EVALUATION REPORT

DEE, STIK, JAK AND DEEP MINERAL CLAIMS

DEASE LAKE, NTS MAP SHEET 104 J

LIARD MINING DIVISION, BRITISH COLUMBIA

FOR

DUKE MINERALS LTD.

November 20, 1988
Richmond, B.C.

Fred Holcapek, P.Eng.
Consulting Geologist

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SUMMARY:

The Dee, Stick and Deep mineral claims are located in the Hotailuh Range, southwest of Dease Lake, B.C., NTS Map Sheet 104 J, between the Tanzilla and Stikine River.

Access is from Vancouver by airliner to Watson Lake, from there by rental car to Dease Lake, then by helicopter to the properties.

The Hotailuh range has been explored for mineral deposits since 1899, but the main exploration activity was during the period 1960 to 1978 when the search for porphyry Cu & Mo deposits reached its height in Western Canada. The exploration programs did not test for possible precious metals associated with the porphyry systems. Exploration work at the time consisted of geological mapping, soil sampling for Cu and Mo, magnetic surveys, and limited induced polarization surveys. Deep glacial overburden made interpretation of soil results difficult.

During the 1960's and '70's the Gnat Lake Deposit, Tanzilla Property, Stikine Moly property, and Disco claims were investigated. They all have the earmarks of potential Cu – Mo porphyry systems. They are underlain by Permian to Tertiary volcanic and clastic sedimentary rocks which are intruded by Triassic to Jurassic diorites, syenites and monzonites, believed to be genetically related to the Stuhini Volcanics.

Hydrothermal alteration zones, metasomatism of intrusives changing dioritic rocks and andesitic volcanics to syenite have been reported. Copper is associated with fault zones, alteration zones, and as fracture filling. No economic copper values were encountered on the property. A trench located on Stain Creek reportedly showed 0.05oz/ton gold along the contact between syenite and andesite. No other area was checked for gold. The properties were not diamond drilled.

CONCLUSIONS

1. Geological mapping completed suggests that the area covered by the Dee Claims is underlain by a volcanic – alkalic syenite–intrusive complex suggesting a possible volcanic–porphyry setting.

2. Geological mapping suggests the presence of volcanic breccia along the lower contact of the Stuhini Formation and associated with volcanic flows, tuffs and limey sediments.

3. Alteration zones were found to be localized near syenitic intrusions, associated with volcanics and which were transformed by metasomatism to syenite. Excess magnetite, disseminated sulphides, and sulphides as fracture filling are present within the alteration zones. The alterations w zones were traced for a strike length of at least 1.5 miles from Stain Creek to the west.

4. Major faulting has been recognized on the property but heavy overburden cover did not permit the tracing of individual faults or establishing their attitude.

5. Geochemical surveys completed during the late 1970's established Cu – Mo anomalies covering the syenite intrusions and alteration zones, but trenching showed low and erratic sulphides as dissemination or fracture filling.

6. The silt and rock samples collected during the property exanination showed several spot highs in gold and silver. A comparision of metal concentrations in the silt with the rock samples shows that the silts have similar metal concentrations and are locally derived.

7. A magnetometer survey completed by a former operator defined several strong magnetic anomalies without establishing their source: magmatic magnetite, hydrothermal magnetite, or pyrrhotite.

8. No electromagnetic survey was conducted over the claim groups. A limited induced polarization survey was completed but the information on hand does not allow interpretation.

9. The known information on hand suggests that the area is underlain by a poorly developed Cu porphyry system related to volcanism. The possiblity of precious metals within the porphyry system has not been investigated by the former operators.

RECOMMENDATIONS:

The program may be executed in phases as funds available permit.

1. Gridding of claim area using lines 75 m apart with stations at 25 m intervals.

2. Geological mapping making use of the grid to define the distribution of permeable breccia, the presence of permeable limey sedimentary units, the extent and type of alteration, zoning within the intrusions, the level of erosion of the porphyry system since enplacement, and the relationship of faulting to indicated mineralization.

3. Prospecting of areas away from the indicated porphyry centre.

4. Magnetic survey along the same grid to relocate the magnetic anomalies in the field.

5. Electromagnetic survey using a VLF instrument to define zones of high conductivity.

6. Evaluation of results and Engineering Report.

COST ESTIMATE:

1. Establishing grid 25m stations, 200 m line spacing Deep claim group 62 line km Stik claim group 53 line km Dee claim group 15 line km at $150.00/km	$22,500.00
2. Geological mapping on grid bases, to check previous mapping of claim area, <50% outcrop	$15,000.00
3. Magnetometer survey, total grid 4 km/day average	$ 9,000.00
4. VLF electromagnetic survey, total grid 6km/day	$ 5,500.00
5. Orientation soil soil sampling, take soil profil to establish best sampling method, allow 20 profiles, sample according to changes observed	$ 2,000.00
Assaying allow for 100 samples, 8 elements Au, Ag, Te, As, Cu, Mo, Zn, Pb.	$ 1,500.00
6. Soil sampling, allow for 50% of gridded area 2,600 samples assaying at $15.00/sample	$46,000.00
7. Field supplies, instrument rental, food, camp etc.	$15,000.00
Helicopter support, mob and demob, radio etc.	$30,000.00
Sub total	$110,300.00
20% contingency	$ 23,060.00
Total Estimate	**$138.360.00**

The initiation of a Phase II program will depend on the results obtained from Phase I.

Richmond B.C.
November 20, 1988

Fred Holcapek P.Eng
Consultant Geologist

1 - 00 INTRODUCTION

At the request of Mr. Dave Brett, manager of Duke Minerals, the writer visited the Hluey Lakes area September 14, 1988. The purpose of the property visit was to examine the known alteration zones associated with a syenite intrusion, to map and sample the main exposure, and to evaluate the geological setting in respect to possible gold mineralization. This report is based on the field examination conducted September 14, 1988 and literature research.

2 - 00 GEOGRAPHY

2 - 10 LOCATION AND ACCESS

The Dee, Stick and Deep mineral claims are located southwest of Dease Lake B.C., NTS Map Sheet 104 J, between the Tanzilla and Stikine Rivers.

Latitude: 58deg.21'N Longitude: 130deg.13'W

Access to the property is via airliner from Vancouver to Watson Lake, Yukon Territory; from there west by rental truck along the Alaska Highway to the Cassiar turn off, then south about 180 miles along the Cassiar Stewart Highway to the community of Dease Lake. From Dease Lake the property is a short helicopter trip, about 12 miles, to the southwest.

2 - 20 PHYSIOGRAPHY

The claim groups are located within the Hotailuh Range, part of the Tanzilla Plateau, a relatively gently slopeing upland surface. Elevation ranges from 2,500 ft above sea level in the broad U shaped valley occupied by the Tanzilla River to over 6,000 ft within the Hotailuh Range. The Dee Mineral claims cover the steep scarp forming the south side of Tanzilla valley and extend to just south of Hluey Lakes.

Drainage in the area is impeded, forming a series of bogs, swamps and lakes. Low ridges and hummocks are well drained along southern slopes and where soils have developed. Northern slopes are poorly drained because of large patches of permafrost. Glacial till is extensive within the area, consisting of locally derived boulders and erratics.

Glacial features include U shaped valleys, hummocks, deranged drainage, oversized valleys, and basal till. Overburden cover is extensive, and as indicated in creek cuts extremely thick in places. Locally derived material can be traced back to its source.

Vegetation consists of black spruce, alders, arctic birch, and buckbrush. In areas of heavy conifer stands the ground is covered by thick moss.

The lower part of the Tanzilla River Valley is also poorly drained. Creeks draining the steep southern valley scarp disappear into swamps before reaching the river.

DUKE MINERALS LTD.

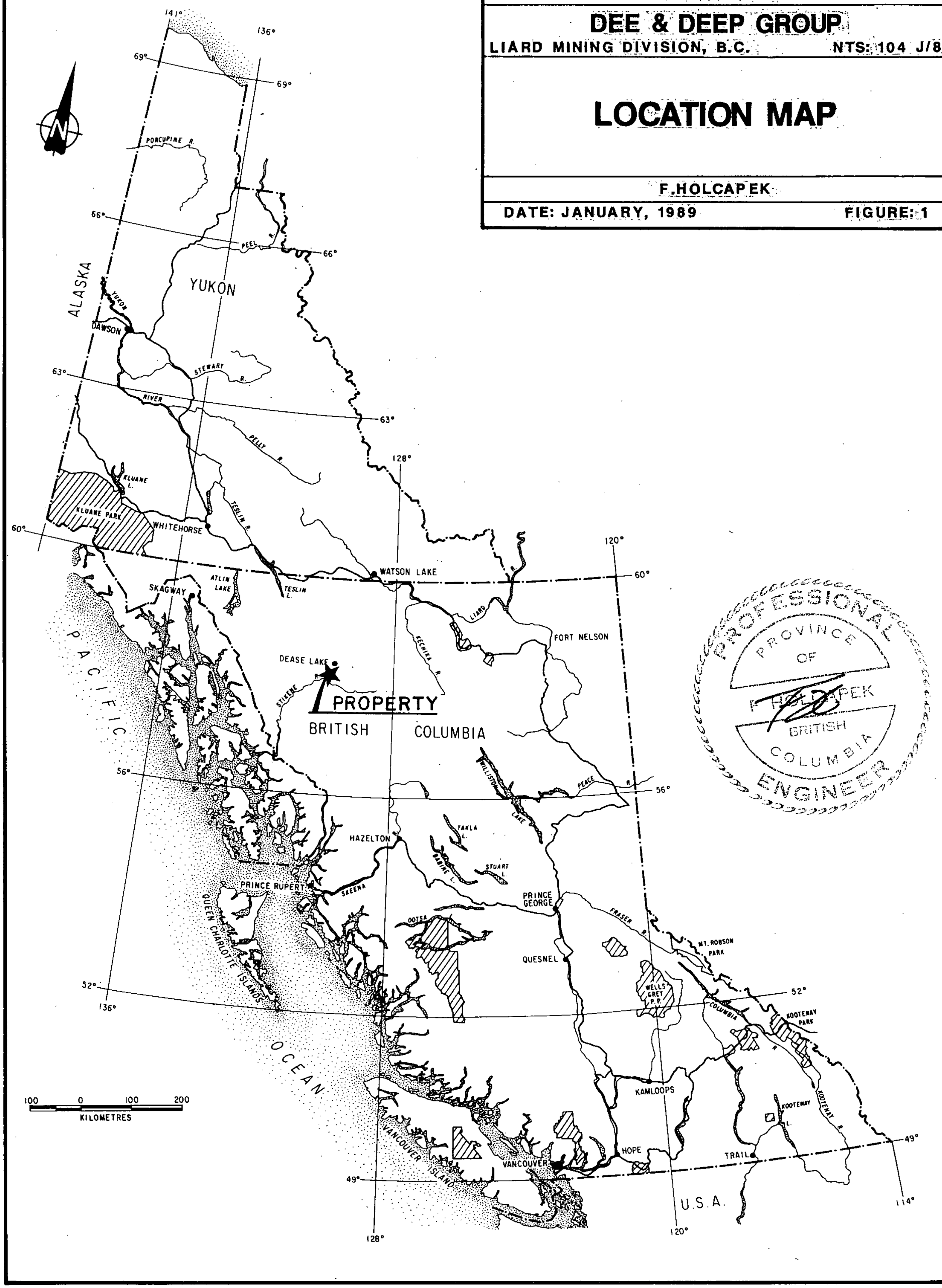
DEE & DEEP GROUP

LIARD MINING DIVISION, B.C. NTS: 104 J/8

LOCATION MAP

F.HOLCAPEK

DATE: JANUARY, 1989 FIGURE: 1



R.W.R. MINERAL GRAPHICS LTD.

3 - 00 PROPERTY

The property consists of three claim groups located within a few kilometers of each other. The main claim group covers the area just north of Hluey Lakes, while the other claims groups lie to the south and southwest.

Claim Name:	# units:	Recording Date:
Stik 60	20 units	September 14,1988
Stik 61	20 units	September 14,1988
Jak 51 - 60	10 units	September 14,1988
Deep 21 - 30	10 units	September 14,1988
Deep 43 - 52	10 units	September 14,1988
Dee 21 - 30	10 units	September 14,1988
Dee 31 - 40	10 units	September 14,1988
Dee 81 - 90	10 units	September 14,1988
Dee 91 - 100	10 units	September 14,1988

The mineral claims were staked on behalf of Eddy Asp, Dease Lake, B.C. and recorded in Cassiar, B.C.

The writer has seen a set of claim posts showing that the Dee claims were located as 2 post mineral claims. The following information was taken from a claim post:

Claim Name:	Post #:	Tag Number:	Bearing:	Locator:	Date:
Dee 81	2 left	399781	N30W	E. Asp	Aug 20,1988
Dee 82	2 right	399782	N30W	E. Asp	Aug 20,1988
Dee 83	1 left	399783	N30W	E. Asp	Aug 20,1988
Dee 84	1 right	399784	N30W	E. Asp	Aug 20,1988

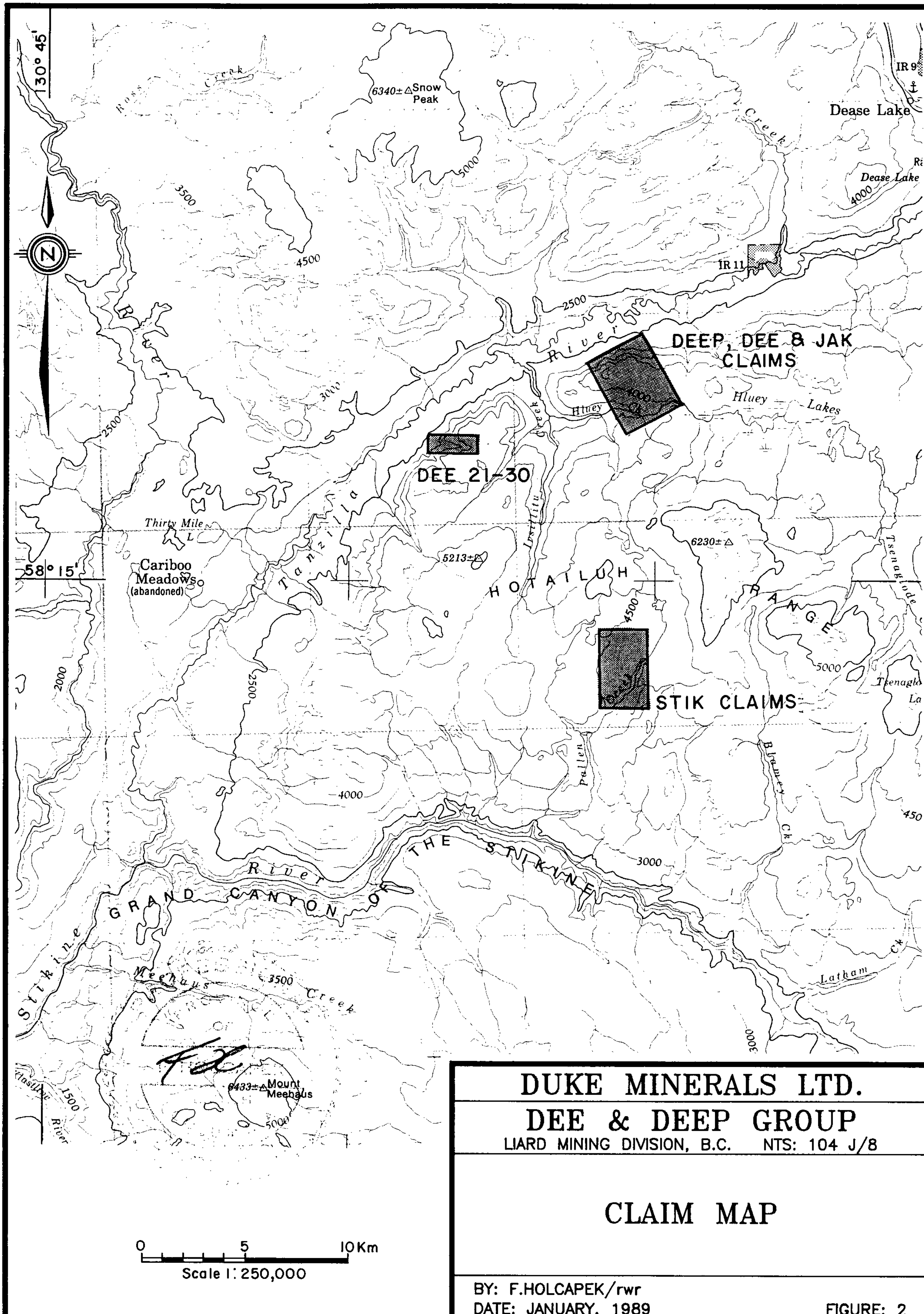
Blazing and flagging of the location line was sufficient to mark the line. Duke Minerals Ltd. acquired an option on the mineral claims.

4 - 00 HISTORY

The first exploration work in the Hotailuh area dates back to 1899. During this time the Dalvenie copper prospect was located. In 1935 the same property was relocated.

The Dease Lake Mine property was investigated by Cassiar Asbestos Co in 1960; by Newconex in 1964, and by Lytton Minerals in 1966. Diamond drilling indicated 20,000,000 tons assaying 0.44% copper.

During 1969 Tournigan Mining Exploration Ltd. located the Hu claim group in the vicinity of Hluey Lakes and Stain Creek. Newmont Mining Co located the Disco and Chopper claims along Pallen Creek in 1970. In 1977 and 1978 Falconbridge Nickel Mines Ltd located the Stikine claim group along the headwaters of Pallen Creek. Exploration on the claim groups was conducted by



DUKE MINERALS LTD.

DEE & DEEP GROUP

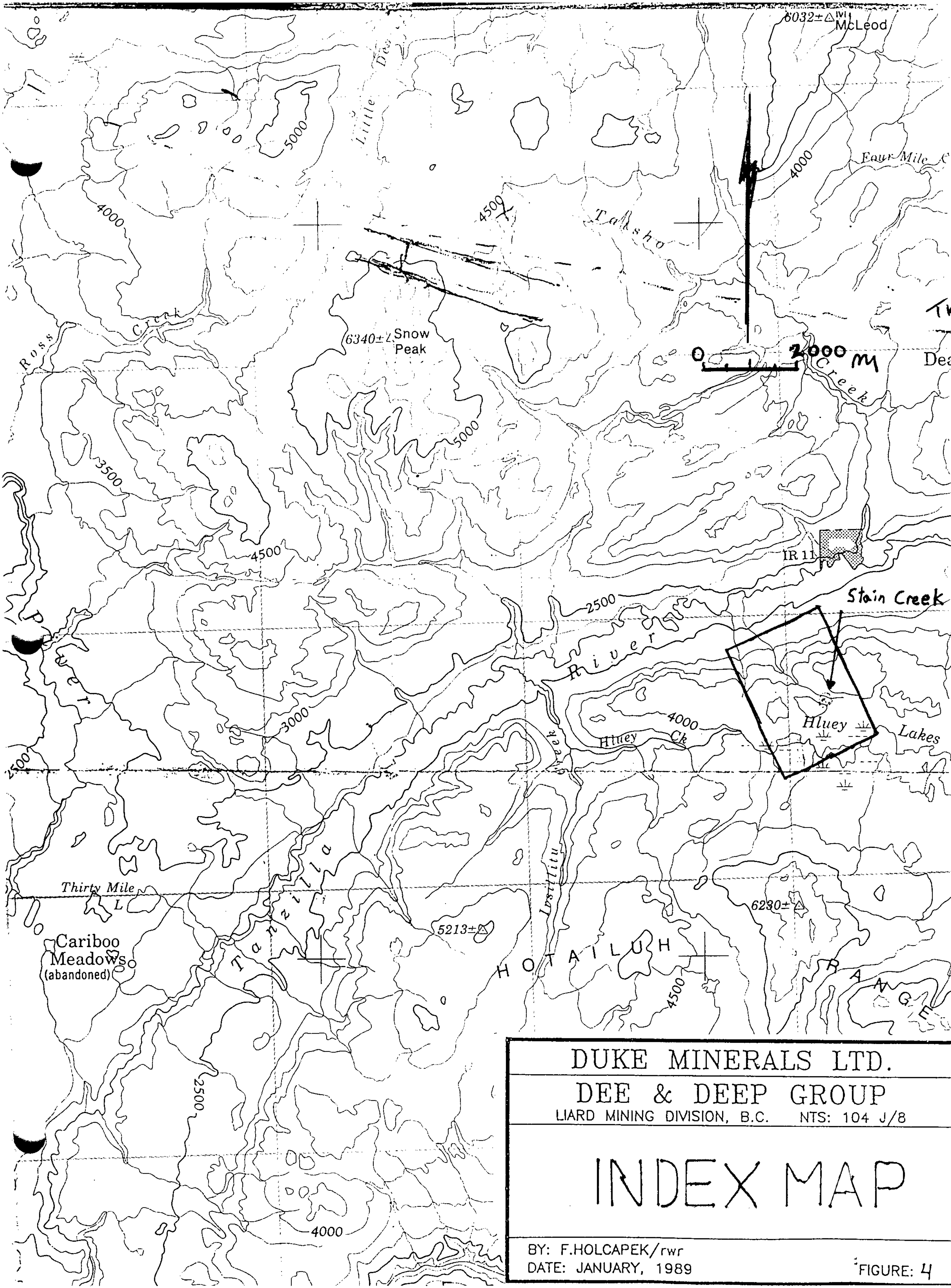
LIARD MINING DIVISION, B.C. NTS: 104 J/8

CLAIM MAP

BY: F.HOLCAPEK/rwr

DATE: JANUARY, 1989

FIGURE: 2



DUKE MINERALS LTD.

DEE & DEEP GROUP

LIARD MINING DIVISION, B.C. NTS: 104 J/8

INDEX MAP

BY: F.HOLCAPEK/rwr

DATE: JANUARY, 1989

FIGURE: 4

Silver Standard, Newmont Mining Co., Falconbridge Nickel Mines Ltd, Tournigan Mining Exploration Ltd, and Amax Exploration Inc. It consisted of geological mapping, geochemistry, magnetic, electromagnetic and induced polarization surveys, and trenching. Diamond drilling is reported from the property, but the writer was unable to obtain drill logs, a drill summary, or confirming data from the literature, company reports, or assessment reports.

During the late 1960's and 1970's the main exploration thrust in the region was concentrated on locating Cu – Mo porphyry deposits associated with syenite intrusions; ie Gnat Lake, the Tanzilla Property, the Stikine Moly Property, and the Disco–Chopper claims.

During the same period there was intensive exploration for Cu porphyries within the Intermontane Belt to the south. All major porphyry deposits in British Columbia were located at that time.

Development of new ideas in respect to gold deposition, a better understanding of the relationship of plate tectonics and to the formation of mineral deposits, combined with the increase in the price of gold initiated the gold rush of the 1980's. This led to the re-examination of numerous alkali syenite stocks located during the Cu porphyry rush of the '70s. Many were found to carry copper sulphides with associated gold values.

The Gnat Lake copper deposit is being re–examined for gold mineralization by Dome – Canex at present. Gold is apparently associated with structural zones and alteration along the fringe of the porphyry copper mineralization.

The writer visited the Dee claim area on September 14, 1988. This report is based on the property visit and literature research. The purpose of the report is to establish the merits of the properties in the area.

5 – 00 REGIONAL GEOLOGY

The Hotailuh Range lies within the Intermontane Belt of British Columbia. The area is underlain by Upper Triassic volcanics which were intruded by Late Triassic to Early Jurassic intermediate to basic intrusions, followed during Mid to Late Jurassic by diorite, monzonite, and syenite intrusions. Copper and possibly gold mineralization appears to be related to the syenite intrusions.

5 – 10 STRATIGRAPHY

PLEISTOCENE AND RECENT: Glacial and glacio–fluvial deposits, stream deposits, felsenmeer, talus, soil.

MIOCENE TO PLEISTOCENE: Alkali olivine basalt; minor, trachyte and rhyolite; may include considerable areas of underlying Mesozoic and minor Paleozoic rocks.

UPPER CRETACEOUS TO PALEOCENE AND (?) LATER:

Sustut Group: Nonmarine sandstone, siltstone, conglomerate, tuff contains local coalified wood and coal seams.

Sloko Group: rhyolite, dacite and trachyte flows, dykes, breccia.

MID TO LATE CRETACEOUS: Biotite quartz monzonite, medium to coarse grained.

MID TO LATE JURASSIC (?): Biotite and biotite hornblende granodiorite, monzodiorite, diorite; megacrystic hornblende-biotite quartz monzonite; syenite, syenite porphyry.

JURASSIC UNDIVIDED: Greywacke, shale, pebble conglomerate with granitic clasts.

LOWER JURASSIC:

Takawahone Formation: Greywacke, shale, minor pebble conglomerate; hornfelsed equivalents including abundant sills and dykes of quartz-feldspar porphyry.

Inklin Formation: Penetratively foliated phyllitic slate, greywacke, pebble and cobble conglomerate, diamictite.

LATE TRIASSIC AND EARLY JURASSIC: Biotite-hornblende quartz diorite, grandiorite, quartz monzonite, diorite, diorite, diorite and gabbro; zoned ultrabasic with margin of pyroxenite with abundant magnetite and apatite grading through pyroxenite syenite, agmatite, pyroxene syenite to a core of altered leucocratic syenite quartz monzonite.

UPPER TRIASSIC:

Sinwa Formation: Limestone, commonly argillaceous and fetid.
Shonektaw Formation: Augite andesite.

Nazcha Formation: Volcanic sandstone, argillite tuff, conglomerate; limestone.

Stuhini Formation: Augite and coarse bladed plagioclase porphyry, breccia and flows, tuff, volcanic sandstone and conglomerate; minor siltstone, greywacke, shale; diabase.

Kutcho Formation: Dacitic breccia, tuff; foliated quartz porphyry, conglomerate, may include Cache Creek Group.

PERMIAN

South of Atlin Terrane: Pale grey and orange cherty limestone; argillaceous limestone, grey and green phyllite, grey ribbon chert, biotitechlorite schist, age uncertain.

Cache Creek Group:

Teslin Formation:
Horsefeed Formation: Limestone, dolomitic limestone.
French Range Formation: Altered basic volcanic flow; lithic tuff, agglomerate cherty tuff & metamorphosed.

5 - 20 STRUCTURAL GEOLOGY

The structure of the Tanzilla Plateau appears to be dominated by open, moderate folds about northeast to north trending axes, plunging southwards. Intrusives have been emplaced along anticlinal axes, causing doming (doubly plunging anticlines). The limestones are locally complexly folded and standing on edge, but the more massive, competent tuff units seldom exceed dips of 45 deg. A rectilinear pattern of northeast and northwest trending faults is indicated from the drainage pattern on the plateau, but few of these faults were confirmed on the ground. The dykes and intrusive masses mapped reflect these directions of structural weakness.

North of the Tanzilla River the westerly trending King Salmon Thrust Fault separates the intensively folded Paleozoic volcano-sedimentary assemblages from the open folded Mesozoic rock units.

The thrust fault appears to move the Paleozoic rock units, over the Mesozoic rock units.

Heavy glacial till cover makes deciphering of the structural setting difficult.

5 - 30 ECONOMIC GEOLOGY

During the period of 1960 to 1975 numerous pophyry systems were discovered throughout the world. Many of the systems are poorly developed or have economically marginal Cu - Mo concentrations. These systems warant further investigation to discover possible associated precious metal values.

In the Stikine area and Dease Lake area mineral deposits explored in the past were Cu or Cu-Mo porphyry deposits of the "Volcanic Type" occuring within the roots of volcanoes. The characteristics of "Volcanic Type" porphyry deposits have been described by W.J. McMillan and A. Panteleyev, 1980, and by Sillitoe 1988.

5 - 31 GEOLOGICAL SETTING

The volcanics are basic to intermediate in composition and are intruded by co-magmatic calc-alkalic or alkalic plutons (diorite or syenites) of small size as sheets, dykes or plugs. The igneous rocks are intruded within a sub volcanic environment and show intimately associated intrusive/extrusive assemblages.

Calc-alkalic intrusives (Ca rich feldspars) are emplaced within volcanic vents, fault zones, and radial fractures. Alkalic intrusions (sodic and/or potassic feldspars) are high level intrusions localized by regional structures, ie. volcanic vents and fault zones.

BRECCIA ZONES:

Breccia zones are commonly associated with both types of intrusives consisting of pyroclastic tephra, alteration, pseudo breccia, vent agglomerates, shatter and intrusive breccia. Mineralized breccias are characteristic for the calc-akalic plutons and contain magnetite and/or tourmaline.

Alkalic intrusions are commonly associated with volcanic breccias and are mineralized.

ALTERATION ZONES:

Alteration zones appear to be the only help to differentiate the two types of intrusions in the field.

Calc-alkalic intrusions have widespread propylitic alteration but restricted zones of intense potassic alteration, centered about zones of high permeability. A small core of potassic alteration, local phyllic and or argillic alteration may be present.

Alkalic intrusions show local intense pneumatolytic potassic alteration. Early hydrothermal biotite is over printed by propylitic, then sodic and or potassic (albite, K-feldspar) and rarely scapolite alteration.

MINERALIZATION

Mineralization associated with calc-alkalic intrusions consists usually of Cu - Mo intimately associated with breccia zones and intensely altered rocks. Ore bodies are lensoid, irregular and show some preferential bedding control. Chalcopyrite with rare bornite or molybdenite occurs as dry fracture filling.

Alkalic intrusions generally have Cu-Au mineralization in intrusive breccia or highly fractured country rock. Some replacement of porous country rock is common. Magmatic magnetite and apatite can form veins or breccia filling. Observed zoning is from chalcopyrite with magnetite and bornite outward to a pyrite halo.

5-32 EXPLORATION METHOD

The main point in the search for gold-silver deposits related to porphyry systems as shown (Sillitoe 1988) is an understanding of:

1. The multiple types and styles of known porphyry deposits.
2. The large area covered by known porphyry systems but also of the erosional level reached by the system under investigation.
3. The possible position of gold-silver mineralization within zoned porphyry systems.

Geological features considered favorable in the search for gold - silver related to porphyry systems are:

1. Hydrothermal magnetite associated with K-silicate alteration assemblages within gold rich porphyry copper deposits.
2. Precious metals localized within hydrothermal breccia commonly forming sheeted contacts, within and above the porphyry copper-molybdenum deposits. Gold appears to be localized within the most permeable part of the breccia.
3. Regional and district wide faults control precious metal deposition within or around porphyry systems.
4. Carbonate or limey sediments enhance the potential for gold - silver mineralization within porphyry systems. Change of carbonates to jasperoid or gossans after massive sulphides is considered particularly favorable.
5. Highly permeable noncarbonate rocks ie. volcanic breccia, amygdaloidal flows or conglomerates are good hosts for distal gold-silver mineralization.
6. Distal veins and contact metasomatic precious metal deposits are most likely to occur within porphyry system, having well developed sericitic, propylitic and pyritic halos.
7. Chalcedonic silica and jasperoid associated with advanced argillic alteration and hydrothermal brecciation above porphyry copper deposits are prime exploration targets.

GEOCHEMICAL SAMPLING

Geochemistry is applicable in the search for precious metals within a porphyry system. The following geochemical associations were found to be significant for gold-silver deposits, within, around and above porphyry deposits.

2. Zn-Pb-Au-Ag-(As) around or proximal to porphyry deposits.

3. CU-As-Au-Ag above porphyry deposits - Enargite type.

4. AS-Te association as a pathfinder for deposits above and around porphyry systems having a carbonate host.

GEOPHYSICAL SURVEYS found useful in the search for gold in porphyry systems are:

A. Magnetometer:

Magnetometer surveys detect zones of hydrothermal magnetite concentration, proximal magnetite-pyrrhotite skarns and distal pyrrhotite carbonate replacement deposits within the porphyry copper system.

B. Electromagnetic Surveys:

Electromagnetic surveys may be helpful in the location of the massive sulfide accummulation in enargite - Au - Ag zone above the porphyry copper system or in the location of proximal, or distal contact metasomatic deposits.

6 - 00 LOCAL GEOLOGY

The Hluey Lake property and the Pallen Creek property were explored during the early 1970's to 1980 for porphyry copper deposits. The following detailed geology is based on data from Open File 707, assessment report #4399, #8505, and the property visit by the writer.

6 - 10 STRATIGRAPHY

PLEISTOCENE AND RECENT: Glacial and glacio-fluvial deposits, stream deposits, felsenmeer, talus, soil.

UPPER CRETACEOUS TO PALEOCENE AND (?) LATER:

Sustut Groupe: Nonmarine sandstone, siltstone, conglomerate, tuff contains local coalified wood and coal seams.

Sloko Group: Rhyolite, dacite and trachyte flows, dykes, breccia.

MID TO LATE JURASSIC (?): Biotite and biotite hornblende granodiorite, monzodiorite, diorite; megacrystic hornblende-biotite quartz monzonite; syenite, syenite porphyry.

LOWER JURASSIC:

Takawahone Formation: Greywacke, shale, minor pebble conglomerate; hornfelsed equivalents including abundant sills and dykes of quartz-feldspar porphyry.

TRIASSIC:

LATE TRIASSIC AND EARLY JURASSIC:

MONZONITES: Hornblende-biotite diorite or monzonite: Coarse grained, grey to flesh coloured with granitic texture, plagioclase 50%, hornblende 30%, K-spar 10% interstitial, biotite aggregates 10%. Near syenite contact, K-spar and biotite increase at the expense of plagioclase and hornblende, colour pinkish. Locally magnetite is abundant.

DIORITEs: Fine grained, dark grey greenish, sugary texture; plagioclase, hornblende, augite and magnetite.

Hornblende Diorite or Monzonite: Foliated aligned hornblende and plagioclase laths, interstitial K feldspar in variable amounts and rarely biotite clots.

SYENITES: Intrusives or altered andesites.

Medium to coarse grained, red Syenite: Equigranular to slightly porphyritic. Miarolitic cavities filled with epidote, calcite, minor chalcopyrite and infrequent pyrite. Rarely white to grey translucent plagioclase and orthoclase.

Aplitic biotite Syenite: Medium to fine grained, tecture subporphyritic, reddish, brown. Rare biotite, plagioclase laths 10% - 3 to 5 mm, occassional orthoclase phenocrysts - 15 mm in a sugary K-feldspar matrix. Weakly magnetic.

Hornblende-Biotite-Syenite: Dikes in contact with coarse grained hornblende, biotite monzonite. Dark red, coarse grained, granitic aggregate of K-feldspar, chloritic mafics and blebs of pyrite. Moderately to strongly magnetic. Pyrite in shears, sulphides as dissemination.

UPPER TRIASSIC:

Stuhini Formation: Basic to intermediate volcanics and related rocks.

Crystal Lithic Tuffs: Interbedded with crystal tuffs, lapilli tuffs and tuff breccia composed of fragments up to 6 inches, bombs set in crystal tuff matrix.

Augite Porphyry Andesites and Breccia: Dark green massive lava with conspicuous augite phenocryst. Purple andesitic lava showing pink to tan fragments set into flow banding with 5%–20% plagioclase phenocrysts; dark grey aphanitic lavas with 10% to 40% white feldspar phenocryst. Near Stain Creek forming pillow like blobs – pillow lavas(?) in contorted tuffaceous argillites and greywackes, important amounts of K–feldspar within groundmass.

Sediments are dominently volcano–clastic in origin and include argillites, siltstones and greywacke.

PERMIAN

South of Atlin Terrane: Pale grey and orange cherty limestone; argillaceous limestone, grey and green phyllite, grey ribbon chert, biotitechlorite schist, age uncertain.

6 - 20 STRUCTURAL GEOLOGY:

The structural setting of the area is difficult to decipher because deep overburden covers a large part of the claim group.

The dip of the rock units varies from 40N to 750 at the east end and from 30S to 60S at the west end. The syenite intrusions trend easterly and appear to follow a structural zone. Numerous northeast and east–west faults and/or shears are evident on the property, but have not been delineated in detail.

6 - 30 ALTERATION AND MINERALIZATION:

Alteration, where observed, is not pronounced but several distinctive types have been recognized. Volcanics and sediments are metasomatised to hornfels; showing patchy bleached areas and local alteration to an epidote–amphibole–magnetite assemblage.

In Stain Creek, patchy K – feldspar – epidote – chlorite – magnetite alteration is present along discontineous fractures within purple andesite. K–feldspar and later carbonate alteration occurs within shear zones cutting the grey coarse grained monzonite.

Sulphides were found to occur in several distinctive modes:

1. Fracture filling and weak dissemination of pyrite, pyrrhotite and chalcopyrite within the hornfelsitic volcanics.

2. Pyrite as blebs, up to 1 inch, within lenses of magnetite– chlorite–amphibole rock.

3. Pyrite as disseminations and as fracture filling within shatter zones in diorite and syenite along Stain Creek.

4. Chalcopyrite and/or pyrite as heavy dissemination throughout shears and in a narrow zones adjacent to shears.

5. Chalcopyrite and pyrite as trace minerals within red, coarse grained syenite.

7-00 GEOCHEMISTRY:

A geochemical survey was conducted over the area and samples were assayed for Cu, Mo, Ag, Ni, Co, Mn, Fé, Zn, and Pb.

Results are highly erratic. This is interpreted as masking or partial masking of anomalous areas by glacial till. Where bed rock is exposed values of 100 ppm Cu were found. Metal values obtained from soil and rock chip sampling returned values of similar magnitude suggesting that the glacial till is locally derived.

A few gold assays are available t from rock samples collected by the writer at the Stain Creek exposures, silt samples collected by D. Brett along Stain Creek, and silt samples collected by Ed Asp (1988).

Results of Rock Sampling along Stain Creek:

All samples were assayed by ACME Analytical Laboratories Ltd of Vancouver using the I.C.P. method for 31 elements. The assay sheets are appended. The following table shows base metal and precious metal assays with a rock description:

Sample #	Au ppb	Ag ppm	Cu	Zn	Pb	Mo	As	Description:
1	6	0.1	49	11	5	9	11	Syenite, pyrite, red feldspar.
2	4	0.1	119	32	5	3	5	Syenite, pyrite, red feldspar, rusty.
3	1	0.1	66	21	14	8	16	Shear zone, gouge.
4	3	0.1	38	14	5	7	8	Same as # 2.
5	5	0.1	14	9	7	8	9	Kaolinized, Silic., yellowish colour.
6	69	0.2	10	5	5	9	10	Yellow gouge, as above.
7	8	0.1	10	15	4	5	2	Same as # 5.
8	5	0.1	41	28	2	3	3	Syenite silicified, pyrite, rusty.
9	9	0.2	88	17	12	3	11	Gouge, heavy pyrite, crushed.
10	4	0.1	44	12	6	4	5	Syenite rusty, silicified, pyrite.
11	3	0.1	26	6	8	4	8	Silicified & kaolinized, pyrite.
12	1	0.1	9	2	4	8	2	Yellow weathered, pyrite.
14	7	0.1	12	3	2	9	2	Dark syenite, pyrite, broken, rusty.
14A	14	0.1	14	8	4	8	3	Qtz-sericite-pyrite, alteration.
16	6	0.1	143	23	7	6	2	Fractured dark syenite, siliceous.
17	5	0.1	108	22	4	1	6	Diorite ?, pyritic.
18	14	0.5	10	6	2	5	4	Gouge in N35W shear.
19	2	0.1	2,072	17	2	1	4	Shear along contact, malachite.
20	16	0.1	553	8	3	19	12	Shear, sericite, silicified.

Mr. Danny Brett collected silt samples along Stain CreeK with the following results:

Sample #	Au ppb	Ag ppm	Cu ppm	Zn ppm	Pb ppm	Mo ppm	As ppm.
1	2	0.1	100	52	7	1	18
2	3	0.2	46	56	5	1	9
3	2	0.2	56	95	7	1	16
4	1	0.5	26	105	6	1	17
5	12	0.1	24	77	4	1	53
6 P	1	0.1	42	60	7	1	12
7 P	86	0.3	87	76	6	1	17
5 rock	4	0.3	5	17	3	1	36

Not mapped TK

After the staking of the claims Eddy Asp collected silt samples from the Pallen Creek drainage system and from the Stik claims. The location of the sample sites is shown on the claim map.

Sample #	Au ppb	Ag ppm	Cu ppm	Zn ppm	Pb ppm	Mo ppm	As ppm.
Asp #1	4	1.3	107	23	9	13	30
Asp #2	6	2.2	29	11	14	13	66
Asp #3	3	2.1	23	10	11	12	64
Asp #4	12	1.6	36	13	19	23	47
Asp #5	5	0.8	68	12	9	8	21
Asp #6	23	1.0	52	20	5	12	41
Asp #7	21	0.8	62	12	3	20	35
Float	123	1.0	6,976	17	8	42	14
Creek flo	2	0.4	167	13	18	8	38
MD#2/88	18	1.4	569	24	6	11	42
Md#3/88	3	0.6	21	20	8	8	1
Gossans	9	1.5	333	18	5	37	25

Not mapped TK

DISCUSSION OF GEOCHEMICAL RESULTS:

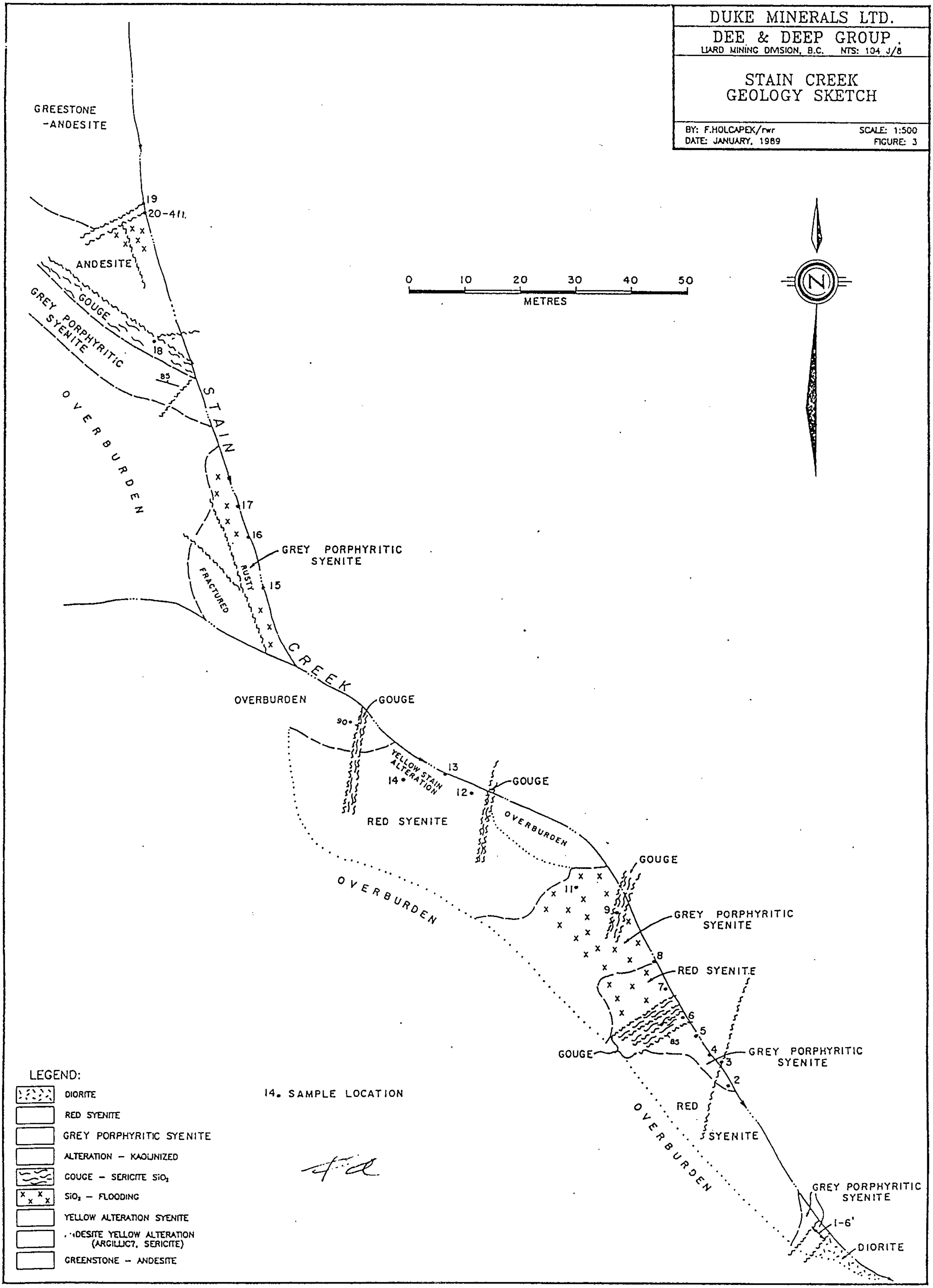
The geochemical rock and silt samples show several spot highs in gold, silver, copper and molybdenum.

Rock samples collectecd along the exposure of the syenite intrusions and its associated alteration zone show a gold high of 69 ppb and several assays in excess of 10 ppb. Stain Creek is known to cut across the eastern limits of the known copper porphyry environment.

Silt samples taken along Stain Creek and Pallen Creek show similar gold spot highs .

The similar geochemical signature for silt and rock samples suggest that all material is locally derived. Permafrost conditions along northern slopes, heavy overburden cover and a deranged drainage pattern does not allow the development of a normal geochemical dispersion pattern.

To allow proper interpretation of geochemical results geological and magnetic information is required.



DUKE MINERALS LTD.
DEE & DEEP GROUP
LIARD MINING DIVISION, B.C. NTS: 104 J/8
STAIN CREEK
GEOLOGY SKETCH
BY: F.HOLCAPEK/rwr
DATE: JANUARY, 1989
SCALE: 1:500
FIGURE: 3
0 10 20 30 40 50
METRES
N
GREESTONE
-ANDESITE
19
20-4ft.
ANDESITE
GOUGE
GREY PORPHYRITIC SYENITE
18
85
OVERBURDEN
STAIN
17
16
GREY PORPHYRITIC SYENITE
RUSTY
FRACTURED
15
CREEK
OVERBURDEN
GOUGE
90
YELLOW STAIN ALTERATION
13
14
12
GOUGE
RED SYENITE
OVERBURDEN
GOUGE
OVERBURDEN
11
9
GREY PORPHYRITIC SYENITE
8
RED SYENITE
7
6
5
85
GOUGE
4
3
GREY PORPHYRITIC SYENITE
2
RED
SYENITE
OVERBURDEN
GREY PORPHYRITIC SYENITE
1-6'
DIORITE
LEGEND:
DIORITE
RED SYENITE
GREY PORPHYRITIC SYENITE
ALTERATION – KAOLINIZED
GOUGE – SERICITE SiO2
SiO2 – FLOODING
YELLOW ALTERATION SYENITE
ANDESITE YELLOW ALTERATION (ARGILLIC?, SERICITE)
GREENSTONE – ANDESITE
14. SAMPLE LOCATION

8 - 00 GEOPHYSICAL SURVEY RESULTS:

Magnetic data on hand suggests the existance of at least three anomalies. The predominent trend of the anomalies is north-northeast, north-west and east-west.

The rock description within the stratigraphic section suggests that magnetite is associated with the syenite and within syenite alteration zones.

Several induced polarization profiles were surveyed on the Dee mineral claims. The results suggest that induced polarization may be helpful in the search for possible sulphide zones.

Fred Holcapek P.Eng.
Consultant Geologist.

Richmond B.C.
November 20, 1988

12.A.

BASELINE RESOURCES LTD.

MINING EXPLORATION SERVICES

COST STATEMENT

CHOPPER	4 HR X 600 PER HOUR	2,400.00
P. ENG	3 DY X 400 PER DAY	1,200.00
GEOLOGIST	2 DY X 200 PER DAY	400.00
ASSIST	4 DY X 150 PER DAY	600.00
ASSIST	2 DY X 150 PER DAY	300.00
FOOD & ACCOM		315.00
GAS		321.00
CAR RENTAL FROM WATSON LAKE		
	3 DY X $70.00 PER DAY+KM	256.00
DODGE 4X4 RENTAL FROM BASELINE RESOURCES CASSIAR		
	3 DY X $50 PER DAY	150.00
ASSAYS		160.00
REPORT PREPERATION		2,000.00
DRAFTING		500.00
	TOTAL:	$8,602.00

#510 - 700 W. PENDER STREET, VANCOUVER, B.C., CANADA V6C 1G8 TEL. (604) 669-0216

CERTIFICATION

I, Ferdinand Holcapek of 319 - 3851 Francis Road Richmond, British Columbia certify that:

1. I am a graduate of the University of British Columbia with a B.Sc. degree in Geology 1969.

2. I am a member of the Association of Professional Engineers of British Columbia, registration # 8962.

3. I have practiced my profession, since graduation, in Canada, United States of America, Australia, Africa, Mexico and Central America.

4. I have visited the Dee, Deep, Stik and Jak claims September 14, 1988. I was engaged in exploration in the Dease Lake - Cassiar area during 1961 to 1975 with Cassiar Asbestos Co,. ALRAE Engineering Ltd, Agilis Engineering Ltd, and Holcapek Engineering Ltd in 1983.

5. This report is based on the property examination, past experience within the district, and literature research.

6. I hereby give my consent to the inclusion of this report in a statement of material facts and prospectus of Duke Minerals Ltd.

7. No portion or summary of this report may be used without the written approval of Pace Geoex Services Ltd or the writer.

November 20, 1988
Richmond, B.C.

Fred Holcapek, P.Eng.
Consulting Geologist

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APPENDIX D

HLUEY LAKE PROPERTIES

SILT AND ROCK SAMPLES

ASSAY SHEETS - I.C.P 1988

DUKE MINERALS LTD

ACME AND MIN-EN LABS

NOVEMBER 20, 1988
RICHMOND, B. C.

FRED HOLCAPEK P.ENG.
CONSULTING GEOLOGIST

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

GEOCHEMICAL ANALYSIS CERTIFICATE

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SILT/ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE. P -20 mesh, Pulverized.

DATE RECEIVED: SEP 26 1988 DATE REPORT MAILED: Sept 29/88 ASSAYER. C. Leong ..D.TOYE OR C.LEONG, CERTIFIED B.C. ASSAYERS

DUKE MINERALS LTD. File # 88-4779

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
1	1	100	7	52	.1	22	16	607	5.41	18	5	ND	4	57	1	2	2	139	1.91	.093	16	32	.86	66	.11	5	1.40	.02	.06	1	2
2	1	46	5	56	.2	26	12	719	2.79	9	5	ND	1	46	1	2	2	64	2.48	.068	8	27	.73	76	.07	5	.96	.02	.05	1	3
3	1	56	7	95	.2	62	18	1398	4.34	16	5	ND	1	37	1	2	2	81	1.06	.090	11	85	1.50	158	.11	4	1.74	.03	.10	1	2
4	1	26	6	105	.5	40	15	4329	3.51	17	5	ND	3	27	1	3	2	72	.66	.068	8	36	.99	214	.09	2	1.15	.01	.07	1	1
5	1	24	4	77	.1	42	12	648	4.06	53	5	ND	1	41	1	3	2	42	1.96	.095	13	36	.62	86	.09	3	1.20	.01	.05	1	12
6 P	1	42	7	60	.1	35	12	627	3.77	12	5	ND	1	36	1	2	2	92	1.43	.078	6	47	1.29	79	.12	8	1.73	.04	.07	1	1
7 P	1	87	6	76	.3	34	17	695	5.96	17	5	ND	1	31	1	2	2	210	1.86	.096	6	50	1.34	82	.14	7	2.08	.03	.06	1	86
5 ROCK	1	5	3	17	.3	8	2	227	1.14	36	5	ND	1	293	1	3	2	8	16.20	.035	3	5	.13	14	.01	4	.16	.01	.04	2	4
STD C/AU-S	18	58	42	132	6.9	68	30	1028	4.09	42	19	8	36	48	18	16	20	59	.49	.095	39	57	.94	180	.07	33	2.01	.06	.13	12	51

DUKE MINERALS LTD. [illegible] # 88-4685R

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
#1	9	49	5	11	.1	6	6	69	2.84	11	5	ND	39	33	1	2	2	35	.66	.154	8	4	.36	56	.05	11	.74	.05	.05	1	6
#2	3	119	5	32	.1	3	14	231	4.50	5	5	ND	30	21	1	2	2	62	.61	.113	38	4	.98	61	.02	26	1.28	.04	.13	2	4
#3	8	66	14	21	.1	3	6	116	5.22	16	5	ND	44	14	1	2	2	66	.21	.136	9	4	.69	51	.01	15	1.21	.03	.18	1	1
#4	7	38	5	14	.1	2	4	121	4.21	8	5	ND	23	13	1	2	3	68	.22	.135	7	3	.68	20	.02	12	.85	.03	.13	1	3
#5	8	14	7	9	.1	3	6	55	2.21	9	5	ND	13	20	1	2	2	77	.12	.038	25	6	1.25	52	.01	10	1.07	.04	.19	1	5
#6	9	10	5	5	.2	3	2	46	1.47	10	5	ND	17	50	1	2	3	33	.05	.023	38	4	.65	138	.01	16	.87	.02	.25	1	69
#7	5	10	4	15	.1	2	4	135	2.22	2	5	ND	15	29	1	2	2	82	.25	.044	40	5	1.84	15	.01	10	1.40	.03	.13	2	8
#8	3	41	2	28	.1	5	8	274	4.49	3	5	ND	19	42	1	2	3	148	.81	.147	27	5	1.57	8	.10	9	1.56	.03	.06	1	5
#9	3	88	12	17	.2	8	51	109	10.43	11	5	ND	16	25	1	2	2	47	.23	.054	21	3	.34	20	.04	10	.67	.02	.13	2	9
#10	4	44	6	12	.1	3	9	100	3.91	5	5	ND	26	40	1	2	3	57	.43	.100	28	2	1.11	23	.03	7	1.55	.03	.12	1	4
#11	4	26	8	6	.1	1	2	26	3.62	8	5	ND	28	56	1	2	2	19	.04	.074	43	2	.87	39	.01	5	.92	.04	.16	1	3
#12	8	9	4	2	.1	1	2	8	1.89	2	5	ND	10	24	1	2	2	35	.01	.018	11	2	.05	70	.01	7	.18	.03	.28	1	1
#14	9	12	2	3	.1	1	2	27	2.09	2	5	ND	15	27	1	2	2	17	.03	.023	35	3	.19	69	.01	4	.47	.03	.30	2	7
#14 A	8	14	4	8	.1	5	13	82	4.74	3	5	ND	15	20	1	2	2	74	.16	.072	27	6	.95	55	.03	3	1.19	.02	.33	1	14
#16	6	143	7	23	.1	4	13	261	5.90	2	5	ND	20	63	1	2	3	141	1.21	.153	33	7	1.06	14	.25	6	1.57	.03	.12	1	6
#17	1	108	4	22	.1	6	11	317	5.57	6	5	ND	20	51	1	4	2	139	1.44	.163	32	7	.68	14	.23	23	1.13	.04	.09	2	5
#18	5	10	2	6	.5	3	7	88	3.25	4	5	ND	5	10	1	4	2	74	.20	.027	11	6	1.90	15	.01	9	1.69	.02	.17	3	14
#19	1	2072	2	17	.1	17	91	435	2.64	4	5	ND	21	44	1	2	2	39	3.55	.183	47	8	.81	9	.01	14	1.45	.02	.12	1	2
#20	19	553	3	8			[illegible]	104	3.41	12	5	ND	9	100	1	2	3	54	1.65	.103	12	7	.65	40	.03	10	1.04	.04	.27	3	16
13192	1	446	46	29					[illegible]	354	5	ND	1	31	1	2	2	26	1.91	.561	2	7	.50	30	.10	12	.50	.04	.02	3	380
13193	1	424	111	21	[illegible]		9	259	3.08	52	5	ND	1	14	1	2	2	12	.60	.187	2	8	.23	17	.02	4	.33	.02	.02	7	37
13194	2	95	34	27	.1	9	2	162	.92	2	5	ND	1	8	1	2	2	10	.27	.049	2	8	.15	17	.01	2	.12	.01	.01	1	4
13198	1	112	[illegible]	38	.1	8	[illegible]	[illegible]	7.42	13	5	ND	22	35	1	2	2	123	.90	.144	32	7	1.39	20	.21	7	1.37	.04	.11	4	6
13199	12	78	[illegible]	16	[illegible]	[illegible]	3	191	6.45	20	5	ND	18	64	1	2	2	145	.97	.204	33	7	1.51	39	.24	9	1.82	.04	.12	1	1
13200	1	40	12	26	.1	9	4	306	[illegible]	52	5	ND	3	4	1	2	2	17	.05	.011	11	10	.31	361	.02	9	.58	.01	.14	4	13
STD C/AU-R	17	57	36	[illegible]			29	1018	3.90	41	18	6	36	47	18	20	23	58	.48	.093	38	56	.87	171	.07	33	1.94	.06	.13	11	510

ROCK SAMPLES
STAIN CREEK

COMPANY: DUKE MINERALS MIN-EN LABS ICP REPORT (ACT:F31) PAGE 1 OF 1
PROJECT NO: CASSIAR 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2 FILE NO: 8-1472/P1
ATTENTION: DAVID BRETT (604)980-5814 OR (604)988-4524 * TYPE ROCK GEOCHEM * DATE:SEPTEMBER 7, 1988

(PPM)	ASP#1	ASP#2	ASP#3	ASP#4	ASP#5	ASP#6	ASP#7	FLOAT	CREEKFLOAT	MD#2/88	MD#3/88	GROSSANSHEAR
AG	1.3	2.2	2.1	1.6	.8	1.0	.8	1.0	.4	1.4	.6	1.5
AL	20050	4390	5040	19000	31150	17740	26830	25330	1110	12180	38060	21440
AS	30	66	64	47	21	41	35	14	38	42	1	25
B	4	1	1	2	8	7	9	4	1	2	5	3
BA	23	44	46	34	24	79	31	30	2	28	132	48
BE	2.7	1.0	1.0	2.0	2.1	1.6	2.2	4.1	.5	1.7	2.0	2.0
BI	18	12	11	11	9	11	9	1	2	12	14	14
CA	15330	990	490	7250	10600	7540	9120	18420	245250	11510	3630	4960
CD	2.5	3.7	3.4	2.6	3.0	2.2	3.3	2.6	4.8	3.2	2.4	3.3
CO	40	17	17	17	28	34	30	134	19	65	23	39
CU	107	29	23	36	68	52	62	6976	167	569	21	333
FE	52620	13190	13930	29120	44950	78100	58730	82090	8570	45320	56180	53260
K	2100	2700	2740	2610	3150	3060	3870	3250	1220	1930	4150	2200
LI	51	53	52	51	58	50	55	53	42	52	58	56
MG	13230	3390	3690	6270	25450	10920	20260	20420	4430	8560	29600	22450
MN	255	20	13	39	212	213	156	385	417	218	464	288
MO	13	13	12	23	8	12	20	42	8	11	8	37
NA	940	1050	1250	920	820	1460	690	810	450	930	730	1610
NI	11	16	15	10	12	6	6	4	14	9	5	7
P	1720	370	320	1010	2080	1280	1560	1650	200	1570	1600	2220
PB	9	14	11	19	9	5	3	8	18	6	8	5
SB	1	15	14	9	1	1	1	1	8	1	1	1
SR	31	23	26	54	12	49	15	65	45	48	48	50
TH	1	1	2	3	1	1	1	1	1	1	1	2
U	1	1	1	1	1	1	1	1	1	1	1	1
V	133.1	27.9	25.8	53.0	150.4	132.7	114.8	122.4	17.5	68.9	190.2	116.5
ZN	23	11	10	13	12	20	12	17	13	24	20	18
GA	2	4	4	3	2	2	2	1	3	1	1	2
SN	5	4	3	4	3	4	3	4	2	4	5	4
W	1	5	6	2	1	1	1	1	3	1	2	1
CR	62	64	79	50	60	76	65	58	43	56	63	58
AU-PPB	4	6	3	12	5	23	21	123	2	18	3	9