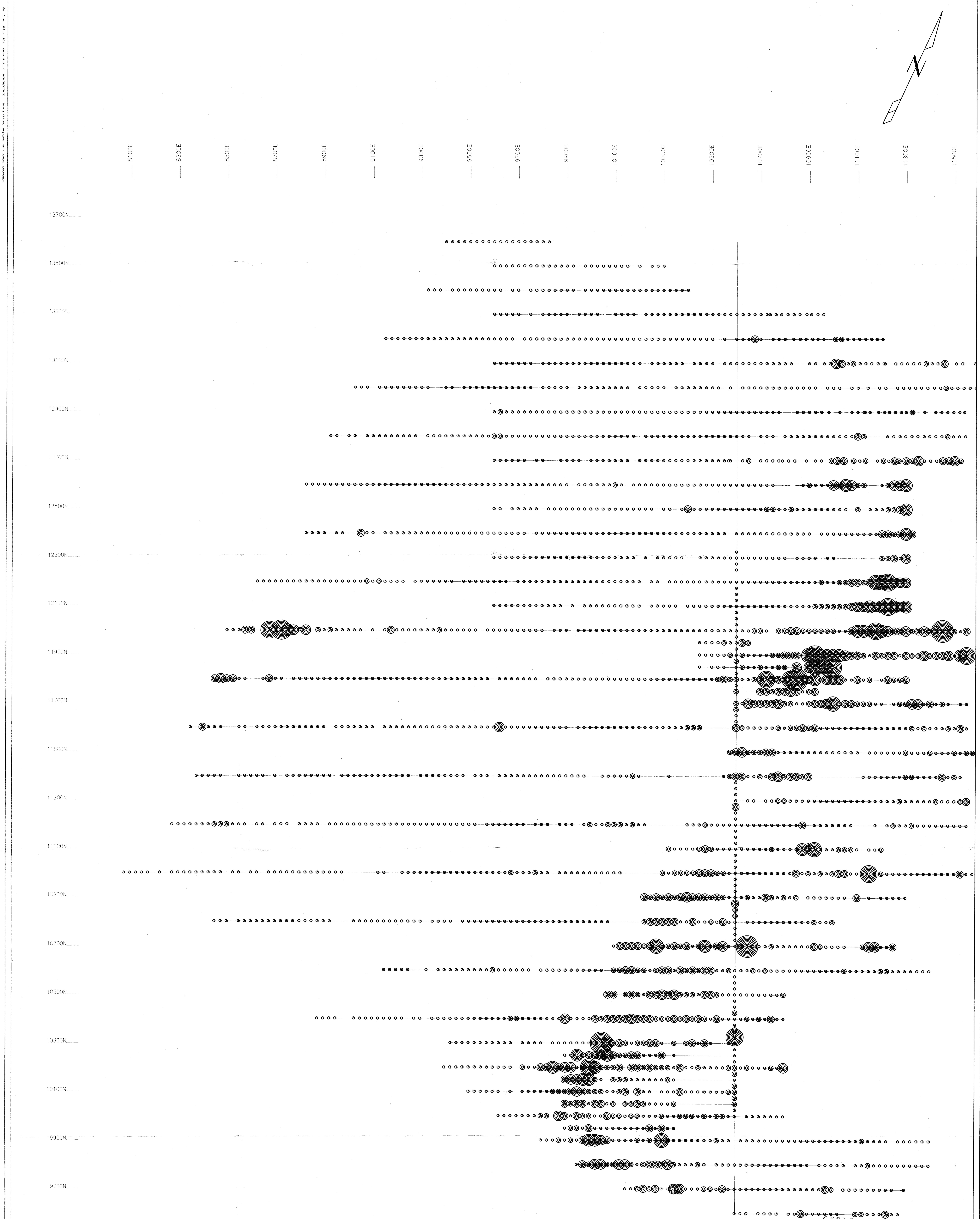
16,890

SCALE

1: 500

METRES 100 50 0 100 200 300 400 METRES

REVISED	LIZARD GROUP
	CLAIMS & GRID LOCATION
PROJ. No. 174	SURVEY BY: D.A.L., T.J.M., B.N., C.D.F., DATE: 14/10/87
N.T.S. 92 F/2	DRAWN BY: J. Serwin SCALE: 1: 5,000
DWG. No. 3	NORANDA EXPLORATION OFFICE: VANCOUVER



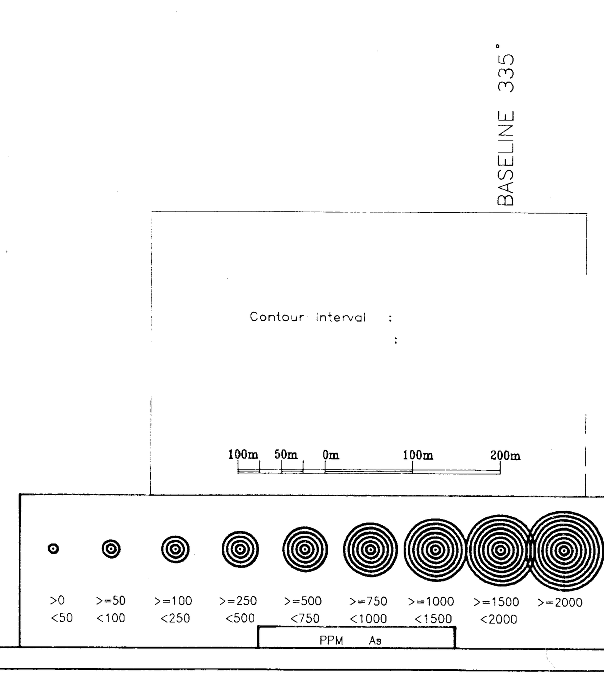
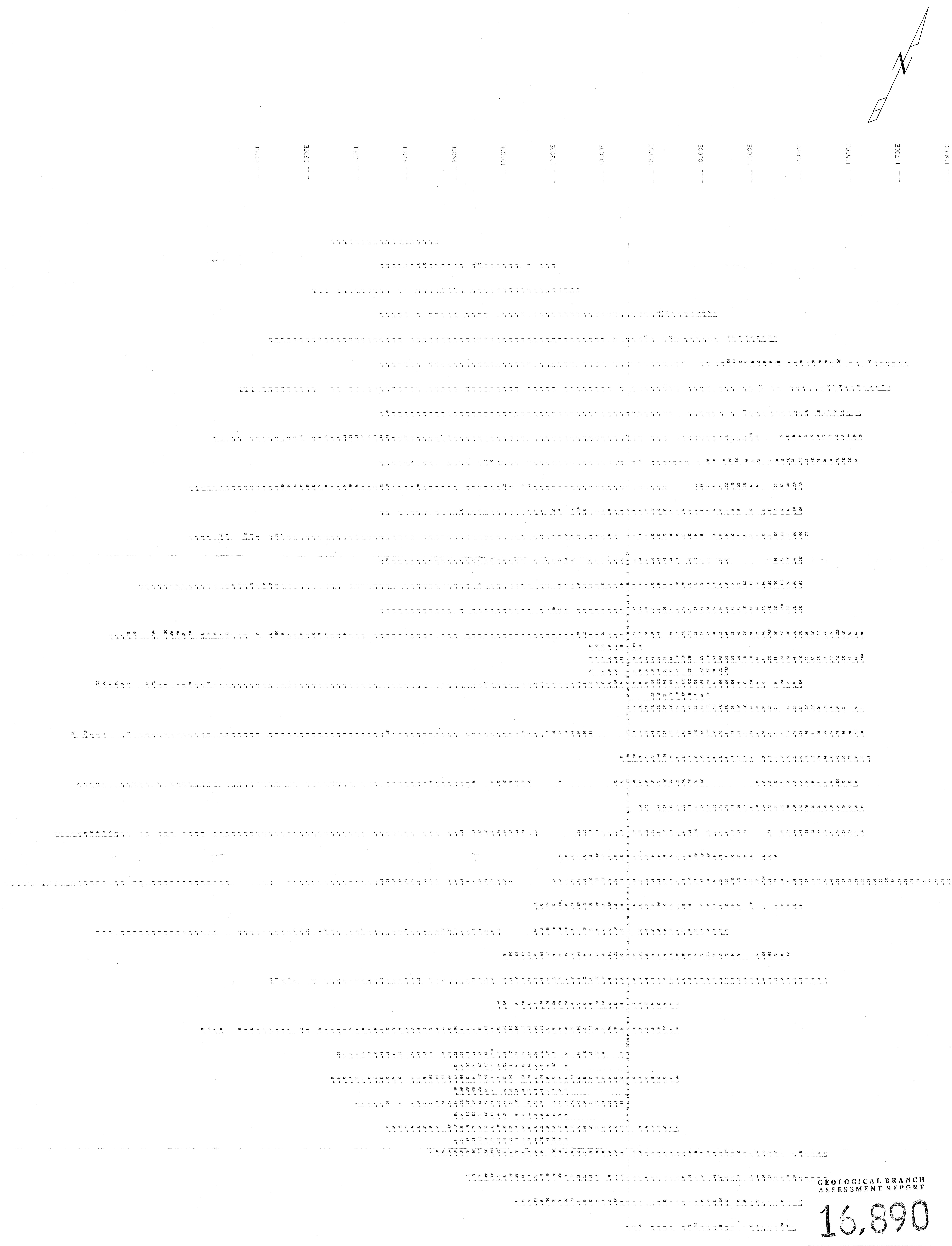


FIGURE 8

LIZARD

GEOCHEMICAL SURVEY
PPM As
PROJECT: LIZARD OPTION PROJECT # : 174
BASELINE AZIMUTH : 335 Deg.

SCALE = 1: 5000 DATE : 9/20/87
SURVEY BY : RW NTS : 092F02
FILE: C174LIZ
NORANDA EXPLORATION



GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,890

Reading Presentation : PPM As

Contour Interval :

FIGURE 7

LIZARD

GEOCHEMICAL SURVEY
PPM As
PROJECT: LIZARD OPTION PROJECT # : 174
BASELINE AZIMUTH : 335 Deg.

SCALE = 1: 5000 DATE : 9/20/87
SURVEY BY : RW NTS : 092F02
FILE: C174LIZ
NORANDA EXPLORATION

16,890

FIGURE 6

LIZARD

GEOCHEMICAL SURVEY
PPB Au
PROJECT: LIZARD OPTION PROJECT # : 174
BASELINE AZIMUTH : 335 Deg.

SCALE = 1: 5000 DATE : 9/20/87
SURVEY BY : RW NTS : 092F02
FILE: C174LIZ
NORANDA EXPLORATION

Reading Presentation : PPB Au

Contour Interval :

:

100m 50m 0m 100m 200m

FIGURE 5

LIZARD

GEOCHEMICAL SURVEY

PPB Au

PROJECT: LIZARD OPTION PROJECT # : 174

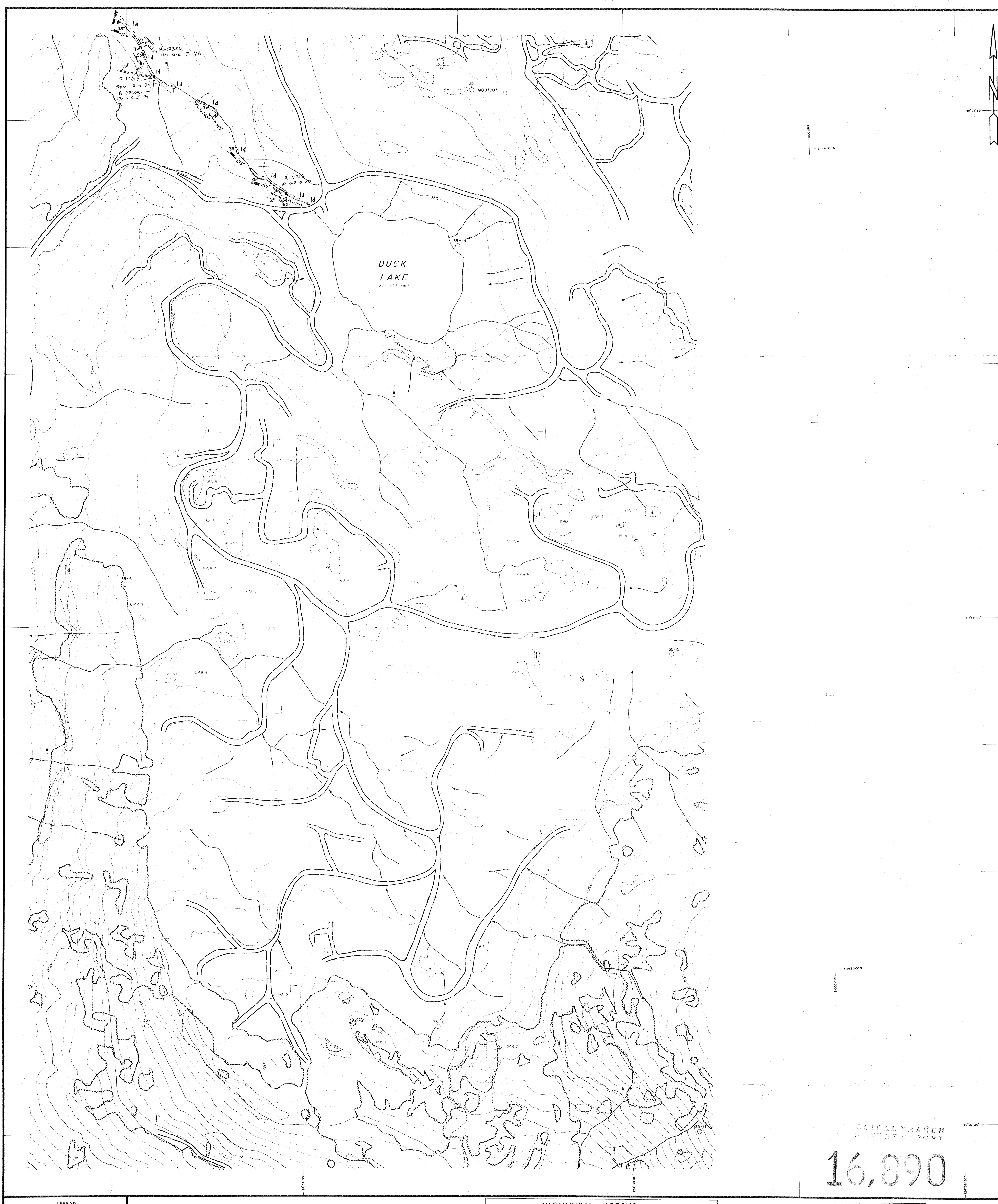
BASELINE AZIMUTH : 335 Deg.

SCALE = 1: 5000 DATE : 9/20/87

SURVEY BY : RW NTS : 092F02

FILE: C174LIZ

NORANDA EXPLORATION



LEGEND

Photo Centre	132 MB102
Photo Point	132-7
Creek	
Creek (Indefinite)	
Dam - Falls	DAM FALLS
Shoreline	
Lake	L
Swamp / Treed Swamp	
Main Haul Road	
Secondary Haul Road	
Skid Trail	
Landing / Pullout	L P.O.
Bridge	
Abandoned Railway	
Trail	
Gravel Pit	PIT
Rock Outcrop	
Canopy Opening (Brush / Clear)	Br
Slide	
Lone Snag	
Lone Tree	
Lone Windfall	
Timberline	CUT TREED
Immature	Imm
Logged	
Index Contour	350
Intermediate Contour	
Spot Elevation	322.7 322.7

GEOLOGICAL LEGEND

2	a	Mafic volcanic	Karmutsen Fm ?
	b	Intermediate to mafic volcanic	Karmutsen Fm ?
	c	Intermediate volcanic	Karmutsen Fm ?
1	a	Siliceous volcanic	Sicker Gp ?
	b	Pebble conglomerate	uncertain
	c	Siliceous to intermediate volcanic	Sicker Gp ?
	d	Intermediate volcanic	Sicker Gp ?

............Outcrop

.........Geological contact; known, assumed.

20° 085° ....Bedding; strike & dip

70° 110° ....Vein; strike & dip

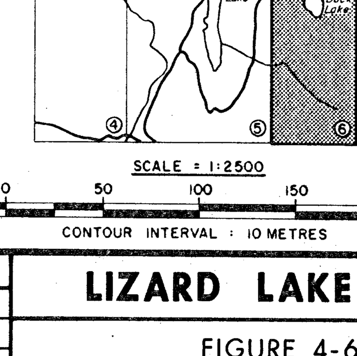
65° 090° ....Alteration zone; strike & dip

80° 080° ....Joint planes; strike & dip

35° 098° ....Foliation; strike & dip

85° 085° ....Fault zone; strike & dip

R-17388
110 1.2 250 100
ppm ppm ppb ppm
Cu. Ag. Au. As. ....Rock sample location & geochem results

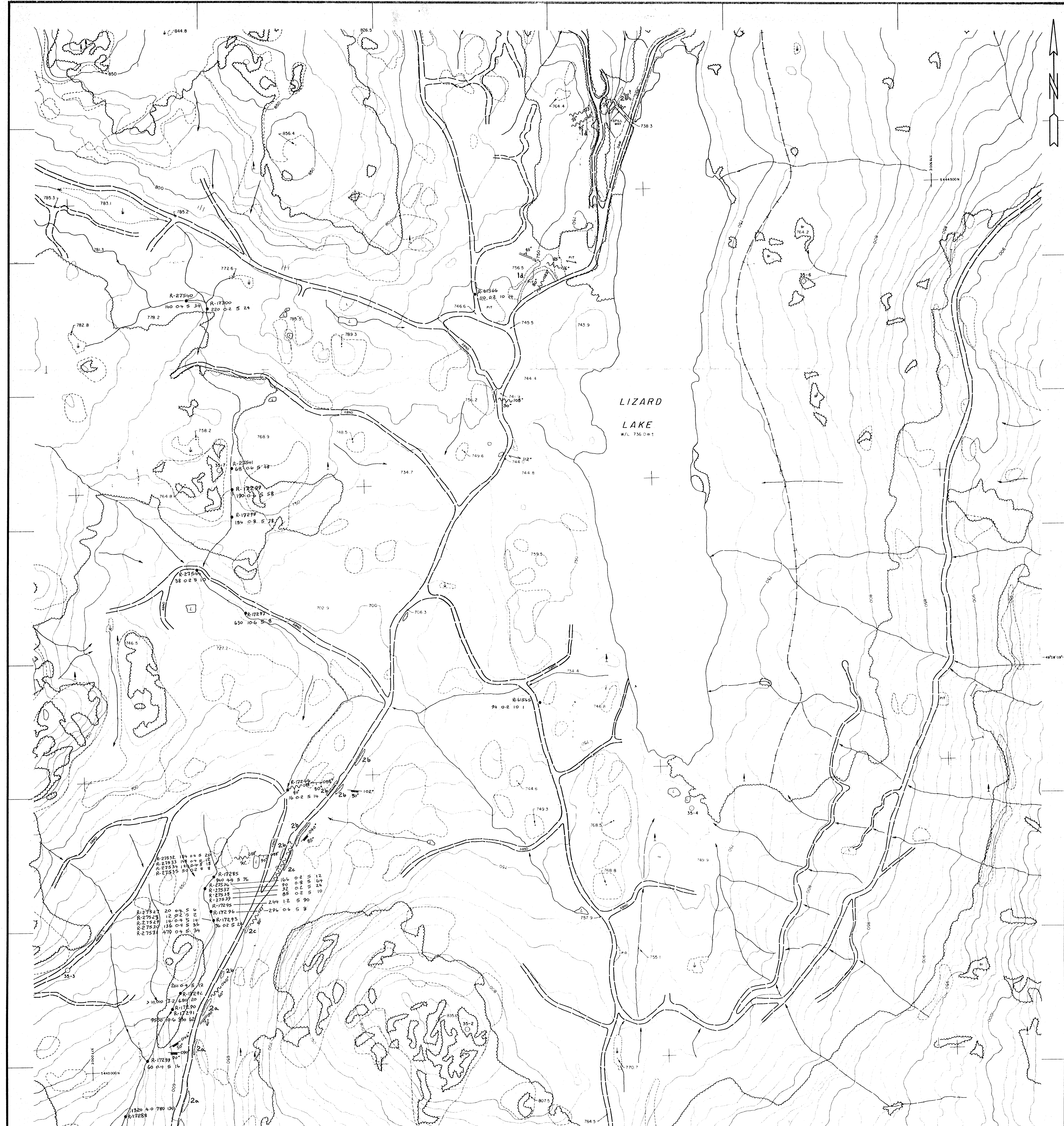


SCALE = 1:2500

50 0 50 100 150 200 250 Metres

CONTOUR INTERVAL : 10 METRES

REVISED	
	LIZARD LAKE PROJECT
	FIGURE 4-6
	GEOLOGY & ROCK SAMPLE GEOCHEMISTRY
PROJ No. 174	SURVEY BY: D.R. Bull. DATE: August 1987
N.T.S. 92 F/2	DRAWN BY: D.R. Bull. SCALE: 1:2500
DWG. No.	**NORANDA EXPLORATION**
	OFFICE: Vancouver, B.C.



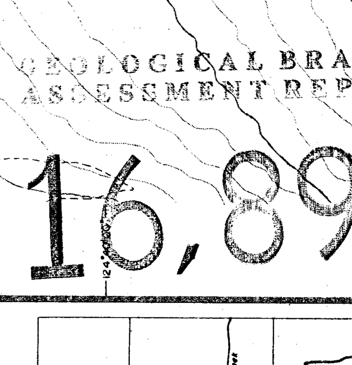
LEGEND

- Photo Centre — MB102 132
- Photo Point — 132-7
- Creek
- Creek (indefinite)
- Dam - Falls
- Shoreline
- Lake
- Swamp / Treed Swamp
- Main Haul Road
- Secondary Haul Road
- Skid Trail
- Landing / Pullout
- Bridge
- Abandoned Railway
- Trail
- Gravel Pit
- Rock Outcrop
- Canopy Opening (Brush / Clear)
- Slide
- Lone Snag
- Lone Tree
- Lone Windfall
- Timberline
- Innostura
- Logged
- Index Contour — 350
- Intermediate Contour
- Spot Elevation — 322.7

GEOLOGICAL LEGEND

2	a	Mafic volcanic	Karmutsen Fm ?
	b	Intermediate to mafic volcanic	Karmutsen Fm ?
	c	Intermediate volcanic	Karmutsen Fm ?
1	a	Siliceous volcanic	Sicker Gp ?
	b	Pebble conglomerate	uncertain
	c	Siliceous to intermediate volcanic	Sicker Gp ?
	d	Intermediate volcanic	Sicker Gp ?

- Outcrop
- Geological contact; known, assumed.
- 20° 085° — Bedding; strike & dip
- 70° 110° — Vein; strike & dip
- 65° 090° — Alteration zone; strike & dip
- 80° 080° — Joint planes; strike & dip
- 35° 098° — Foliation; strike & dip
- 85° 085° — Fault zone; strike & dip
- R-17388 / 110 1.2 250 100 / ppm ppm ppb ppm / Cu. Ag. Au. As. — Rock sample location & geochem results

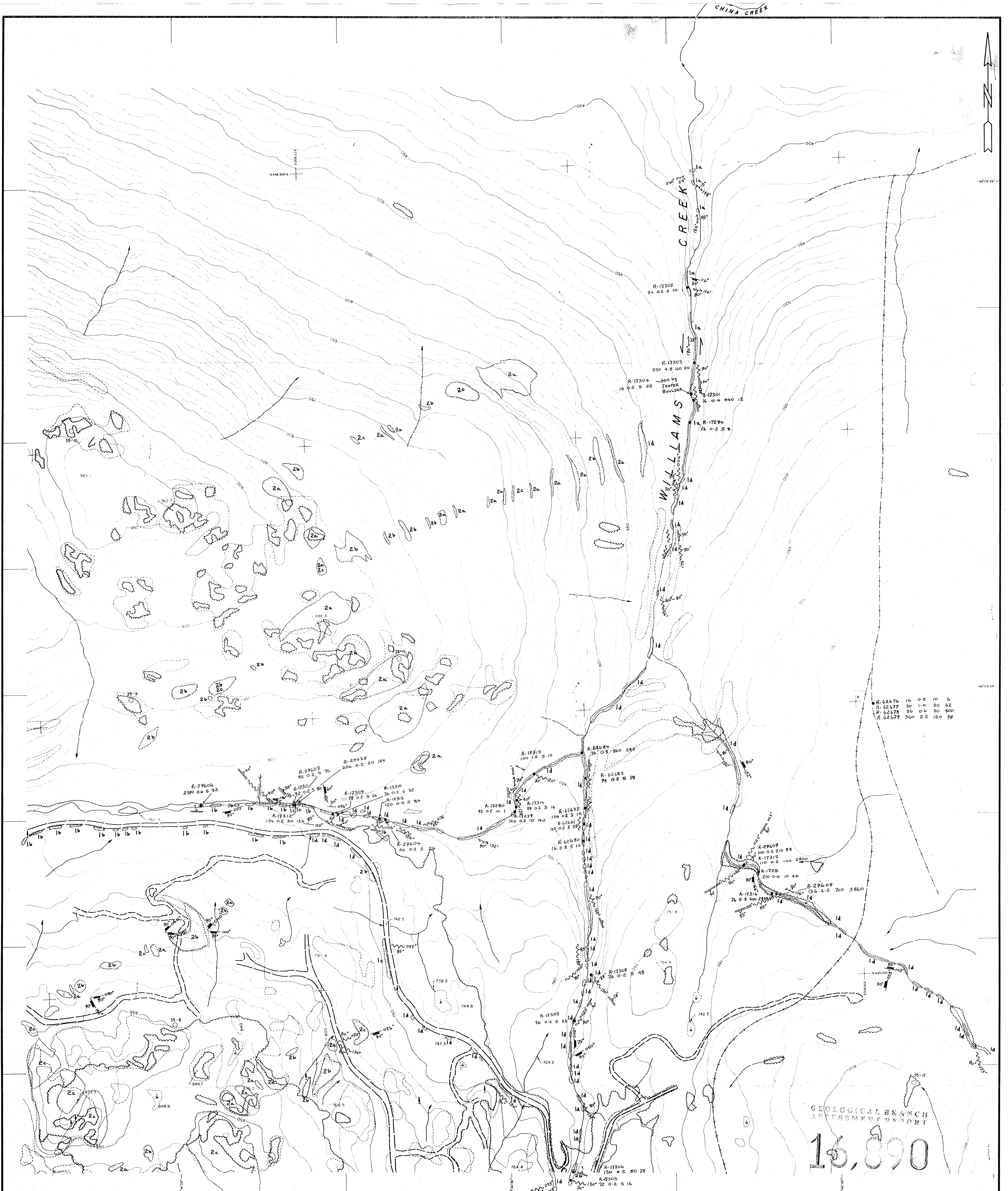


SCALE = 1:2500

50 0 50 100 150 200 250 Metres

CONTOUR INTERVAL : 10 METRES

REVISED	**LIZARD LAKE PROJECT**
	FIGURE 4-5
	GEOLOGY & ROCK SAMPLE GEOCHEMISTRY
PROJ No. 174	SURVEY BY: D.R. Bull — DATE: August 1987
N.T.S. 92 F/2	DRAWN BY: D.R. Bull — SCALE: 1:2500
DWG. No.	**NORANDA EXPLORATION**
	OFFICE: Vancouver, B.C.



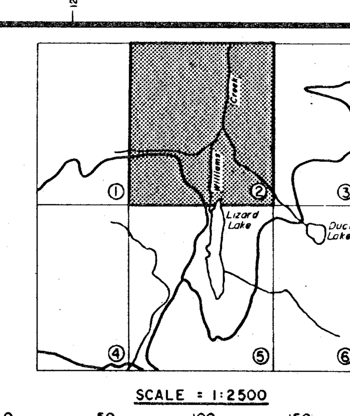
LEGEND

- Photo Centre — MB102 132
- Photo Point — 132-7
- Creek
- Creek (Indefinite)
- Dam - Falls (DAM, FALLS)
- Shoreline
- Lake (L.)
- Swamp / Treed Swamp
- Main Haul Road
- Secondary Haul Road
- Skid Trail
- Landing / Pullout (L, P.O.)
- Bridge
- Abandoned Railway
- Trail
- Gravel Pit (PIT)
- Rock Outcrop
- Canopy Opening (Brush / Clear) (Br)
- Slide
- Lone Snag
- Lone Tree
- Lone Windfall
- Timberline (CUT, TREED)
- Immature (Imm)
- Logged
- Index Contour (350)
- Intermediate Contour
- Spot Elevation (322.7 322.7)

GEOLOGICAL LEGEND

2	a	Mafic volcanic	Karmutsen Fm ?
	b	Intermediate to mafic volcanic	Karmutsen Fm ?
	c	Intermediate volcanic	Karmutsen Fm ?
1	a	Siliceous volcanic	Sicker Gp ?
	b	Pebble conglomerate	uncertain
	c	Siliceous to intermediate volcanic	Sicker Gp ?
	d	Intermediate volcanic	Sicker Gp ?

- ....Outcrop
- ....Geological contact; known, assumed.
- 20° 085° ....Bedding; strike & dip
- 70° 110° ....Vein; strike & dip
- 65° 090° ....Alteration zone; strike & dip
- 80° 080° ....Joint planes; strike & dip
- 35° 098° ....Foliation; strike & dip
- 85° 085° ....Fault zone; strike & dip
- R-17388 110 1.2 250 100 ppm ppm ppb ppm Cu Ag Au As ....Rock sample location & geochem results



SCALE = 1:2500

50 0 50 100 150 200 250 Metres

CONTOUR INTERVAL : 10 METRES

REVISED	LIZARD LAKE PROJECT
	FIGURE 4-2 GEOLOGY & ROCK SAMPLE GEOCHEMISTRY
PROJ No. 174	SURVEY BY: D.R. Bull. DATE: August 1987
N.T.S. 92 F/2	DRAWN BY: D.R. Bull. SCALE: 1:2500
DWG. No.	NORANDA EXPLORATION OFFICE: Vancouver, B.C.

LEGEND

Photo Centre	MB102 132
Photo Point	132-7
Creek	
Creek (Indefinite)	
Dam - Falls	DAM FALLS
Shoreline	
Lake	L
Swamp / Treed Swamp	
Main Haul Road	
Secondary Haul Road	
Skid Trail	
Landing / Pullout	L PO
Bridge	
Abandoned Railway	
Trail	
Gravel Pit	PIT
Rock Outcrop	
Canopy Opening (Brush / Clear)	Br
Slide	
Lone Snag	
Lone Tree	
Lone Windfall	
Timberline	CUT TREED
Immature	Imm
Logged	
Index Contour	350
Intermediate Contour	
Spot Elevation	322.7 322.7

GEOLOGICAL LEGEND

2	a	Mafic volcanic	Karmutsen Fm ?
	b	Intermediate to mafic volcanic	Karmutsen Fm ?
	c	Intermediate volcanic	Karmutsen Fm ?
1	a	Siliceous volcanic	Sicker Gp ?
	b	Pebble conglomerate	uncertain
	c	Siliceous to intermediate volcanic	Sicker Gp ?
	d	Intermediate volcanic	Sicker Gp ?

.............Outcrop

.........Geological contact; known, assumed.

20° 085° ....Bedding; strike & dip

70° 110° ....Vein; strike & dip

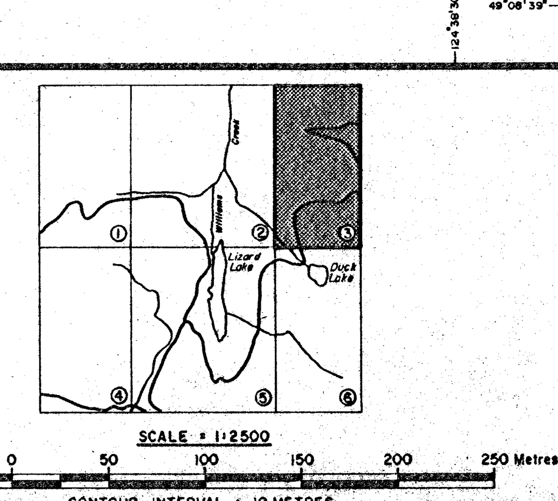
65° 090° ....Alteration zone; strike & dip

80° 080° ....Joint planes; strike & dip

35° 098° ....Foliation; strike & dip

85° 085° ....Fault zone; strike & dip

R-17388
110 1.2 250 100
ppm ppm ppb ppm
Cu. Ag. Au. As. ....Rock sample location & geochem results



SCALE = 1:2500

50 0 50 100 150 200 250 Metres

CONTOUR INTERVAL : 10 METRES

REVISED	LIZARD LAKE PROJECT
	FIGURE 4-3
	GEOLOGY & ROCK SAMPLE GEOCHEMISTRY
PROJ No. 174	SURVEY BY: D.R. Bull. DATE: August 1987
N.T.S. 92 F/2	DRAWN BY: D.R. Bull. SCALE: 1:2500
DWG. No.	NORANDA EXPLORATION
	OFFICE: Vancouver, B.C.

N
8100E
8300E
8500E
8700E
8900E
9100E
9300E
9500E
9700E
9900E
10100E
10300E
10500E
10700E
10900E
11100E
11300E
11500E
13700N
13500N
13300N
13100N
12700N
12500N
12300N
12100N
11900N
11700N
11500N
11300N
11100N
10500N
10300N
10100N
9900N
9700N
9500N
BASELINE 335°
16,890
FIGURE 12
Contour Interval :
:
100m 50m 0m 100m 200m
>0 <0.30
>=0.30 <0.50
>=0.50 <0.70
>=0.70 <0.90
>=0.90 <1.3
>=1.3 <2.1
>=2.1 <3.7
>=3.7
PPM Ag
LIZARD
GEOCHEMICAL SURVEY
PPM Ag
PROJECT: LIZARD OPTION PROJECT # : 174
BASELINE AZIMUTH : 335 Deg.
SCALE = 1: 5000
DATE : 9/20/87
SURVEY BY : RW
NTS : 092F02
FILE: C174LIZ
NORANDA EXPLORATION

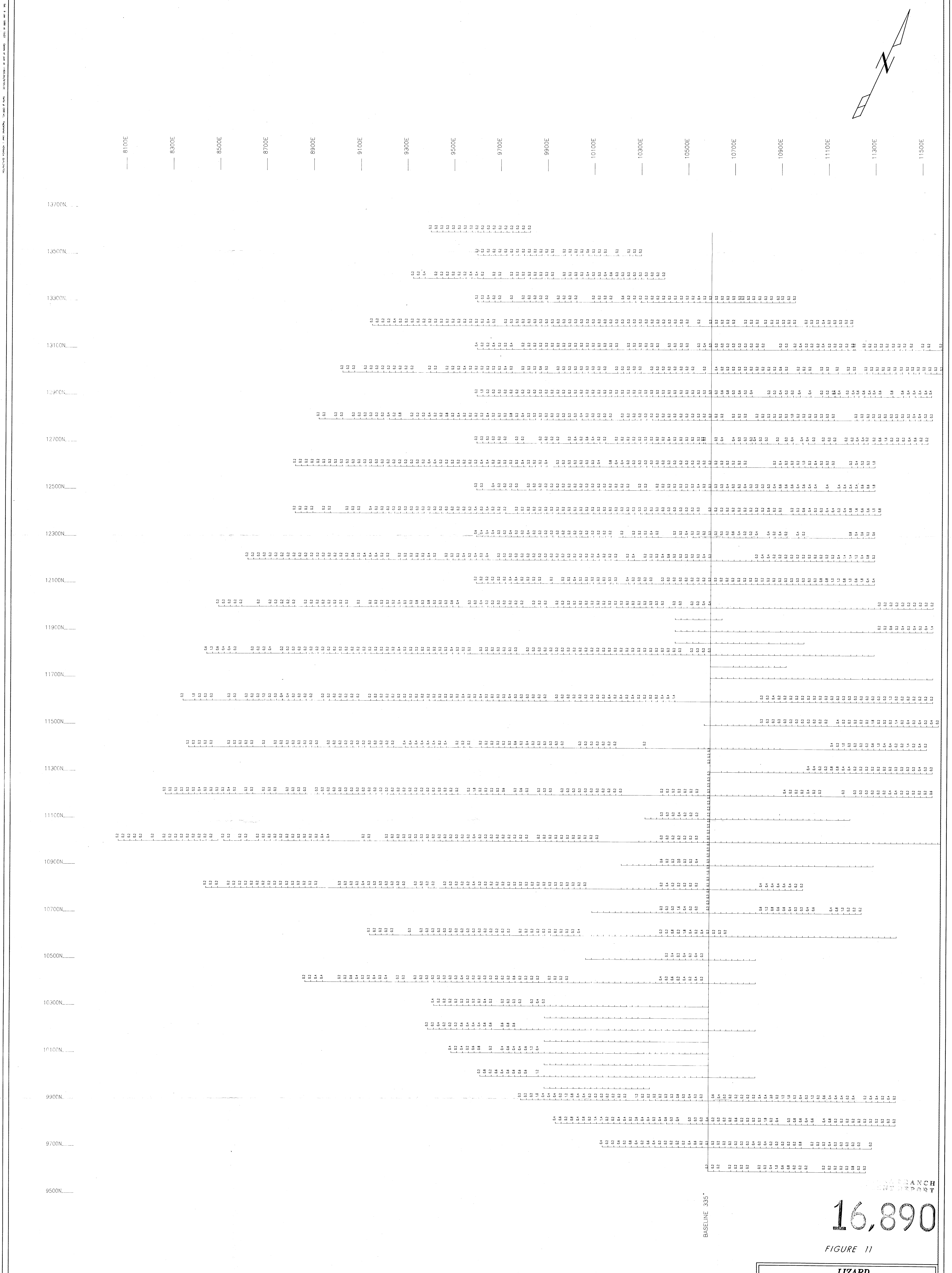


FIGURE 11

LIZARD

GEOCHEMICAL SURVEY

PPM Ag

PROJECT: LIZARD OPTION PROJECT # : 174

BASELINE AZIMUTH : 335 Deg.

SCALE = 1: 5000 DATE : 9/20/87

SURVEY BY : RW NTS : 092F02

FILE: C174LIZ

NORANDA EXPLORATION

Contour Interval :

:

100m 50m 0m 100m 200m


N
8100E
8300E
8500E
8700E
8900E
9100E
9300E
9500E
9700E
9900E
10100E
10300E
10500E
10700E
10900E
11100E
11300E
11500E
13700N
13500N
13300N
13100N
12900N
12700N
12500N
12300N
12100N
11900N
11700N
11500N
11300N
11100N
10900N
10700N
10500N
10300N
10100N
9900N
9700N
9500N
BASELINE 335°
16,890
FIGURE 10
Contour Interval
100m 50m 0m 100m 200m
>0 <100
>=100 <200
>=200 <300
>=300 <500
>=500 <750
>=750 <1000
>=1000
PPM Cu
LIZARD
GEOCHEMICAL SURVEY
PPM Cu
PROJECT: LIZARD OPTION PROJECT # : 174
BASELINE AZIMUTH : 335 Deg.
SCALE = 1: 5000
DATE : 9/20/87
SURVEY BY : RW
NTS : 092F02
FILE: C174LIZ
NORANDA EXPLORATION

Reading Presentation : PPM Cu

Contour Interval :

FIGURE 9

LIZARD

GEOCHEMICAL SURVEY
PPM Cu
PROJECT: LIZARD OPTION PROJECT # : 174
BASELINE AZIMUTH : 335 Deg.

SCALE = 1: 5000 DATE : 9/20/87
SURVEY BY : RW NTS : 092F02
FILE: C174LIZ
NORANDA EXPLORATION