861399

REPORT ON THE DEFOT CREEK PLACER LEASES AND LODE CLAIMS

DEFOT CREEK PROJECT

DEASE LAKE AREA
LIARD MINING DIVISION, BRITISH COLUMBIA

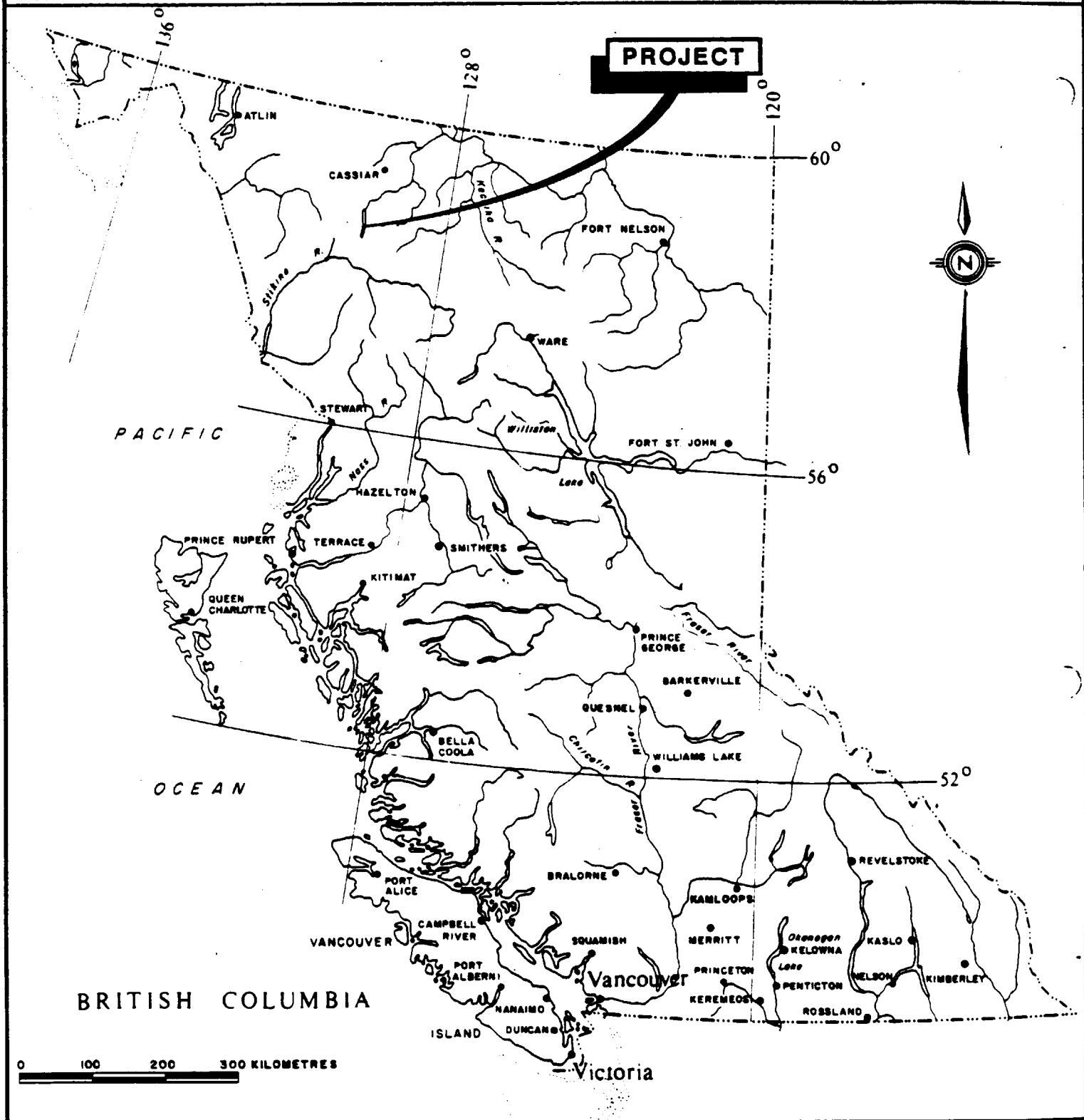
for

ST. TROY RESOURCES INC.
Whalley Professional Centre
13639 - 108 Avenue
Surrey, B.C.
V3T 2K4

Prepared by

WAYNE ASH, P.ENG.
Vancouver, B.C.

February 26, 1988



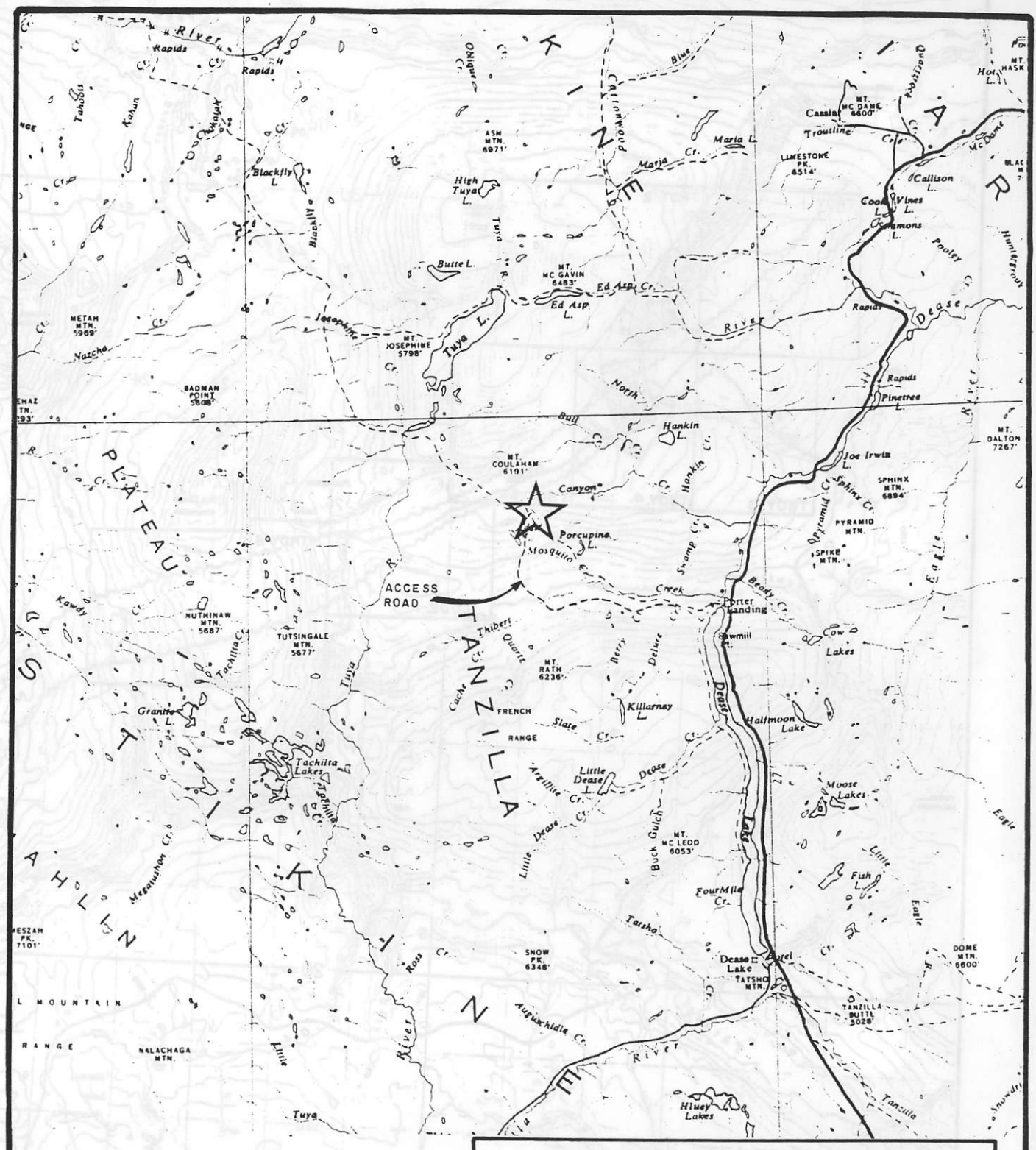
ST. TROY RESOURCES INC.

DEFOT CREEK PROJECT

LOCATION MAP

WAYNE V. ASH
ENGINEER

ASH & ASSOCIATES LTD.



ST. TROY RESOURCES INC.

DEFOT CREEK PROJECT

REGIONAL MAP

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N.T.S. 104 J/16 W	SCALE: 1:633,600	FIG.
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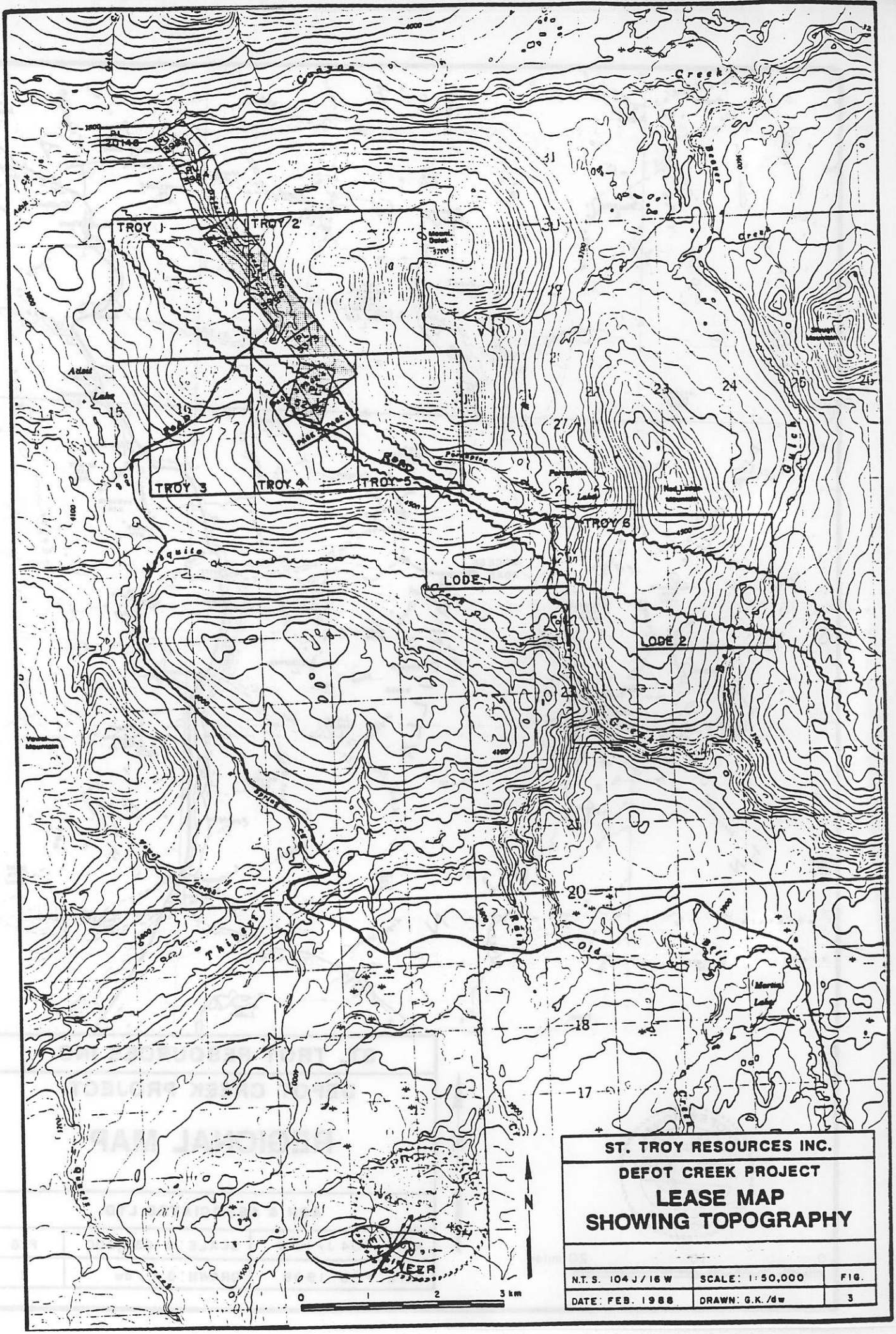

ST. TROY RESOURCES INC.		
DEFOT CREEK PROJECT		
LEASE MAP SHOWING TOPOGRAPHY		
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DATE: FEB. 1988	DRAWN: G.K. /dw	3

St. Troy Mines Ltd., a private company, has made an agreement with St. Troy Resources Inc. giving St. Troy Resources the right to explore and develop the ground.

Any investigation into the legal status of the leases is beyond the scope of work for this report and the writer therefore does not accept responsibility for the legal status of the above leases.

Lode Claims

St. Troy Resources Inc. has acquired from St. Troy Mines Ltd. the rights to lode claims as listed below (Figure 3). The agreement gives St. Troy Resources an option on this ground for the purposes of exploring and developing same to production.

TABLE 2

Lode Claims

Name of Claim	Claim Units	Recorded No.	Date Recorded	Expiry Date	Registered Owner
Troy 1	16	3693(9)	Sept 26/86	Sept 26/88	St. Troy Mines Ltd.
Troy 2	20	3694(9)	Sept 26/86	Sept 26/88	St. Troy Mines Ltd.
Troy 3	12	3695(9)	Sept 26/86	Sept 26/88	St. Troy Mines Ltd.
Troy 4	8	3696(9)	Sept 26/86	Sept 26/88	St. Troy Mines Ltd.
Troy 5	12	3697(9)	Sept 26/86	Sept 26/88	St. Troy Mines Ltd.
Troy 6	14	3698(9)	Sept 26/86	Sept 26/88	St. Troy Mines Ltd.

These claims comprise a total of 82 units covering an area of approximately 5,000 acres.

The writer does not accept responsibility for the legal status of the above claims.

Location and Access

Defot Creek is 34 air miles northwest of the community of Dease Lake, which is located along the Stewart-Cassiar Highway. The creek is 3.5 miles long, drains northwesterly into Canyon Creek which drains east into Dease River at a point

6 miles north of the lake called Dease Lake. Defot Creek has geographic coordinates 58° 53' North Latitude and 130° 27' West Longitude. The closest center for major supplies and commercial airline service is Watson Lake, 130 miles to the north at the junction of the Stewart-Cassiar and Alaska Highways.

Defot Creek can be accessed only by a 40-mile winter road from Porter Landing, located along the Stewart-Cassiar Highway at the north end of Dease Lake. During the summer months, the road can be accessed by small all-terrain vehicles and with some minor road construction, by four-wheel drive vehicles (Figures 2 and 3).

Currently, Fly West Air Services, based at the south end of Dease Lake, is equipped to fly supplies into Adsit Lake, three miles to the west of the Defot Creek Camp.

Physiography and Climate

The property is located in the Tanzilla Plateau physiographic region. This region is dissected by major east-west valleys, one of these being the Canyon Creek valley. Defot Creek is a small tributory to Canyon Creek, and drains northwesterly from a 16 square-mile drainage area around Mount Defot. To the south of this drainage area lies the major east-west valley of Thibert Creek.

The elevation at the mouth of Defot Creek is 3,500 feet above sea level, while at Defot Creek's headwaters, the elevation is 5,000 feet. The gradient of the creek ranges from 3% at the headwater to 10% downstream near its confluence with Canyon River.

The Defot Creek valley is mostly V-shaped, though at the headwaters the valley is U-shaped, the width of the valley bottom varying from less than 100 feet at two narrow canyons to 800 feet near the upper end of the property. The creek has several major gulches or stream tributaries throughout its length and in some localities identifiable ancient elevated benches on the slopes of the valley walls.

Vegetation consists primarily of spruce, pine, aspen and willows at the lower elevations of the creek valley while stunted spruce, buckbrush and alpine shrubs are at the higher elevations at the head end of the creek.

Annual precipitation in the Dease Lake area varies from 25 to 30 inches. Temperatures range from -50° C in winter to +25° C in summer. Snowfall accumulations vary from three td five feet. Dease Lake is normally ice-free from June through December. High water occurs during the first week of June, although heavy rains during the summer can cause temporary high run-offs.

HISTORY

Defot Creek is the fourth ranking producer in the Dease Lake area behind Thibert, Dease and McDame Creeks. In 1876, Messrs. John Defot, Henry Thibert, Jr. and crew travelled down the Dease River and up Canyon Creek, panning each tributary in search of a new gold strike. The results were disappointing and they nearly turned back had Defot not panned coarse gold from a small, unsuspecting creek. The strike and creek was named after Defot and proved to be one of the richest creeks in the area.

Discovery Company under the direction of John Defot, staked the Discovery claims (1,000 feet, total length) 200 feet upstream from the confluence of Canyon Creek on August 12, 1876. The first season of mining (1877) recorded $65,000 in coarse gold or 4,063 ounces from the lower Discovery claims. It was reported that nuggets in the range of one to three ounces were common, while nuggets in the range of 10 to 22 ounces were also recovered (Ministry of Mines Report 1878, pp. 375-376). In 1878, reported production was valued at $75,000 or 4,688 ounces of gold.

In 1879, numerous prospectors returned to the creek to mine the narrow creek cut throughout the 15,000-foot length of the creek. The miners' greatest restriction was the lack of water for ground sluicing. In fact, in areas where a small drainage occurred off the mountain slope, old workings can be seen 100 feet up the valley slope. Reported production from Defot Creek in 1879 was $95,000 or 5,938 ounces of gold.

In 1880, production slid to only $15,000 (938 ounces of gold). It is unknown whether the creek was proclaimed mined out, if another gold strike had been located, or

whether lack of water was the contributing factor to this reduced production. There is no information on Defot Creek after this period.

Between 1877 and 1880, the total gold production recorded was $250,000 or 15,627 ounces of raw gold, assuming that the average value received per ounce of gold as $16 dollars.

There are old workings for 15,000 feet along Defot Creek. These workings are relatively narrow (25 to 30 feet) and shallow (3 to 4 feet); thus, the range of volume mined during this period is estimated to be between 45,000 and 77,000 cubic yards. This would represent a grade of between 0.22 and 0.34 ounce gold per cubic yard.

In 1979 the ground on Defot Creek was open and the current vendors acquired same and began to develop it in the early 1980's.

In 1981, the vendors of the property conducted a small test program 800 feet upstream from the camp on placer lease 3982. The test included processing 500 cubic yards of bench gravels through a small sluice box. They recovered 35 ounces of placer gold, thus yielding a grade of 0.070 crude ounces of gold per cubic yard.

The property was leased to a Vancouver group in 1982/83 who bulk tested two areas in the Creek. At the first location, near the mouth of Defot Creek, 2,500 cubic yards of material yielded 70 ounces of placer gold, representing a grade of 0.028 crude ounces of gold per cubic yard. The second location was on a lower portion of the bench tested in 1981 near the site of the present day plant. Three thousand cubic yards of material yield 130 ounces of gold or 0.043 crude ounce gold per cubic yard.

During 1983 and 1984, Noranda Mines conducted a preliminary investigation on the Lode claims of the area. This program involved soil sampling, some geophysics and geological mapping. The soil anomalies were investigated further during 1987.

The property was optioned to St. Troy Mines Ltd. since 1985 who, in turn, joint ventured the project with two separate parties to continue the testing and

development of the property. The section of this report on "Site Tests And Past Production" deals with the exploration and development work carried out by St. Troy Mines. Over the last several years St. Troy Mines Ltd. have spent a total of $880,000 on exploration and installation of facilities.

During 1987, Candorado Mines Ltd. entered into a joint venture program with St. Troy Resources Inc. and carried out additional testing of the placer leases and also some preliminary trench sampling on the Lode claims, the subject of this report. The Joint Venture spent $304,127.08 on the 1987 field program.

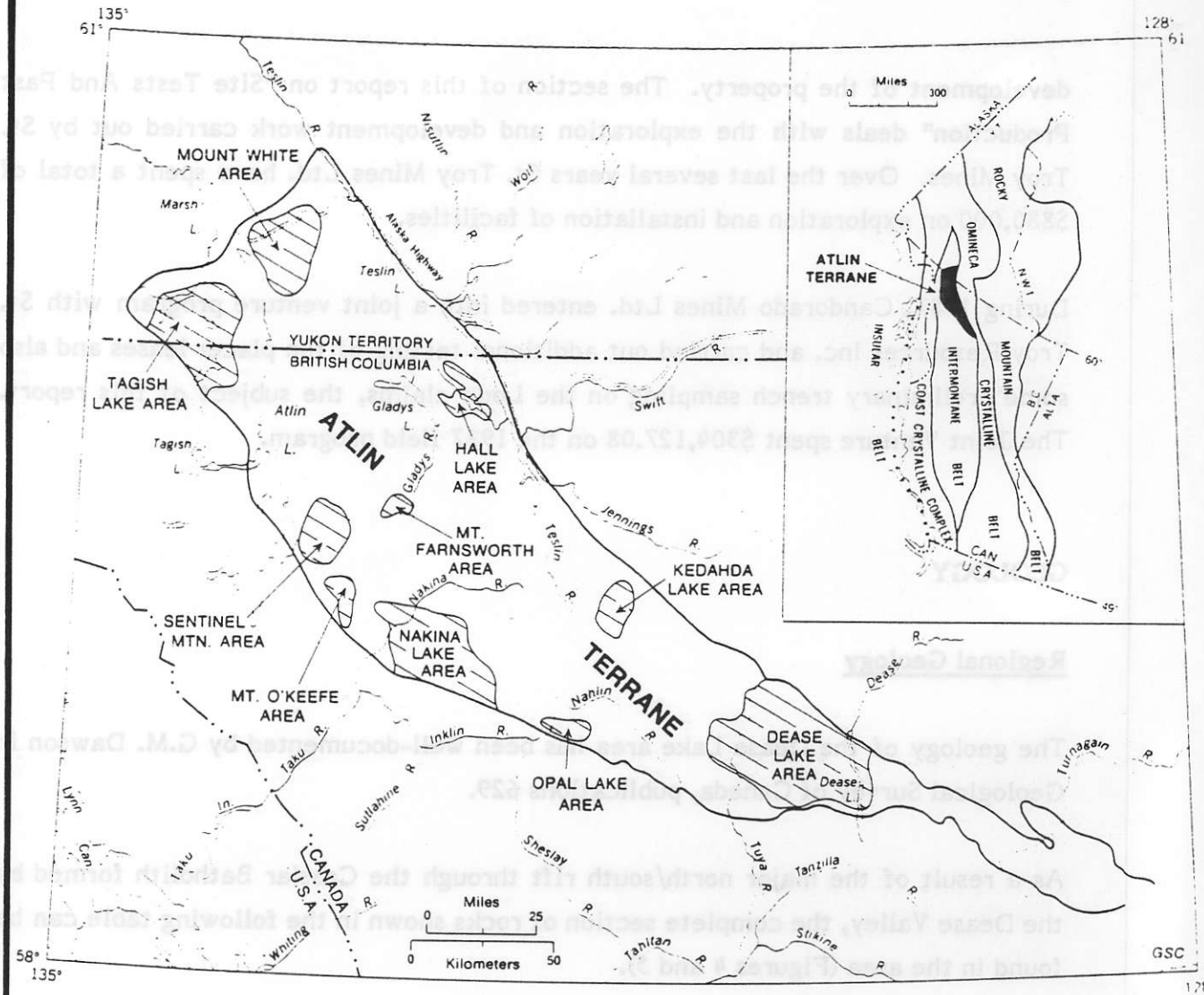
GEOLOGY

Regional Geology

The geology of the Dease Lake area has been well-documented by G.M. Dawson in Geological Survey of Canada, publications 629.

As a result of the major north/south rift through the Cassiar Batholith formed by the Dease Valley, the complete section of rocks shown in the following table can be found in the area (Figures 4 and 5).

More specifically, the majority of bedrock located within the Defot Creek drainage belongs to the Nazcha Formation and comprises volcanic sandstone, argillite tuff and conglomerate. At the headwater, this formation is in fault contact with Mississippian to Permian, Kedahda Formation, serpentinite, periodotite and pyroxenite, which is part of the Atlin Terrane thrust sheet (Figure 4). This fault is called the Thibert Fault. Major parallel quartz veins that are mineralized are associated with the fault zone.



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PROVINCE OF BRITISH COLUMBIA
WAYNE M. ASH

ST. TROY RESOURCES INC.		
DEFOT CREEK PROJECT		
REGIONAL GEOLOGY		
ASH & ASSOCIATES LTD.		
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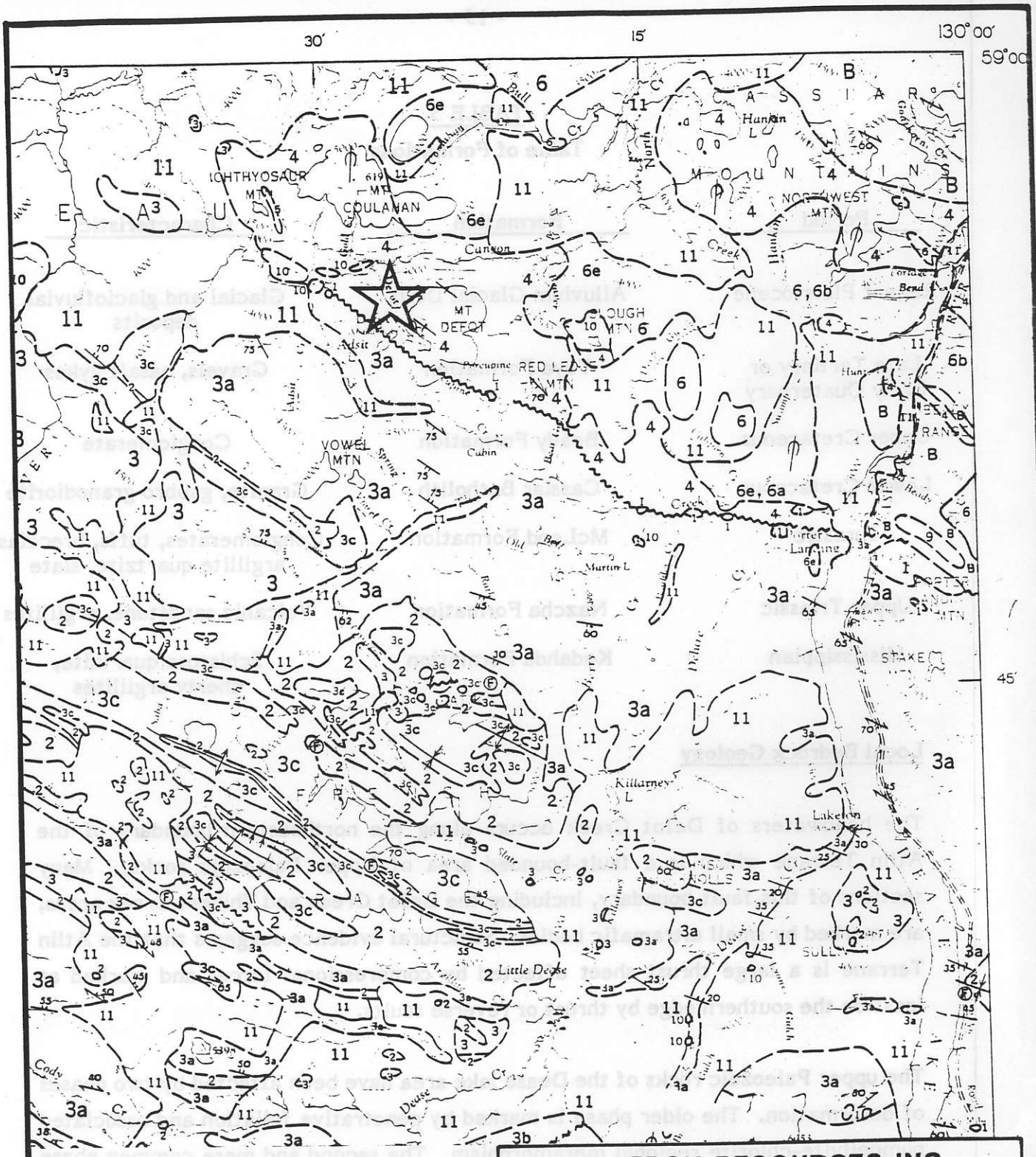

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
WAYNE M. ASH

ST. TROY RESOURCES INC.

DEFOT CREEK PROJECT

LOCAL GEOLOGY

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N.T.S. 104 J / 16 W	SCALE: 1" = 4 miles	FIG.
DATE: FEB. 1988	DRAWN: G.K./dw	5

TABLE 3

Table of Formations

Period	Formation	Characteristic
Recent Pleistocene	Alluvium Glacial Drift	Glacial and glaciofluvial deposits
Late Tertiary or Early Quaternary	Tuya Formation	Gravels, basalt dykes
Upper Cretaceous	Beady Formation	Conglomerate
Lower Cretaceous	Cassiar Batholith	Granite, gabbro granodiorite
Jurassic	McLeod Formation	Conglomerates, tuffs, breccias, argillite quartzite, slate
Upper Triassic	Nazcha Formation	Volcanic sandstone, argillites
Mississippian	Kedahda Formation	Schistose quartzite, cherty argillites

Local Bedrock Geology

The headwaters of Defot Creek occurs along the northeastern boundary of the Atlin Terrane which is a fault-bounded area of Upper Paleozoic rocks. Many sections of this fault boundary, including the Defot Creek and Thibert Creek areas, are marked by small ultramafic bodies. Structural evidence suggests that the Atlin Terrane is a large thrust sheet affected by compressional forces and marked at least on the southern edge by thrust or reverse faults.

The upper Paleozoic rocks of the Dease lake area have been affected by two phases of deformation. The older phase is marked by penetrative foliation and associated pumpellyite-chlorite regional metamorphism. The second and more common phase consists of crumbling associated with strain-slip cleavage.

Kedahda Formation (Mississippian to Permian)

On the property this formation consists of very schistose quartzite and lesser black, platy argillite. The strike of the well developed schistosity of foliation roughly parallels the Thibert Creek Fault. The schistosity generally dips 60 to 70 degrees southerly.

These rocks contain numerous coarse-grained white quartz lens within a 200 m to 400 m wide band south of the Thibert Fault. Such lens range up to 30 cm in width and 6 metres in length but are generally much smaller. Only rare trace sulphides were noted within these lenses. No alteration was noted adjacent to the lenses.

Nazcha Formation (Upper Triassic)

This formation underlies part of the area sampled during the 1987 field program.

The formation consists of fine grained, well bedded light grey sandstone with varying but significant amounts of black argillaceous rocks. Bedding varies from 10 cm to 1 metre in thickness with occasional more massive horizons.

Exposures of this formation are found along a branch of Defot Creek in the westernmost portion of the property. At this location the formation can be divided into three units. The easternmost consists of massive to thickly bedded sandstone with less than 10% argillite. A central unit with alternating horizons of sandstone and argillite vary from several metres to 5 - 25 cm in thickness. The westernmost unit consists of alternating sandstone and argillite horizons but such horizons are generally 5 cm or less thick giving the rock a distinctive banded appearance. Graded bedding is readily visible within this unit with tops consistently up. Occasionally sandstone horizons are up to 30 cm thick.

Shonektaw Formation (Upper Triassic)

This formation occurs east of the headwaters of Defot Creek. The formations consists of augite andesite and basalt. Only a few outcrops of this formation were observed. These formations consisted of fine grained, greenish, volcanic rocks. The greenish colour is suggestive of small amounts of chlorite and perhaps epidote.

Limestone

Outcrops of limestone up to 80 m wide are exposed along the upper parts of Porcupine Creek. Sporadic exposures occur for a distance of 500 m along the creek. These outcrops can be seen from a distance due to their whitish weathered surfaces.

On a fresh surface the limestone is light grey with a distinctive ribboned appearance. Such a texture is suggestive of algal layering. The limestone seems to consist of pure carbonate with no other material other than carbonate noted within the rock. Crosscutting white calcite veinlets are common. Locally the limestone appears to be partially silicified. No sulphides were noted within this formation.

Government mapping has shown both the Nazcha Formation and Kedahda Formation to contain limestone lenses. The limestones seen along Porcupine Creek likely belong to the Nazcha Formation but this is uncertain.

Granodiorite (Late Triassic and Early Jurassic)

Granitic rocks, including biotite-hornblende quartz diorite, granodiorite, quartz monzonite and diorite, underlie portions of the claims.

Ultramafic (Mississippian to Permian)

Ultramafic bodies in the Atlin Terrane have been divided into three types: elongate bodies occurring along the fault contacts to the Atlin Terrane, equidimensional bodies within the Atlin Terrane and bodies associated with Permo-Triassic volcanism at the northwestern end of the terrane.

These rocks are described by Monger (1975): "These rocks are predominately enstatite-bearing peridotite or harzburgite and dunite; partially or wholly serpentinized and serpentine of indeterminate origin. Locally they contain irregular lenses and layers of pyroxmite; some of which contain clinopyroxene that may form piokilitic crystals enclosing olivine grains."

The ultramafics at Thibert Creek would be classified as "alpine type" ultramafics.

The exposures of ultramafic can be divided into three types:

a) unaltered, fine grained, black peridotite
b) serpentinite
c) quartz-carbonate-mariposite altered rock

Peridotite

Small pockets of black, fine grained peridotite are found within all ultramafic bodies visited. Such pockets vary from a few metres to a few centimetres in width. Occasionally such rock was seen near the outer edges of ultramafic bodies. Peridotite would comprise less than 1% of most ultramafic bodies.

Serpentinite

Dark green waxy serpentine comprises a significant propotion of the ultramafic rocks found between Porcupine Lake and Thibert Creek. No serpentine was seen in the ultramafics. Serpentine with trace asbestos was noted within a 15 m wide shear zone crosscutting one of the ultramafics.

Quartz - Carbonate - Mariposite Alteration

The ultramafic bodies occurring in the area consist largely of quartz-carbonate-mariposite altered rock. Many of the ultramafic bodies, consist of greater than 90% altered rock.

Silica would appear to be by far the predominant constituent. Emerald green mariposite is present in variable amounts but is also present even if in only trace amounts. Small amounts of calcite and whitish carbonate tentatively identified as magnesite are also present. Since magnesite often incorporates silica into its lattice and forms a chert-like appearance, some of what appears to be silica may be magnesite and therefore the amount of carbonate may be much greater than it appears.

Outcrops of this altered rock are characteristically brightly iron-stained with orange goethite. Outcrops are also often laced with abundant quartz veinlets generally less than 1 cm thick. Only very rare trace pyrite was seen in such veins. Similar networks of thin quartz veinlets was observed within sedimontary rocks adjacent to the ultramafic bodies.

Small flecks of a silvery-grey sulphide tentatively identified as arsenopyrite was seen on some fracture surfaces.

Tertiary to Recent Geology

The unconsolidated deposits overlying bedrock consist of post-glacial alluvium, glacial drift formed after the last period of glaciation, interglacial deposits formed during one or more periods of temporary retreat of the ice during the Pleistocene, and gold-bearing pre-glacial deposits.

The post-glacial gravels within the Defot Creek drainage basin formed mainly by the creek eroding glacial drift and sections of pre-glacial gravels. These gravels are gold-bearing as they have re-concentrated inter-glacial and pre-glacial gravels. Typically, they are comprised of gravels which are subangular to rounded, and vary from pebble to boulder size up to five feet in diameter. The matrix is greyish in colour and constitutes sand, silt and clay. In locations where post-glacial gravels overlie pre-glacial gravels, they are often oxidized to a deep orange colour. Post-glacial gravels are four to six feet thick on the lower reaches of the creek, while only two to three feet thick on the upper sections. These depths thicken considerably toward the outer perimeter of the valley.

The interglacial gravels that partly fill the old stream channel and present valleys tend to vary in thickness from several feet to as much as 40 feet. They are typically interbedded silt/sand and clean, washed pebble-cobble gravels. As a rule, gold is disseminated throughout the gravels, and is slightly concentrated into paystreaks within the coarser fraction of the gravels.

The oldest gravels on the Defot Creek are pre-glacial in age. These overlie bedrock, are typically two to five feet thick, and are a distinct green to reddish in

colour. Clasts are well-rounded volcanic and quartz in composition, and are weakly cemented with iron oxides. These gravels are rarely exposed and tend to be buried under the post-glacial gravels or interglacial gravels, or both. The pre-glacial gravels are considered the primary sources of placer gold on Defot Creek.

There appears to be two types of placer gold on Defot Creek as distinguished by the fineness of gold being 810 and 860 fine. This suggests that the origin of placer gold on Defot Creek is not only from the pre-glacial gravels, but possibly from a local source. Typically, the gold is coarse and chunky, and commonly associated with quartz. Other heavy minerals associated with the placer gold include magnetite, hematite and garnet.

PAST PRODUCTION AND TESTING

Placer mining in the Defot Creek Valley has been sporatic, the main difficulty being inadequate financing of projects where difficult access and infrastructure considerations demanded adequate funding to be successful. A compilation of known production from the creek over the past 112 years was prepared showing value per cubic yard including estimates of volumes processed where such information was missing:

TABLE 4

Past Production

Production Period	Ounces Recovered	Volume of Material Processed (cubic yards)	Value per cu. yd. at $500 Can/ounce
1877 to 1880	15,627	75,000 est.	$100
1881 to 1980		unknown production	
1981	35	500	$35
1982 to 1983	200 (areas 1 & 11)	5,500	$18
1984 to 1986	313 (area 1)	14,000	$11
(St. Troy Mines)	7.8 (area 2)	700*	$6
	2 (area 3)	50 est.	$19
	4 (area 4)	50 est.	$24

* mostly reprocessing of old placer tailings, the portion that was not tailings ran $15/yd^3.

LODE CLAIMS SAMPLING PROGRAM

Three trenches and one pit were excavated to bedrock, chip sampled and mapped (Figure 9). Trench #1 was on Noranda's Line 97+00E, and the sampling was coincident with their 'C' anomaly. Trench #2 was incorrectly placed on Noranda's Line 115+00E, and only the deeper eastern end was sampled.

Trench #3 and the pit were located on Noranda's anomaly 'B', Line 127+00E, but a mechanical breakdown of the backhoe curtailed its excavation. All exposed bedrock was sampled.

Sketches of these trenches with sample numbers and geology are shown in the field report by Angus Woodsend, Appendix F. The assay sheets from Chemex are also included in Appendix G and it can be seen that there are no signficantly anomalous values.

In addition to the trench sampling, some orientation geophysical lines were run along the trenches, (mag. in Trenches 1 & 2, and VLF-EM in Trench 1). The geophysical profiles are included with a report by T. Liverton (Appendix H).

To date the sampling and geophysical surveys have returned no particularly anomalous results. This should not cause undue concern since the work was of a reconnaissance nature and covered a very small area.

The Troy claims cover a major northwest-southeast fault system, reportedly with associated ultrabasics, and a secondary north-south fault/shear system in Triassic volcanics. These are all favourable indicators.

Surface geochemistry was completed over the NW-SE fault system by Noranda in some detail in 1984. This led to the definition of anomalies 'A', 'B' and 'C'.

However, the lack of very high values in this survey suggest that the target in the NW-SE fault system may be more deeply buried. It is therefore possible that any mineralization present would have to be located using depth-penetrating geophysical techniques.

CERTIFICATE OF QUALIFICATIONS

I, Wayne M. Ash, P. Eng., of 401 - 1765 Duchess Street, West Vancouver, British Columbia, do hereby certify as follows:

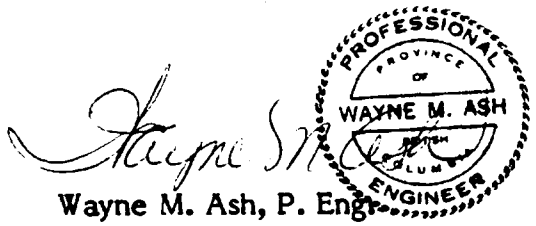
1. I am a graduate of the Haileybury School of Mines (Ontario, 1965) and Michigan Technological University (Michigan, B. Sc. Mining Engineering, 1969).

2. I have been directly associated with the mining industry for the past twenty-seven years and have been a member of the Association of Professional Engineers of British Columbia since 1971 (Registration No. 7940).

3. I have no interest, either directly or indirectly in the property or securities of St. Troy Resources Inc. or in the Defot Creek Project, subject of this report.

4. Permission is granted to publish this report dated February 26, 1988, in a Statement of Material Facts or in the Prospectus for St. Troy Resources Inc. Written permission from the author is required to publish this report for any other purposes.

Dated at Vancouver, B.C., this 26th day of February, 1988.



Wayne M. Ash, P. Eng.

APPENDIX A

HISTORY ARCHIVES AND MINISTER OF MINES REPORTS

DEFOT CREEK DISCOVERY CO.

Recorded August 12, 1876, in favor of John Defot Claim no. 8183 Mack Dudrett Claim # 9907,Joseph Debeaudreau Claim #1114, Midreal Thibert Claim # 8186, All of the Discovery Claims in Defot Creek which drains into Canyon Creek starting from the first falls running upstram 800 feet.

Recorded August 12, 1878, in favor of J. H. Denies Claim # 11K and Milreal Thibert Claim # 8186 two hundred feet of claims adjoining the upper line of the discovery Co. and to be worked with the said company.

DEFOT CREEK THIBERT CO.

Recorded August 12, 1878, in favor of Henry Thibert Claim # 8182-o . Thibert Claim #8195, three creek claims adjoining the upper line of the Discovery Company running upstream and also the lower line of the Thibert Co. Cliams, start from the second falls running upstream 300 feet.

Page 375 DEFOT CREEK YEAR 1878

It is, however, most satisfactory to be able to report the rich "strike" on Defot Creek. It is a small and short stream but it yielded during the latter part of last summer, gold to the value of about $65,000, The greatest interest attaching to the discovery, however is the probability of its being the cause of opening up what may prove to be the richest section of the most northern gold field in the Province.

All mining work in this district is carried on under great and exceptional difficulties: so much so , in fact , that the wonder is that the percentage of miners coming down "broke " is not greater than has hitherto been the case.

Page 376 DEFOT CREEK YEAR1878

The excitement caused by the discovery of Defot Creek still prevails: being a small creek, however, the majority of those visiting it after the first "rush" had to content themselvers with a look at what has proved to be, for its size , the richest creek yet found in the district. I have seen many nuggets that have been taken from it weighing about 10 ounces each, and one over 22 ounces; have heard that one nine pounds in weight,

has been there unearthed, but not having seen it I am unable to vouch for the correctness of that report. Some $65,000 has been the total output from that creek since its discovery.

Upon the divide from which Defot creek heads, I have seen a great abundance of quartz, and the taken from Defot Creek, as you approach the summit, has an unwashed appearance, and in many instances seems to have been but recently delivered from the matrix, etc.

G. M. DAWSON REPORT 1887 - 1888

CASSIAR DISTRICT

Page 138R

DEFOT CREEK - A tributary of Canyon Creek, which is on the same (west) side of the Dease River, with the last. Gold coarse, rough and often full of quartz. Large nuggets, including one of fourteen ounces. Has been, for a limited area, (about a mile in length) one of the richest pieces of ground in the district. The gold is evidently derived from massive deposits of quartz, which occur at the head of the creek, at a considerable elevation. some work is still in progress, though the creek bed is worked out. Gold was found , and in 1878 proved rich for a limited area.

October 4, 1878 DAILY COLONIST

RICH CLAIMS ON DEFOT CREEK

The steamer Grappler arrived here early yesterday morning from Fort Wrangel and way ports bringing $6,000.00 in gold dust from Cassiar, 2 bags of mail matter and a quantity of miscellaneous freight, and passengers. The news from the mines is somewhat meagre. Several claims on Defot Creek, one of the latest and probably the richest creek yet discovered in Cassiar, are paying handsomely. Jack Welch & Co. are taking out $30 to $250 to the hand per day; Jeffrey & Collins , 2 to 3 oz.; Newcomber & Co. , 2 oz, Aleck Black, 2 oz, ; Discovery claim, 1½ oz.; Rough and Ready 1½oz. Charley Alexander found a splendid nugget near the first forks of the creek weighing 22½ oz., and a number of smaller ones have also been taken out. The weather on the creek was for sometime, wet. Our informant left Defot on the 15th Sept. and states that at that date the miners had

put in four weeks good work. The gold is spotted and the shallow claims are a great deal the richest. Quartz has been discovered on the summit of the mountain running along the creek.

July 24th, 1879 Daily Colonist

DEFOT CREEK WHAT IS BEING EARNED BY THE MINERS

The following claims on Defot Creek are being worked with gratifying results:

PRESBTIGO CLAIM

Owned by A.H. Cameron, J. Dickinson and R. McDermott, yielding 3 ozs. per dat to the hand.

NEW HOPE CLAIM

Owned by J. Gillis & Co., one oz. per day to the hand.

JEFFRIE CLAIM

Owned by W. Jeffrie and J. Collins , 3 ozs. per day to the hand.

NIL DESPERANDUM CLAIM

Owned by D. McMillan , O. Kerrigan and P. Boyle, 2 ozs. per day to the hand. This company will have to tunnel the hill for a portion of their pay. Their prospects are very encouraging.

BLUE BELL CLAIM

Owned by J. Clark and J. Colvin, 2 ozs. per day to the hand.

CALEDONIA CLAIM

Owned by J. C. McCrimmon, S. Evans and W.E.Osterhout, 2ozs. per day to the hand.

BIG NUGGETS

Nuggets, wieghing 14½ and 45½ ounces, respectively have been found on this creek. McCrimmon & Co. found the large one. It is the largest piece of clear gold yet found in Cassiar, being quite free of quartz. The Thibert Co. are reported to have found another nugget wighing 20 ozs. in their claim.

DAILY COLONIST

July 25,1879

LETTER FROM DEFOT CREEK

(Special Correspondent of the Colonist.)

EDITOR COLONIST - I have a few minutes to spare, which I will devote to a brief report of matters here.

All the companies on this creek have been sluicing nearly two weeks. The creek trail is rendered impassable by the ground sluicing and net work of sluice - boxes from the summit to the bottom. At the rate work is being prosecuted nearly all the claims for a distance of two miles will be worked out this season. Even now many are praying for another discovery like Defot : but we are beginning to despair of any similar discovery, at least near at hand, as several parties have been scouring this vicinity since April with out success.

APPENDIX F

STATUS REPORT ON THE TROY 1 to 6 LODE CLAIMS

BY

ANGUS WOODSEND

DEFOT CREEK

STATUS REPORT ON THE TROY LODE CLAIMS

prepared for

CANDORADO MINES LTD

St. Troy Resources Inc. represents that it has acquired the rights to the following lode claims from St. Troy Mines Ltd.

Name of Claim	No of Units	Recorded No	Date Recorded	Expiry Date
Troy 1	16	3693(9)	26Sept86	26Sept87
Troy 2	20	3694(9)	26Sept86	26Sept87
Troy 3	12	3695(9)	26Sept86	26Sept87
Troy 4	8	3696(9)	26Sept86	26Sept87
Troy 5	12	3697(9)	26Sept86	26Sept87
Troy 6	14	3698(9)	26Sept86	26Sept87

In the fall of 1987 a limited amount of ground work was done on this property by the Candorado-St Troy Joint Venture.

Three trenches and one pit were excavated to bedrock, chip sampled and mapped.

Trench #1 was on Noranda's Line 97+00E, and the sampling was coincident with their 'C' anomaly.

Trench #2 was incorrectly placed on Noranda's Line 115+00E, and only the deeper eastern end was sampled.

Trench #3 and the pit were located on Noranda's anomaly 'B', Line 127+00E, but a mechanical breakdown curtailed its excavation. All exposed bedrock was sampled.

Sketches of these trenches with sample numbers and geology are attached. The assay sheets from Chemex are also included, and it can be seen that there are no significantly anomalous values.

In addition to the trench sampling, some orientation geophysical lines were run along the trenches, (mag. in Trenches 1 & 2, and VLF EM in Trench 1). The geophysical profiles are included with a report by T. Liverton.

To date the sampling and geophysical surveys have returned no particularly anomalous results. This should not cause undue concern since the work was of a reconnaissance nature.

The Troy claims cover a major northwest-southeast fault system, reportedly with associated ultrabasics, and a secondary north-south fault/shear system in Triassic volcanics. These are all favourable indicators.

Surface geochemistry was completed over the NW-SE fault system by Noranda in some detail in 1984. This led to the definition of anolalies 'A', 'B' and 'C'. However, the lack of any very high values in this survey suggests that there is no near-surface mineralization.

The target in the NW-SE fault system is, therefore, more deeply buried mineralization which would have to be located using depth-penetrating geophysical techniques.

As far as is known, the subsidiary north-south fault trends have not been explored, and surface geochemistry would be the first technique to apply here.

If the decision is made to proceed with the exploration of the Troy claims, the next steps are as follows:

1. Confirm the locations and status of the claims, (some of the ground is under dispute).

2. Review Noranda's earlier work and replot relevant data on a property map.

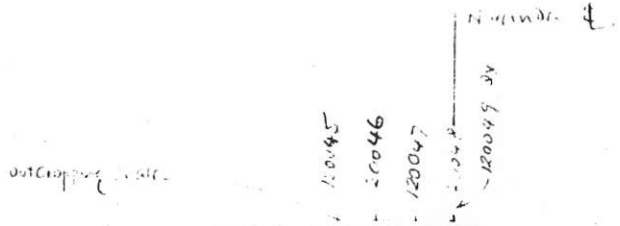
3. Determine what exploration methods to employ, (mapping, geochemistry, geophysics, air photo interpretation etc.) and draw up a budget.

Angus Woodsend

10 Dec 1987

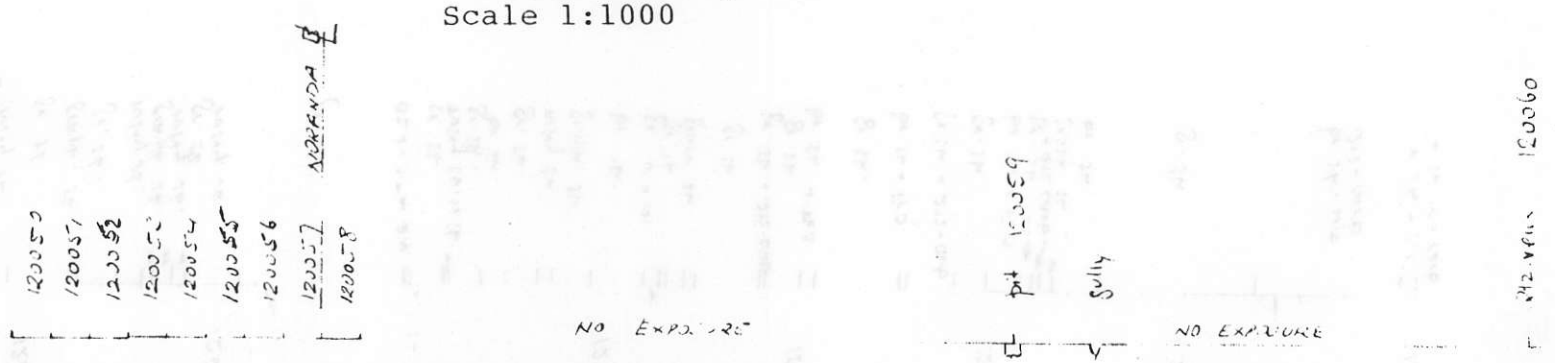
CANDORADO MI. S LTD
DEFOT CREEK PROJECT

Trench #2, Line 115 + 00 E
Section looking north
Scale 1:1000



Trench east of ridge outcrop.
Depth of overburden 2 to 4 feet.
Exposures all iron-stained shales with minor quartz veins. All samples from excavated material.

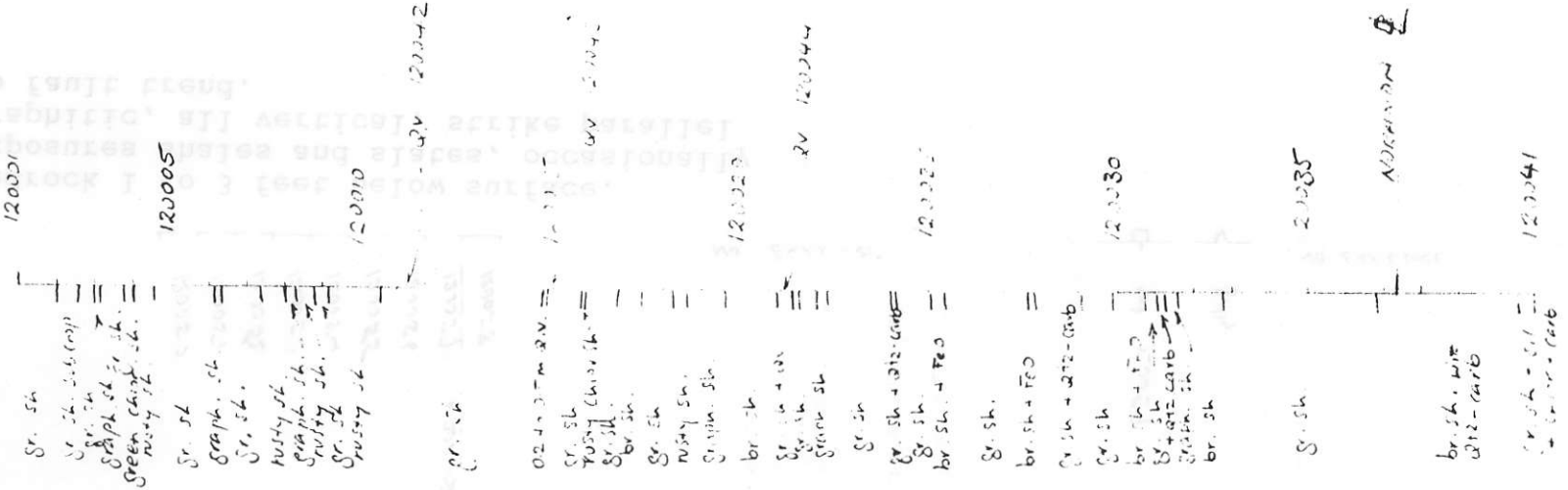
Trench #3, Line 127 + 00 E
Noranda anomaly "B".
Section looking north
Scale 1:1000



Bedrock 1 to 3 feet below surface.
Exposures shales and slates, occasionally graphitic, all vertical, strike parallel to fault trend.

DEFOT CREEK PROJECT

Trench #1, Line 97 + 00 E
Noranda anomaly "C".
Section looking north
Scale 1:1000



sh	shale	graph	graphitic
qv	quartz vein	chlor	chloritic
br	brown	gr	grey
sil	siliceous	qtz	quartz
carb	carbonate		

APPENDIX G

CHEMEX ASSAY RESULTS

Chemex Labs Ltd.

Analytical Chemists * Geochemists * Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

T NDC MI LTD.

707 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9

Project : DEFOT CREEK
Comments: CC: ST. TROY MINES LTD.

Pa). :
Tot. Pages: 2
Date : 29-NOV-87
Invoice # : I-8726425
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8726425

SAMPLE DESCRIPTION	PREP CODE		Ag oz/T	Au oz/T
120041 H	207	--	< 0.01	< 0.002
120042 H	207	--	< 0.01	< 0.002
120043 H	207	--	< 0.01	< 0.002
120044 H	207	--	0.01	< 0.002
120045 H	207	--	0.01	< 0.002
120046 H	207	--	< 0.01	< 0.002
120047 H	207	--	< 0.01	< 0.002
120048 H	207	--	0.01	< 0.002
120049 H	207	--	< 0.01	< 0.002
120050 H	207	--	< 0.01	< 0.002
120051 H	207	--	0.01	0.002
120052 H	207	--	< 0.01	< 0.002
120053 H	207	--	< 0.01	< 0.002
120054 H	207	--	< 0.01	< 0.002
120055 H	207	--	< 0.01	< 0.002
120056 H	207	--	< 0.01	< 0.002
120057 H	207	--	< 0.01	< 0.002
120058 H	207	--	< 0.01	< 0.002
120059 H	207	--	< 0.01	< 0.002
120060 H	207	--	< 0.01	< 0.002

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY B.C. CERTIFIED ASSAYERS

CERTIFICATION : W. Ellen Amerine

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

[redacted]
707 - 626 W. PENDER ST.
VANCOUVER, BC
V6B 1V9
Project : DEFOT CREEK
Comments: CC: ST. TROY MINES LTD.

Tot. P. 2
Date :29-NOV-87
Invoice # :I-8726425
P.O. # :NONE

CERTIFICATE OF ANALYSIS A8726425

SAMPLE DESCRIPTION	PREP CODE		Ag oz/T	Au oz/T
120001 H	207	--	< 0.01	< 0.002
120002 H	207	--	< 0.01	< 0.002
120003 H	207	--	< 0.01	< 0.002
120004 H	207	--	< 0.01	< 0.002
120005 H	207	--	< 0.01	< 0.002
120006 H	207	--	< 0.01	< 0.002
120007 H	207	--	< 0.01	< 0.002
120008 H	207	--	< 0.01	< 0.002
120009 H	207	--	0.01	0.004
120010 H	207	--	< 0.01	< 0.002
120011 H	207	--	0.02	< 0.002
120012 H	207	--	< 0.01	< 0.002
120013 H	207	--	< 0.01	< 0.002
120014 H	207	--	< 0.01	0.002
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120016 H	207	--	< 0.01	< 0.002
120017 H	207	--	< 0.01	< 0.002
120018 H	207	--	0.01	0.002
120019 H	207	--	0.07	0.002
120020 H	207	--	< 0.01	< 0.002
120021 H	207	--	< 0.01	0.002
120022 H	207	--	< 0.01	< 0.002
120023 H	207	--	0.01	< 0.002
120024 H	207	--	< 0.01	< 0.002
120025 H	207	--	0.02	< 0.002
120026 H	207	--	< 0.01	< 0.002
120027 H	207	--	< 0.01	< 0.002
120028 H	207	--	< 0.01	< 0.002
120029 H	207	--	< 0.01	< 0.002
120030 H	207	--	< 0.01	< 0.002
120031 H	207	--	< 0.01	< 0.002
120032 H	207	--	< 0.01	< 0.002
120033 H	207	--	0.04	< 0.002
120034 H	207	--	< 0.01	< 0.002
120035 H	207	--	0.03	< 0.002
120036 H	207	--	0.03	0.002
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120038 H	207	--	0.01	< 0.002
120039 H	207	--	0.02	< 0.002
120040 H	207	--	0.01	< 0.002

ALL ASSAY DETERMINATIONS ARE PERFORMED OR SUPERVISED BY B.C. CERTIFIED ASSAYERS

CERTIFICATION : W. Ellen Pancucci

Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1
Phone: (604) 984-0221
Telex: 043-525

CERTIFICATE OF ASSAY

: ST. TROY MINES

BOX 1931
PARKSVILLE, B.C.
V0R 2S0

CC: RON HAWLEY, ST. TROY MINES

** CERT. # : A8618945-001-A
INVOICE # : I8618945
DATE : 13-OCT-86
P.O. # : NONE

Sample description	Prep code	Ni %	Sn %	Ag FA oz/T	Au FA oz/T		
PIT #01	207	<0.01	--	0.06	0.020	--	--
PIT #02	207	<0.01	--	0.02	0.016	--	--
PIT #03	207	<0.01	--	0.05	0.010	--	--
PIT #04	207	<0.01	--	0.03	0.006	--	--
PIT #07	207	<0.01	<0.01	0.07	0.010	--	--
PIT #15	207	0.17	--	0.05	0.012	--	--
PIT #16	207	<0.01	--	0.08	0.004	--	--
BLACK SAND #17	207	<0.01	--	0.25	0.628	--	--
SAMPLE #18	207	0.01	--	0.11	0.074	--	--

Troy Claims

VOI rev. 4/85

W. Stockmann

Registered Assayer, Province of British Columbia

Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1

Phone: (604) 984-0221
Telex: 043-52597

CERTIFICATE OF ANALYSIS

: ST. TROY MINES

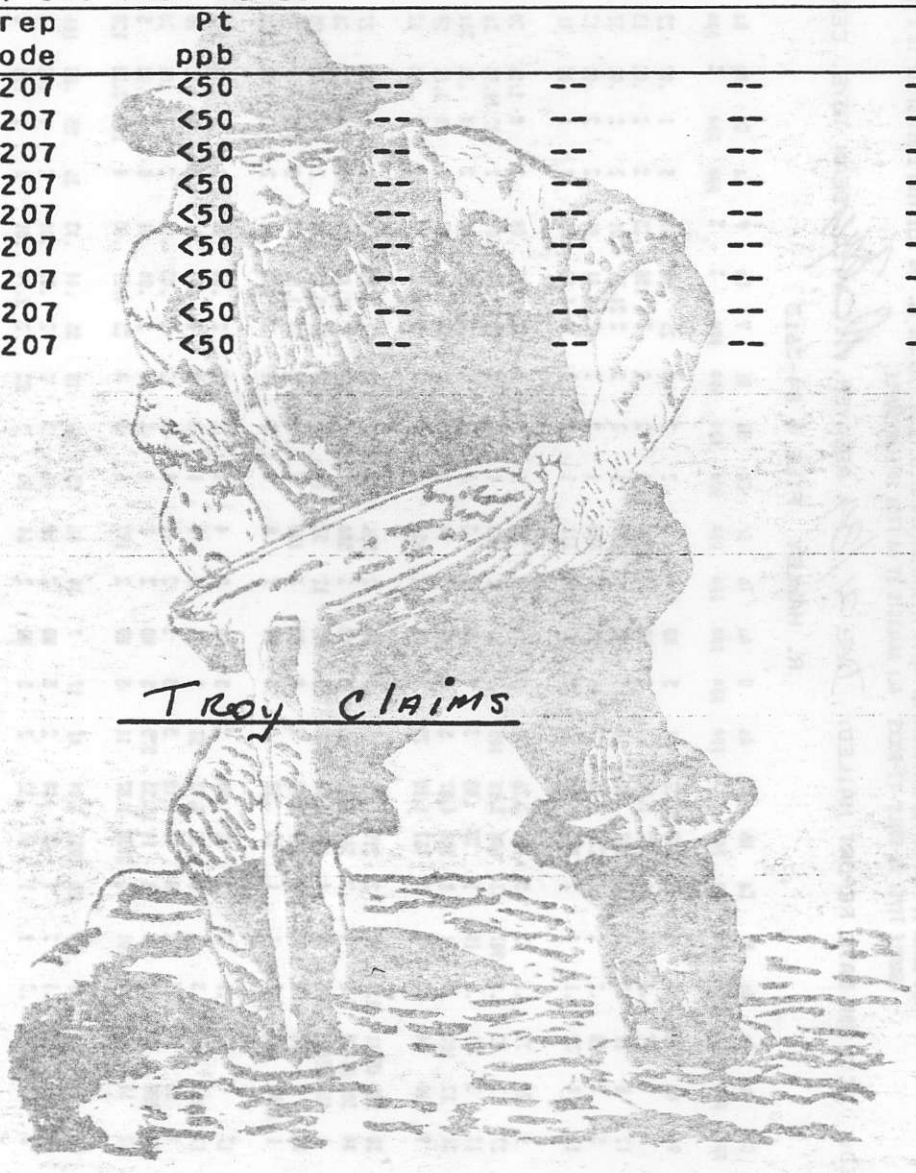
BOX 1931
PARKSVILLE, B.C.
V0R 2S0

CC: RON HAWLEY, ST. TROY MINES

**

CERT. # : A8618945-001-A
INVOICE # : I8618945
DATE : 13-OCT-86
P.O. # : NONE

Sample description	Prep code	Pt ppb						
PIT #01	207	<50	--	--	--	--	--	
PIT #02	207	<50	--	--	--	--	--	
PIT #03	207	<50	--	--	--	--	--	
PIT #04	207	<50	--	--	--	--	--	
PIT #07	207	<50	--	--	--	--	--	
PIT #15	207	<50	--	--	--	--	--	
PIT #16	207	<50	--	--	--	--	--	
BLACK SAND #17	207	<50	--	--	--	--	--	
SAMPLE #18	207	<50	--	--	--	--	--	



VOI rev. 4/85

Certified by W. Stanmanis

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

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-3 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR Mn.Fe.Ca.P.Cr.Mg.Ba.Ti.B.Al.Na.K.W.Si.Zr.Ce.Sn.Y.Nb and Ta. Au DETECTION LIMIT BY ICP IS 3 ppm.
- SAMPLE TYPE: P1-SOILS P2-ROCKS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: DEC 20 1984 DATE REPORT MAILED: Dec 21/84 ASSAYER. DEAN TOYE. CERTIFIED B.C. ASSAYER

R. HAWLEY FILE # 84-3613

	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
DeFoT →	DFC-1	3	94	44	78	.3	5	3	342	39.23	34	5	ND	4	5	2	2	5	25	.18	.01	5	1	.07	22	.01	98	.19	.02	.01	3	6
Dense Area	GP-1	1	6	7	32	.1	3	1	402	1.03	7	5	ND	2	88	1	2	2	3	.58	.35	2	2	.02	13	.01	6	.08	.03	.01	2	2
	GP-2	1	12	8	11	.2	2	1	287	.51	10	5	ND	2	2477	1	2	2	2	21.34	.01	2	2	.02	32	.01	2	.05	.01	.03	2	10
	GP-3	1	5	7	16	.2	2	1	228	.46	7	16	ND	2	688	1	2	2	2	4.41	.01	2	2	.01	13	.01	5	.03	.01	.01	2	2
	GP-5	1	13	4	32	.1	4	2	341	.80	11	5	ND	2	311	1	2	2	4	1.40	.04	2	1	.02	41	.01	2	.11	.03	.04	2	1
DeFoT	DF-1	1	9	26	73	.1	12	5	454	3.26	2	5	ND	2	32	1	2	2	27	.32	.08	2	8	1.16	30	.06	5	1.50	.04	.03	2	1
	DF-2	1	27	7	22	.1	907	43	604	3.11	105	5	ND	2	135	1	2	3	15	1.30	.01	2	227	11.95	36	.01	10	.05	.01	.01	2	1
	DF-3	1	17	3	11	.1	10	1	38	.48	3	5	ND	2	3	1	2	2	2	.01	.01	2	5	.11	301	.01	2	.04	.01	.01	2	1
	DF-4	1	24	12	102	.1	21	8	544	4.87	5	5	ND	2	39	1	2	2	35	.28	.07	2	8	1.82	59	.06	14	2.30	.06	.06	2	1
Dense →	DZ-1	1	9	10	54	.1	5	3	467	1.10	75	5	ND	2	656	1	2	2	5	6.95	.01	2	2	.05	62	.01	2	.13	.02	.07	2	2
Cassiar Area	JRH-1	11	38	285	65641	2.4	13	2	219	1.96	15	5	ND	2	556	345	5	37	2	8.92	.01	4	1	.24	27	.01	2	.02	.01	.01	2	2
	JRH-2	11	44	302	81479	5.6	4	2	361	3.01	60	5	ND	2	580	627	2	258	2	21.45	.01	9	1	.25	36	.01	2	.01	.01	.01	2	2
	NF-1	2	6	416	2425	5.1	18	4	199	2.16	128	5	ND	12	52	12	2	20	22	2.48	.08	2	28	1.53	25	.06	6	2.63	.12	.58	2	1
	NF-2	1	14	9	813	.1	28	8	137	2.43	7	5	ND	6	106	4	2	2	33	1.86	.08	2	39	1.07	70	.11	2	3.73	.15	.72	2	1
	HB-2	1	1	1092	45	1.4	1	1	13	.12	4	5	ND	2	8	1	3	2	2	.03	.01	2	2	.02	1020	.01	2	.03	.01	.01	2	2
ATLIN →	CYC-1	1	17	9	83	.1	7	3	82	.57	2	5	ND	2	4	1	2	2	2	.04	.01	2	4	.16	968	.01	2	.21	.01	.03	2	2
	PA-1	1	17	1033	106	16.3	1	5	36	2.93	53	5	21	2	1	1	2	2	2	.02	.01	2	1	.02	20	.01	2	.06	.01	.03	2	13300
	PA-2	25	4	55	31	2.3	2	8	38	2.18	5	5	3	2	1	1	2	2	2	.03	.01	2	1	.01	30	.01	2	.05	.01	.03	2	4100
	CC-1	1	30	888	36	17.8	165	48	14	15.55	575	5	ND	2	2	1	3	59	2	.04	.01	8	1	.02	5	.01	2	.05	.01	.01	2	58
Dense →	DC-1	1	62	19	47	.2	201	12	2138	1.87	11	5	ND	2	197	1	3	4	23	4.27	.05	4	164	2.88	120	.02	781	.60	.01	.03	2	15
	STD C/AU-0.5	18	57	42	124	6.7	65	25	1055	3.94	41	17	7	34	46	15	16	18	55	.44	.13	36	55	.88	166	.07	37	1.72	.05	.10	12	505
	JRH-1 10X	1	4	29	8969	.1	2	1	22	.19	2	5	ND	2	58	41	2	2	2	.82	.01	2	1	.02	2	.01	2	.01	.01	.01	2	-
	JRH-2 10X	2	5	33	13199	.7	1	1	40	.32	2	5	ND	2	64	80	2	23	2	1.74	.01	2	1	.03	3	.01	2	.01	.01	.01	2	-

APPENDIX H

RECOMMENDATIONS FOR A HARDROCK GOLD EXPLORATION PROGRAM

BY

T. LIVERTON

DEFOT CREEK, B.C. -RECOMMENDATIONS FOR A HARDROCK GOLD EXPLORATION PROGRAMME

Introduction

Ispent the 21st to the 23rd of October 1987 on the Defot Creek gold property in order to examine local geology, review earlier exploration work performed by Noranda and to test the geophysical response of two geochemically anomalous zones. Some rock sampling (with Angus Woodsend) was commenced in the Northern of the two trenches cut over the Noranda "C" anomaly. Magnetic and V.L.F. Electromagnetic profiles were obtained for anomaly "C". Suggestions for a 1988 season's exploration programme are given.

Local Geology and Rock Sampling

The ridge immediately South of Defot Creek is traversed by a major North - Westerly trending fault system, extending from the North end of Dease Lake. It bounds slates, cherts, greywackes, carbonates and greenstones of presumably late Palaeozoic age on the South and Upper Triassic volcanics to the North.

Previous hard - rock exploration work by Noranda concentrated on the fault zone. According to their mapping the fault zone consists of two parallel faults, with some ultrabasic rocks between. Snow cover prevented my examining much of the geology but the trench accross the Noranda "C" anomaly allowed inspection of a continous section accross the fault zone. No ultrabasics were found there - the exposure showed graphitic slate, chloritic slate and mudstone, with frequent small (to 0.3 metre) quartz veins. The limited amount of exposure examined at anomaly "B" (or at least at the trench, which is displaced somewhat from the anomaly) showed sediments rather than ultrabasics.

An exposure in defot Creek in the centre of the placer ground was also examined by Angus Woodsend and myself. It is of horizontally bedded tuffaceous sandstone with a few pebble layers. This re - worked volcanic material probably correlates with the Tertiary volcanics to the North, in the Edasp Lake region. They seem to be a valley - filling deposit and may have some potential for deep - lead type placer gold values.

The two Noranda anomalies mentioned were gold - arsenic soil geochemical results. The present very limited geophysical work was aimed at testing the response of the two anomalies to bb the magnetic and V.L.F. E.M. methods. Because of weak daytime signals only one area (C) was checked with the V.L.F. at night when the signals were improved.

Geophysical Work

Magnetic profiles (vertical component) over both "B" and "C" anomalies showed a fairly flat response over the region of the high geochemistry with a sharp positive anomaly at the west end of the lines. At present no explanation can be given for the positive anomalies, except to comment that there is no utramafic body in the immediate area. Further detailed geological mapping would enable an interpretation to be made. The magnetic results do at least suggest that the method would be useful in tracing geological structure.

The V.L.F. electromagnetic survey over the area of the Western trench ("C") gave some definite results. Good null indications were obtained from the signals from the Seattle station. The profile shows one broad crossover with what appears to be two smaller anomalous effects impressed upon it. The results do indicate that this method will be useful.

Targets For Exploration

There are three geological settings in which hardrock gold mineralisation might be found in the immediate vicinity of Defot Creek. These are :-

1) Fault Zones

The fault zones no doubt carry a considerable amount of vein quartz. Several small veins to 0.3 meteres thickness were seen at surface These quartz veins could well carry the gold. The present sampling (a character sample of rock from within a 1 metre radius of each sample station) should confirm if these veins carry gold. Angus Woodsend will comment on the results in his report, since he completed the work. Discussion with Grant Abbott of the Geology Section of Nothern Affairs, Whitehorse indicated that work performed in the Western portion of the Yukon in the last couple of seasons has shown that in a similar environment, where Mesozoic volcanics are present, the gold discovered has been mostly associated with fault systems .

2) Ultrabasics

No ultra basics were noted in the trenches, but other outcrops are reported West of Defot Creek. Outcrop was obscured by snow when I visited the area. If indeed ultrabasics or ultramafics of the Alpine type are found in the area they may well be a host for gold or even the platinoid metals in cumulates. Detailed mapping of the entire area of outcrop next year should be performed to delineate such possible targets. Chromite is likely to be a useful indicator and has, of course been recognised in the placer material.

3) Triassic Volcanics

The volcanics to the East of Défot Creek are mapped by the G.S.C. as Upper Triassic. I presume that they correlate with the Shonektaw Formation to the North. The lithologies were not examined during my visit. Judging purely by the assigned age, it is feasible that vein - type gold deposits (similar to Mount Skukum) may be found in the volcanics. Certainly the aerial photograph of the area shows a strong rectilinear jointing pattern (or shearing) in the volcanics, which is a positive sign.

Proposed Techiques for a 1988 Exploration

A) The claims West of Defot Creek should be covered by a geophysical grid. Magnetic and V.L.F. electromagnetic methods should be employed since they will help to interpret structure (and are cheap to perform).
The most important method to be used should be either a horizontal loop E.M. survey (eg. Maxmin 11) or induced polarisation (I.P.).
I.P. would perhaps give the best data and here, where there is only scattered buckbrush for vegetation, and little or no glacial till cover, would work well with the minimum of effort. The method is however, more costly than E.M. due to the need for a three or four man crew and the use of comparatively heavy equipment. Such geophysics should give a target to be eventually tested by diamond drilling. The assumption is that there are some conductive minerals associated with any gold, such as pyrite or as is the case at Ericson - tetrahedrite.Further use of geochemistry will not give a depth to a target that can be tested by drilling.
As stated earlier, detailed geological mapping (say, at 1:2000 scale) is

essential and good geological thinking should not be replaced by other methods, only assisted by them.

2) The Volcanics to the East

Here, besides geological mapping at a scale of between 1:5000 nd 1:2000 some geochemistry would be very useful. The hillside could be soil - sampled along traverses up the spurs (not necessarily on a grid pattern- compass traverses would suffice) at a fairly coarse interval. Lines roughly 300 metres apart with sample intervals of 50 to 100 metres would be in the right order of magnitude. Analysis of the soil (size fraction should be carefully considered) for gold, the "pathfinder" elements arsenic and antimony, possibly copper, silver and lead is available as a package from some of the analytical companies. It would be worthwhile to carry out field tests of soil for the heavy metals concurrent with soil sampling. If the "CXHM" method works then the amount of soil sent to the laboratory could be reduced and the process speeded up.

If significant geochemical values result then more detailed geological mapping should be initiated and then a decision made as to the next work to be done. The geochemistry should detect mineralisation if it is associated with the volcanics.

Further Methods

It might well be useful to attempt to detremine whether there is one or many sources for placer gold on Defot Creek. C.F. Mineral Research Limited of Kelowna, B.C. have developed some special techniques that may be useful. Their reconnaisance methods employ collection of fairly large samples (10 - 15 Kg) of sand and gravel from streams by field - seiving about 100 Kg of material. Laboratory methods are a sequence of jigging to produce a rough concentrate, followed by a heavy media separation at various specific gravities electromagnetic and electrostatic separation and finally examination and semi - quantitative analysis of various fractions with the scanning electron microscope. Trace element content of even microscopic grains of gold is determined, which

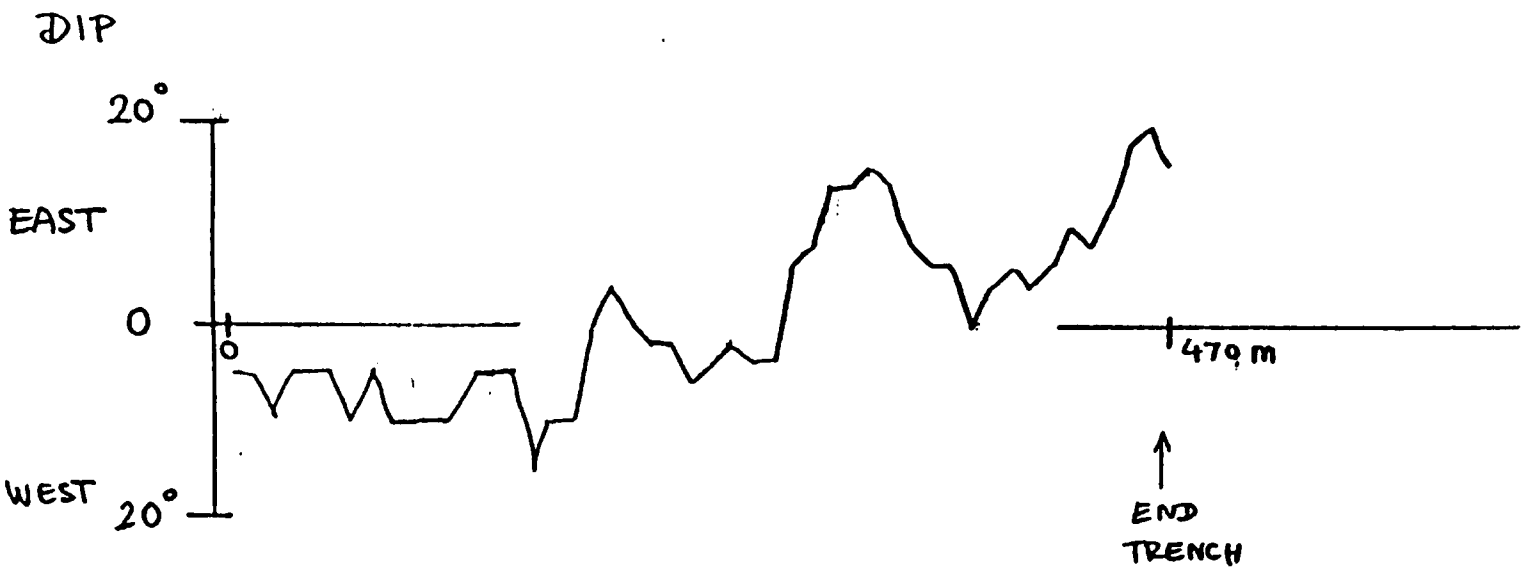
Charles Fipke claims can distinguish gold from several sources travelling along the same drainage system. He has had success at tracing gold trails from the Carlin - type deposits. In addition other minerals of interest (platinoids, chromite or ferromagnesians specific to certain environments) can also be determined.

A dozen (or less) samples from the streams of the Defot district could well give a vector toward the origin of the placer gold. Charles Fipke should be consulted before such a field programme is planned. Call Kelowna 860 - 8525.

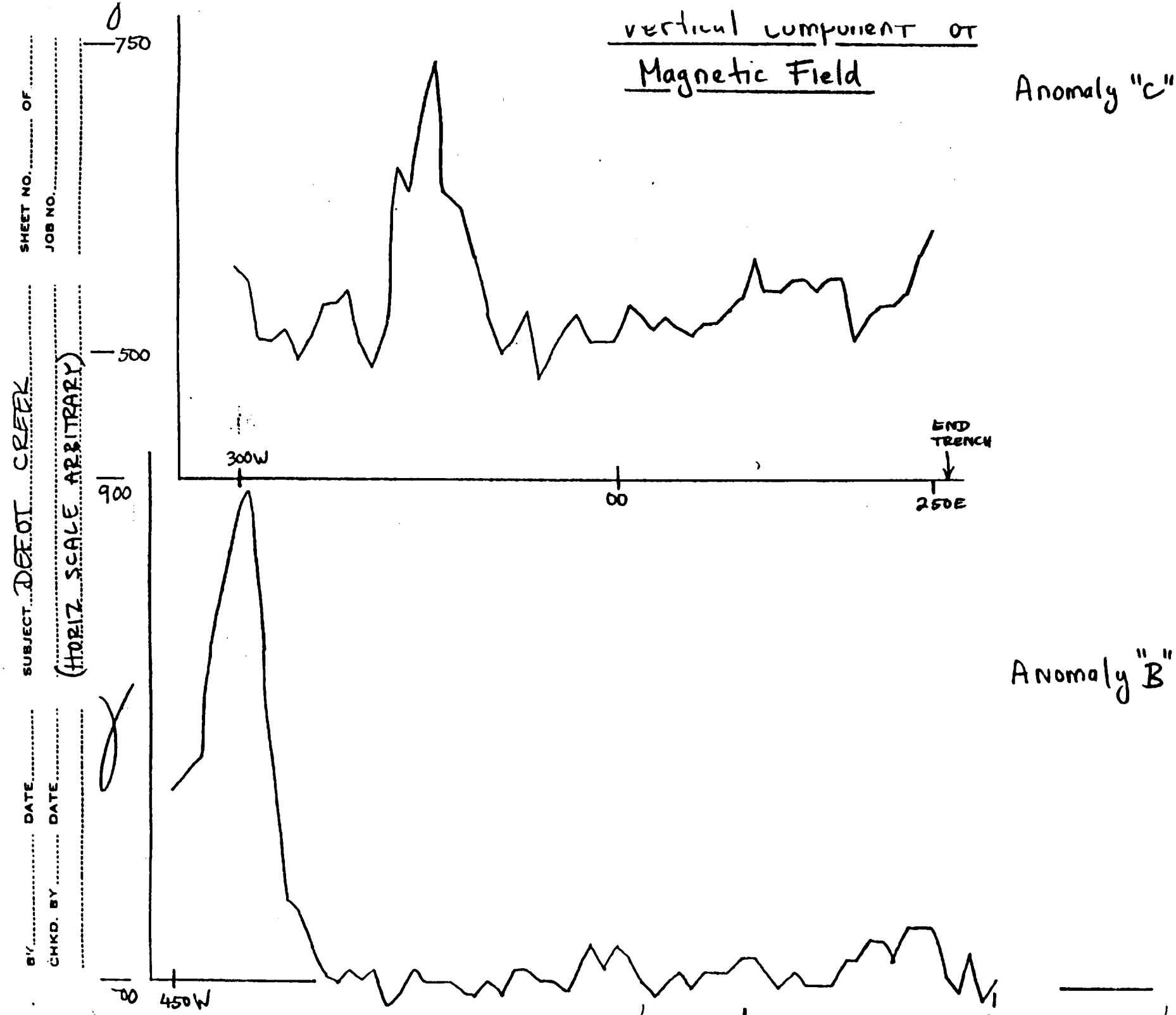
If a decision is made to proceed with a hard - rock exploration programme next year, some estimates of time required and possible costs could be prepared.

T. Liverton
Watson Lake Yukon Territory
9th November 1987

V.L.F. ELECTROMAGNETIC PROFILE
ANOMALY "C"
SEATTLE TRANSMITTER



SHEET NO. ..... OF .....
JOB NO. .....
SUBJECT .....
BY ..... DATE .....
CHKD. BY ..... DATE .....


vertical component of
Magnetic Field
Anomaly "C"
750
500
300W
00
250E
END TRENCH
900
700
450W
Anomaly "B"
SUBJECT DEER CREEK
(HORIZ SCALE ARBITRARY)
SHEET NO. OF
JOB NO.
BY DATE
CHKD. BY DATE

8H-1313 - 13309

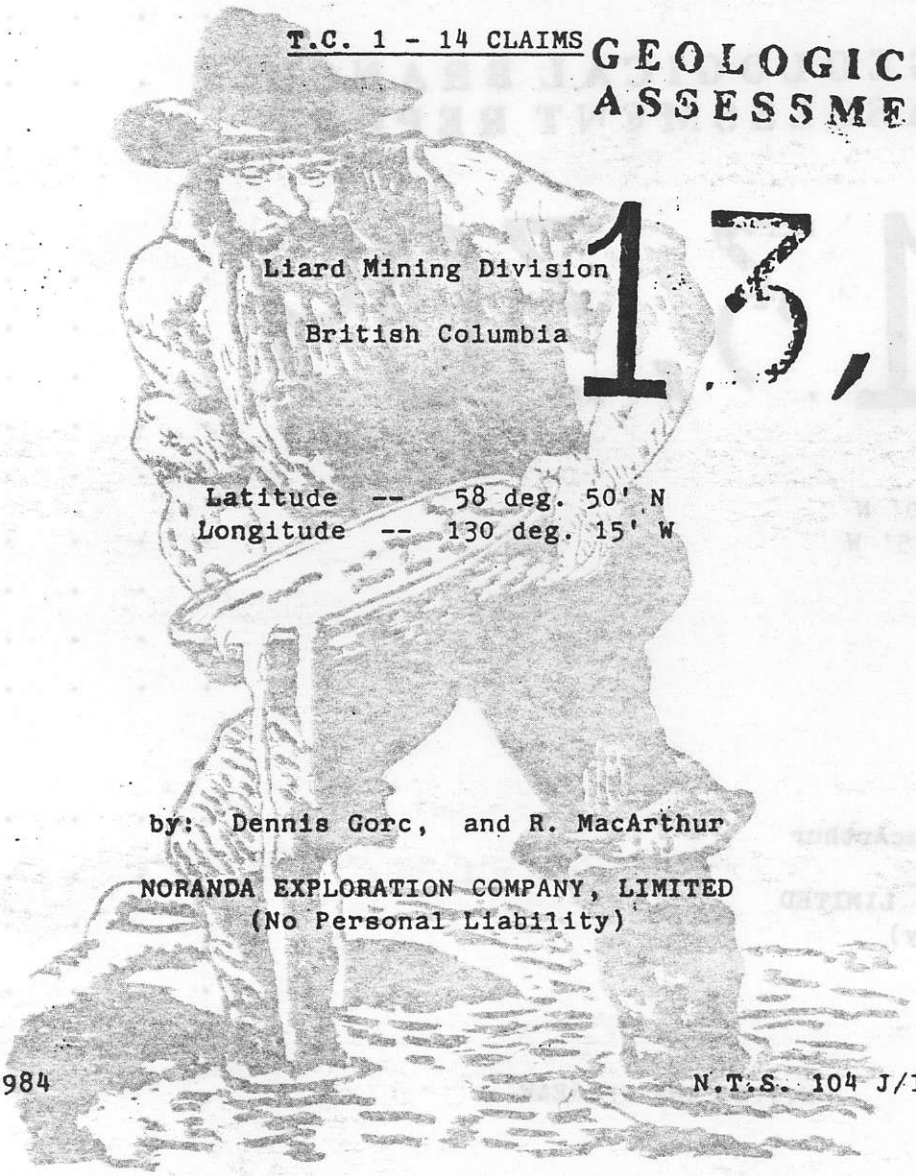
GEOLOGY, ROCK AND SOIL GEOCHEMISTRY

THIBERT CREEK PROPERTY

T.C. 1 - 14 CLAIMS

Liard Mining Division

British Columbia



Latitude -- 58 deg. 50' N
Longitude -- 130 deg. 15' W

by: Dennis Gorc, and R. MacArthur

NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)

October, 1984

N.T.S. 104 J/16E&W

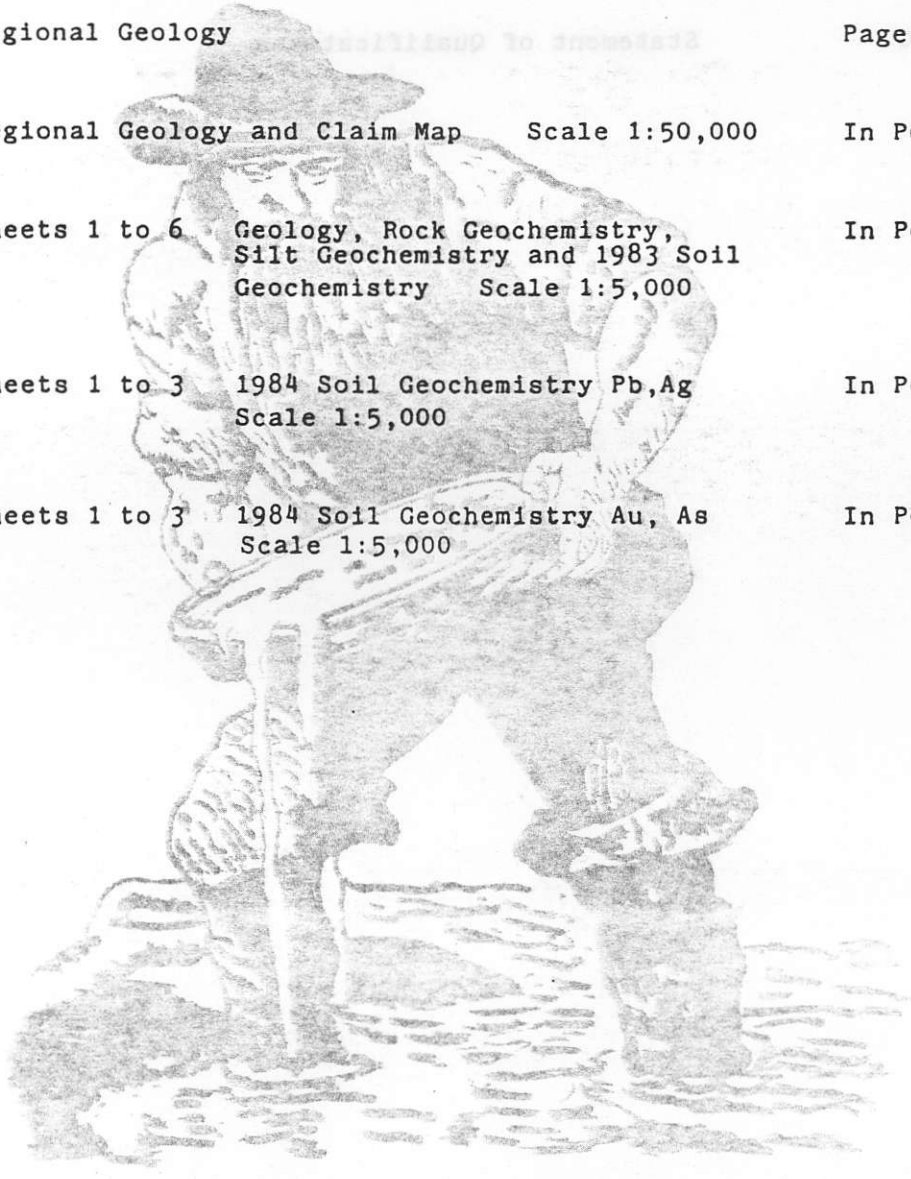
8H-1313 - 13309

GEOLOGICAL BRANCH
ASSESSMENT REPORT

13,309

N.T.S. 104 J/16E&W

LIST OF FIGURES



APPENDICES

APPENDIX A	Analytical Method - Noranda LAB
APPENDIX B	Cost Statement
APPENDIX C	Statement of Qualifications

INTRODUCTION:

In September 1983 the TC 1-14 claims (250 units) were staked for Noranda Exploration, 40 kilometers northwest of the settlement of Dease Lake in the Thibert Creek area. These claims overlie several gold placer creeks which had produced more than 70,000 oz. (2,000 kg) of gold up to 1949. Mother Lode Belt type gold mineralization was the target during the 1983 and 1984 exploration efforts.

During late September and early October 1983 293 soil samples, 104 rock ship samples and 2 silt samples were taken on the property. Soil and silt samples were analyzed for Cu, Zn, Pb, Ag, Mo, Ni, Co, As and Au. Rock samples were analyzed for Au, Ag, and As. Some geological mapping was also done and several exposures of quartz-carbonate-mariposite alteration were discovered within ultramafic rocks.

From September 17 to October, 1984, D. Gorc and two assistants flagged a grid over the central portion of the TC 8-14 claims. This grid was designed to traverse the Thibert Creek Fault. Stations were established every 25 m along each line. Lines were spaced 300 m apart. Soil samples were taken at each station and every 100 m along the baseline. A total of 1050(?) soil samples were taken and analyzed for Au??

Additional geological mapping was also done with special attention paid to the bodies of ultramafic rock. Several lines of continuous rock chip sampling was done across several of the larger ultramafic exposures. These rock chip samples were analyzed for Au.

Both programs were carried out under the direction of R. MacArthur, District Geologist, Noranda Exploration.

LOCATION AND ACCESS:

The TC claims are located on mapsheet 104J/16 East and West, 40 kilometers northwest of the settlement of Dease Lake and 1.5 kilometers west of the Stewart-Cassiar highway.

Cat trails and rough roads extend westward from Dease Lake to several of the small gold placer operations which still operate sporadically. It is said that these roads can be reached by fords across the Dease River during low water.

The most reliable access is by helicopter from the settlement of Dease Lake. Float planes can land at Adsit Lake from which there is a rough cat road to the placer operations on Defot Creek.

CLAIMS:

Table 1 Claim Data - Thibert Creek

Claims Owned by Noranda Exploration Company, Ltd.

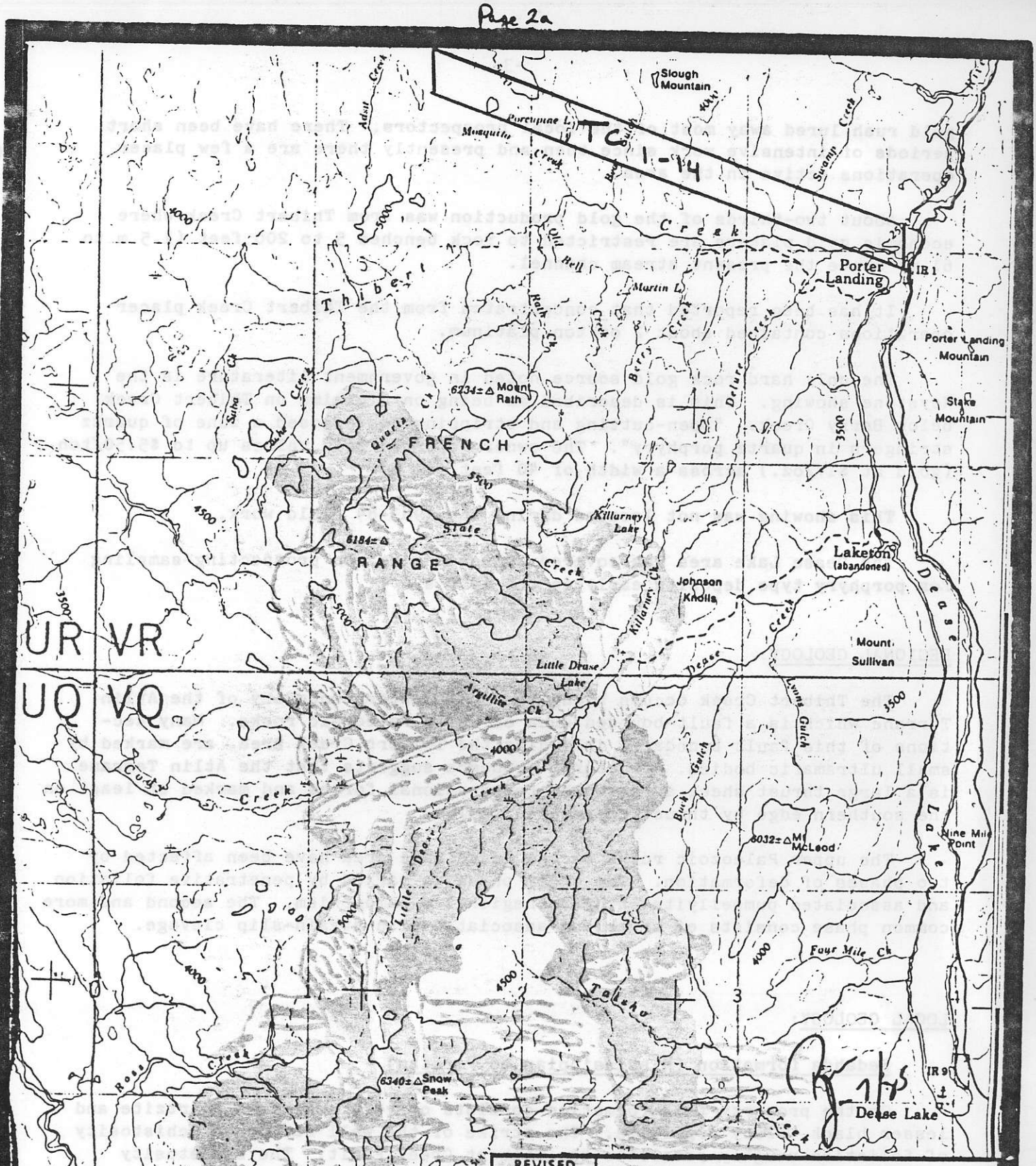
CLAIM NAME	# OF UNITS (1983)	# OF UNITS (1984)	RECORD #	RECORD DATE
TC 1	18	12	2965(10)	Oct. 11/83
TC 2	18	12	2966(10)	" "
TC 3	18	12	2967(10)	" "
TC 4	18	12	2968(10)	" "
TC 5	18	9	2969(10)	" "
TC 6	18	9	2970(10)	" "
TC 7	18	18	2971(10)	" "
TC 8	18	18	2972(10)	" "
TC 9	18	18	2973(10)	" "
TC 10	20	16	2974(10)	" "
TC 11	20	20	2975(10)	" "
TC 12	20	12	2976(10)	" "
TC 13	8	4	2977(10)	" "
TC 14	20	12	2978(10)	" "
	250	184		

Grouping of claims: Reduced October 1984

Group Name	claims	# Units
TC East	TC 1-7	84
TC West	TC 8-14	100

EXPLORATION HISTORY:

Placer gold was first discovered, in what is now Thibert Creek in 1873. This discovery was made by a member of a party of prospectors lead by Henry Thibert, about three miles (4.8 km) above the mouth of Thibert Creek near Delure Creek. Other areas draining into and near Thibert Creek were soon found to contain gold. The creeks that were actively mined as well as Thibert and Delure included Boulder, Defot, Mosquito, Porcupine and Vowell Creeks. The production from these creeks is recorded as being more than 70,000 ounces (2,000 kg) up until 1949. Most of the production occurred before the Klondike



REVISED	LOCATION MAP
	THIBERT CREEK PROPERTY
	TC - 1 - 14 CLAIMS
PROJ. No.	SURVEY BY: DATE:
N.T.S. 104 J	DRAWN BY: SCALE: 1:250,000
DWG. No. Fig 1	NORANDA EXPLORATION
	OFFICE:

gold rush lured away most of the local prospectors. There have been short periods of intensive work since then and presently there are a few placer operations active in the area.

About two-thirds of the gold production was from Thibert Creek where economic gold placers are restricted to rock benches 5 to 200 feet (1.5 m to 61 m) above the present stream channel.

It has been reported that concentrates from the Thibert Creek placer operations contained about 2 oz/ton platinum.

The only hard rock gold source noted in government literature is the Keystone showing. This is described as being on 8 claims on Thibert Creek below Berry Creek. "Open-cutting and stripping has exposed a zone of quartz stringers in quartz porphyry". The owner reported gold values up to $5.50/ton (gold at $17/oz.) across a width of 40 feet (12 m).

This showing was not located during the 1983-84 field work.

The Dease Lake area was covered by reconnaissance prospecting-sampling for porphyry type deposits early in the 1970's.

REGIONAL GEOLOGY:

The Thibert Creek occurs along the northeastern boundary of the Atlin Terrane which is a fault-bounded area of Upper Paleozoic rocks. Many sections of this fault boundary, including the Thibert Creek area, are marked by small ultramafic bodies. Structural evidence suggests that the Atlin Terrane is a large thrust sheet affected by compressional forces and marked at least on the southern edge by thrust or reverse faults.

The upper Paleozoic rocks of the Dease Lake area have been affected by two phases of deformation. The older phase is marked by penetrative foliation and associated pumpellyite-chlorite regional metamorphism. The second and more common phase consists of crumbling associated with strain-slip clevage.

LOCAL GEOLOGY:

Kedahda formation (Mississippian to Permian)

On the property this formation consists of very schistose quartzite and lesser black, platy argillite. The strike of the well developed schistosity of foliation roughly parallels the Thibert Creek Fault. The schistosity generally dips 60 to 70 degress southerly.

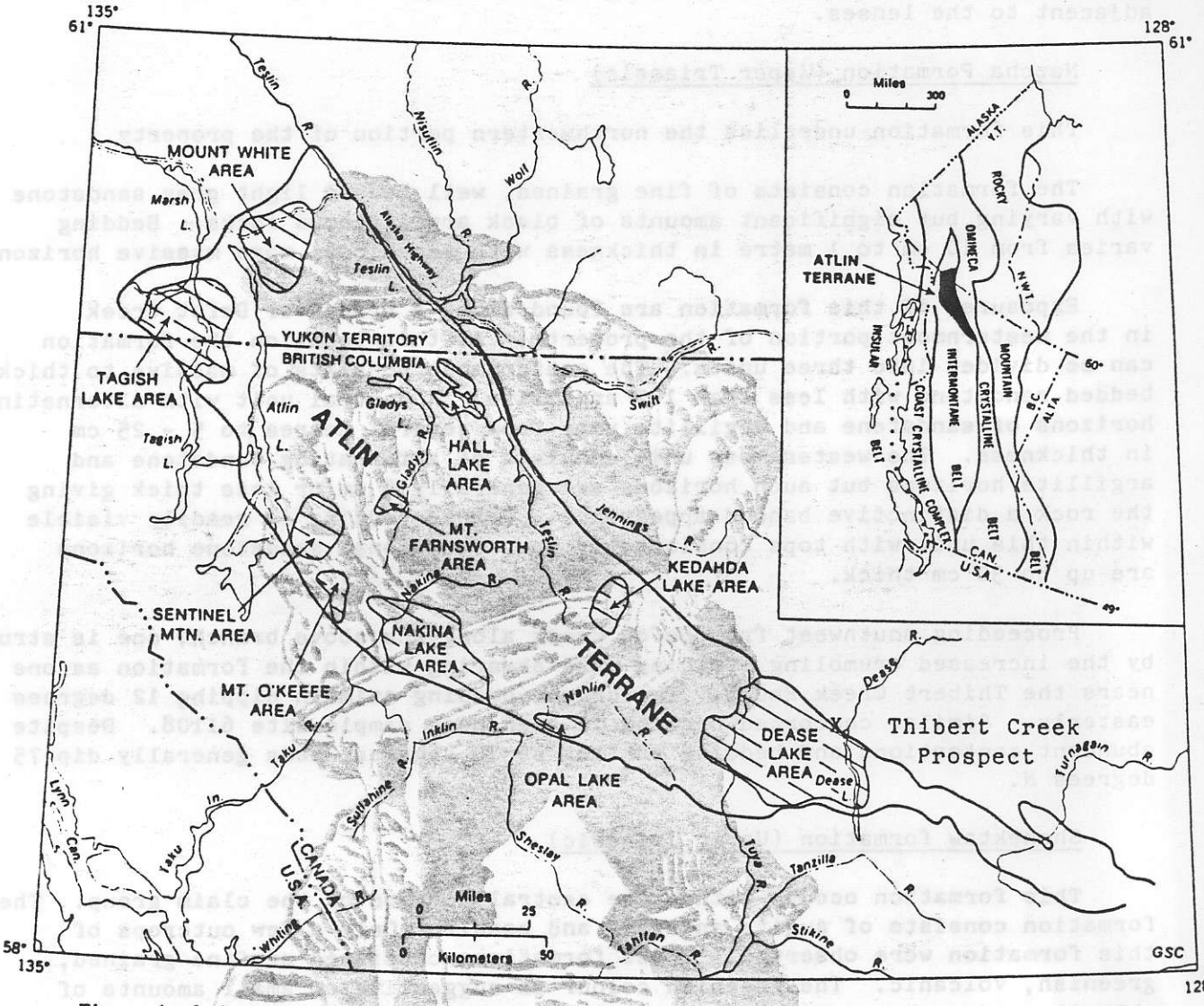


Figure 1. Index maps showing (a) location of the Atlin Terrane within the Canadian Cordillera, and (b) areas studied in detail within the Atlin Terrane.

After Monger (1975)

These rocks contain numberous coarse-grained white quartz lens within a 200 m to 400 m wide band south of the Thibert Fault. Such lens range up to 30 cm in width and 6 meters in length but are generally much smaller. Only rare trace sulphides were noted within these lenses. No alteration was noted adjacent to the lenses.

Nazcha Formation (Upper Triassic)

This formation underlies the northwestern portion of the property.

The formation consists of fine grained, well bedded light grey sandstone with varying but significant amounts of black argillaceous rocks. Bedding varies from 10 cm to 1 metre in thickness with occasional more massive horizons.

Exposures of this formation are found along a branch of Defot Creek in the westernmost portion of the property. At this location the formation can be divided into three units. The easternmost consists of massive to thickly bedded sandstone with less than 10% argillite. A central unit with alternating horizons of sandstone and argillite vary from several metres to 5 - 25 cm in thickness. The westernmost unit consists of alternating sandstone and argillite horizons but such horizons are generally 5 cm or less thick giving the rock a distinctive banded appearance. Graded bedding is readily visible within this unit with tops consistently up. Occasional sandstone horizons are up to 30 cm thick.

Proceeding southwest from Defot Creek along the above branch, one is struck by the increased crumbling, folding, and shearing within the formation as one nears the Thibert Creek Fault. Two degree bedding azimuth dipping 12 degrees easterly. Similar contorted bedding is seen near sample site 61108. Despite abundant contortions and bedding as flat as 20 degrees, beds generally dip 75 degrees N.

Shonektaw formation (Upper Triassic)

This formation occurs within the central portion of the claim group. The formation consists of augite andesite and basalt. Only a few outcrops of this formation were observed. These formations consisted of fine grained, greenish, volcanic. The greenish colour is suggestive of small amounts of chlorite and perhaps epidote. At the eastern end of Grid 2 several exposures are fractured and sheared with small amounts of ironstaining.

Limestone

Outcrops of limestone up to 80 m wide are exposed along the upper parts of Porcupine Creek. Sporadic exposures occur for a distance of 500 m along the creek. These outcrops can be seen from a distance due to their whitish weathered surfaces.

On a fresh surface the limestone is light grey with a distinctive ribboned appearance. Such a texture is suggestive of algal layering. The limestone seems to consist of pure carbonate with no other material other than carbonate noted within the rock. Crosscutting white calcite veinlets are common. Locally the limestone appears to be partially silicified. No sulphides were noted within this formation.

Government mapping has shown both the Nazcha Formation and Kedahda Formation to contain limestone lens. The limestones seen along Porcupine Creek likely belong to the Nazcha Formation but this is uncertain.

Gradondiorite (Late Triassic and Early Jurassic)

Granitic rocks, including biotite-hornblende quartz diorite, granodiorite, quartz monzonite and diorite, underlie the northern portions of several claims.

ULTRAMAFIC (Mississipian to Permian)

Ultramafic bodies in the Atlin Terrane have been divided into three types; elongate bodies occuring along the fault contacts to the Atlin Terrane, equidimensional bodies within the Atlin Terrane and bodies associated with Permo-Triassic volcanism at the northwestern end of the terrane.

These rocks are described by Monger (1975): "These rocks are predominately enstatite-bearing periodotite or harzburgite and dunite; partially or wholly serpentinized and serpentine of indeterminate origin. Locally they contain irregular lenses and layers of pyroxmite; some of which contain clinopyroxene that may form piokilitic crystals enclosing olivine grains."

The ultramafics at Thibert Creek would be classified as "alpine type" ultramafics.

For reference several of the Thibert Creek ultramafic bodies have been labelled "A", "B", "C", "D", "E", "F".

The exposures of ultramafic can be divided into three types;

a) unaltered, fine grained, black peridotite
b) serpentinite
c) quartz-carbonate-mariposite altered rock

Peridotite:

Small pockets of black, fine grained peridotite are found within all ultramafic bodies visited. Such pockets vary from a few meters to a few centimetres in width. Occasionally such rock was seen near the outer edges of ultramafic bodies. Periodotite would comprise less than 1% of most ultra mafic bodies.

Serpentinite:

Dark green waxy serpentine comprises a significant proportion of the ultramafic rocks found between Porcupine Lake and Thibert Creek. No serpentine was seen in ultramafics "A", "B", and "C". Serpentine with trace asbestos was noted within a 15 m wide shear zone crosscutting ultramafic "D".

Quartz-Carbonate-Mariposite Alteration:

The ultramafic bodies occuring along Thibert Creek consist largely of quartz-carbonate-mariposite altered rock. Many of the ultramafic bodies, such as bodies "A", "B", "C", and "D" consist of greater than 90% altered rock.

Silica would appear to be by far the predominant constituent. Emerald green mariposite is present in variable amounts but is also present even if in only trace amounts. Small amounts of calcite and whitish carbonate tentatively identified as magnesite are also present. Since magnesite often incorporates silica into its lattice and forms, a chert-like appearance, some of what appears to be silica may be magnesite and therefore the amount of carbonate may be much greater than it appears.

Outcrops of this altered rock are characteristically brightly iron-stained with orange goethite. Outcrops are also often laced with abundant quartz veinlets generally less than 1 cm thick. Only very rare trace pyrite was seen in such veins. Similar networks of thin quartz veinlets was observed within sedimentary rocks adjacent to the ultramafic bodies (sample sites 054067, 61044, 61020).

Small flecks of a silvery-grey sulphide tentatively identified as arsenopyrite was seen on some fracture surfaces.

GEOCHEMISTRY:

Collection

During 1983, 104 rock, 293 soil and 2 silt samples were collected at locations as shown in fig. #4 (6 sheets). Samples were collected on reccy compass and flag lines or during the course of geological prospecting traverses. All samples were given five or six digit numbers (using numbered sample tickets) and the site marked with a corresponding flag.

During 1984, 193 rock, 1050 soil and 1 silt samples were collected. The results of the rock and silt sampling are shown on fig. #4 (6 sheets) and the results of soil sampling are shown on fig. #5 (3 sheets) and fig. #6 (3 sheets).

All soil samples were collected from the "B" horizon where distinguishable. However, due to the poor soil profile development the actual sample material often consisted of mixed "B" and "C" horizens. Samples were placed in Kraft envelopes and air dried then shipped to the Noranda Lab in Vancouver for analysis.

Silt samples were collected from the finest clastic sediment available in the active stream channel. These were placed in Kraft envelopes, air dried and shipped to the Noranda Lab in Vancouver.

Rock geochem samples were collected by collecting a .25 to 2 kg sample of rock chips from outcrop, or rubble around the sample site. In areas where the sample site is indicated by a long line with two arrows, a composite sample was collected roughly along the indicated line. These samples were generally larger than samples from individual sites.

Analysis:

The 1983 rock samples were analysed for Au, Ag, As. The 1983 silt and soil samples were analysed for Cu, Zn, Pb, Ag, Mo, Ni, Co, As, Au.

The 1984 samples were analysed for Au only. The 1984 silt and soil samples were analysed for Au, Ag, As, Pb.

A description of the analytical technique used is given in Appendix #1.

Results:

A review of the data indicates one main area of interest indicated as "Anomaly A" fig. #6, sheet #2. The area occurs between Line 139+00E and 148+00E north of the Base line 100+00N. Within this area most values are anomalous in either Au or As with values of up to 430 PPb Au and 1000 PPM As recorded. A comparison with the geology and rock geochem data (fig. #4) indicates the area is underlain by ultramafic rocks with a north south trending fault zone having been mapped. In addition the highest values from rock sampling in the 1983 work and 1984 work came from this area.

Other areas of potential interest are "Anomaly B" (see Fig #5, sheet 1, line 127+00E north of BL 100+00N) with values of 20 PPb Au and up to 240 PPM As as well as anomalous Ag values greater than 1 PPM and Pb values greater than 20 PPM. "Anomoly C" (see Fig. #5, sheet 1, line 97+00E and line 100+00E south of BL 100+00N) with As values up to 1000 PPM (1984 soils) and 1400 PPM (1983 soils) High Ni values up to 1800 PPM are also associated with this anomaly. A weak Pb-Zn-Ag anomaly flanks the area of high As values to the south and west.

RECOMMENDATIONS:

The area indicated an Anomaly "A" should be followed up with more detailed mapping, soil and rock sampling. Magnetometer and VLF-EM surveys could be useful in mapping the structure and different phases or alteration of the ultramafic in the area.

Further prospecting and sampling is warrented in the other areas indioated "Anomoly B" and "Anomoly C".

If the north trending structure indicated in the area of "Anomoly A" proves to be significant then the data on the entire area should be reviewed with this in mind. Since the work done to date has been on relatively wide spaced lines (300 m) run in a northeast southwest direction they could straddle a significant northsouth structure.

REFERENCES

Gabrielse, H.: Monger, J.W.H. et al, "Geology Dease Lake (104J) Map Area", Open File 707 Geological Survey of Canada, 1979.

Hader, Kent: "Thibert Creek Property", Noranda Exploration Memorandum, November 1983.

Johnston, W.A.: "Gold Placers of Dease Lake Area, Cassiar District, B.C.", Summary Report, 1925, Part A Geological Survey of Canada.

Monger, J.W.H.: "Upper Palezoic Rocks of the Atlin Terrane Northwestern British Columbia and South-Central Yukon", Paper 74-47, Geological Survey of Canada, 1975.

Map 21-2962: "Dease Lake (104J)", Geological Survey of Canada, 1962

B. C. Department of Mines, Bulletin #21, pg. 19, and #28, pg. 57

B. C. Minister of Mines, Annual Report 1931, pg. A53

APPENDIX A

ANALYTICAL METHOD DESCRIPTIONS FOR GEOCHEMICAL ASSESSMENT REPORTS

The methods listed are presently applied to analyse 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 g - 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
March 14, 1984

APPENDIX B

NORANDA EXPLORATION COMPANY, LIMITED

STATEMENT OF COST

DATE October 1984

PROJECT - Thibert Creek
TYPE OF REPORT Geology, Geochem & Linecutting

a) **Wages:**

No. of Days - 85
Rate per Day - 109.30
Dates From - Sept. 83 - Oct 84
Total Wages 8088

$ 9,290.50

b) **Food and Accommodation:** and Supplies

No. of Days - 85
Rate per Day - 20.85
Dates From - Sept. 83 - Oct. 84
Total Cost - 1,772.25

$ 1,772.25

c) **Transportation:**

No. of Days - 85
Rate per Day - 110.85
Dates From - September 83 - October 84
Total cost 8,202.90

$ 9,422.25

d) Analysis $12,628.70

$ 12,628.70

e) Cost of Preparation of Report

$ 1,500.00

Author $800
Drafting $600
Typing $100

f) Other:

Contractor

Total Cost

$ 34,613.70

UNIT COSTS

Unit Costs for Geology

No. of Days - 51
No. of Units -
Unit costs - $258.647
Total cost - $13,191.00

Unit Costs for Geochem

No. of Days - 34
No. of Units -
Unit Costs - $258.64
Total cost - $8,794.00

ANALYSIS

1983

Rock Geochem	
104 x As, Ag, Au	
104 x 9.60	998.40
Soil	
293 x Cu, Zn, Pb, Ag, Mo, Ni, Co, As, Au	
293 x $11.20	3,281.60
Silt	
2 x Cu, Zn, Pb, Ag, Mo, Ni, Co, As, Au	
2 x $11.20	22.40
	$ 4,302.40

1984

Rock Geochem	
193 x Au	
193 x $5.50	1,061.50
Soils	
1006 x Au, Ag, As, Pb	
1006 x $7.20	7,243.20
Silt	
1 x Au, Ag, As, Pb	
1 x $7.20	21.60
Total Analysis	$12,628.70

APPENDIX C

STATEMENT OF QUALIFICATIONS

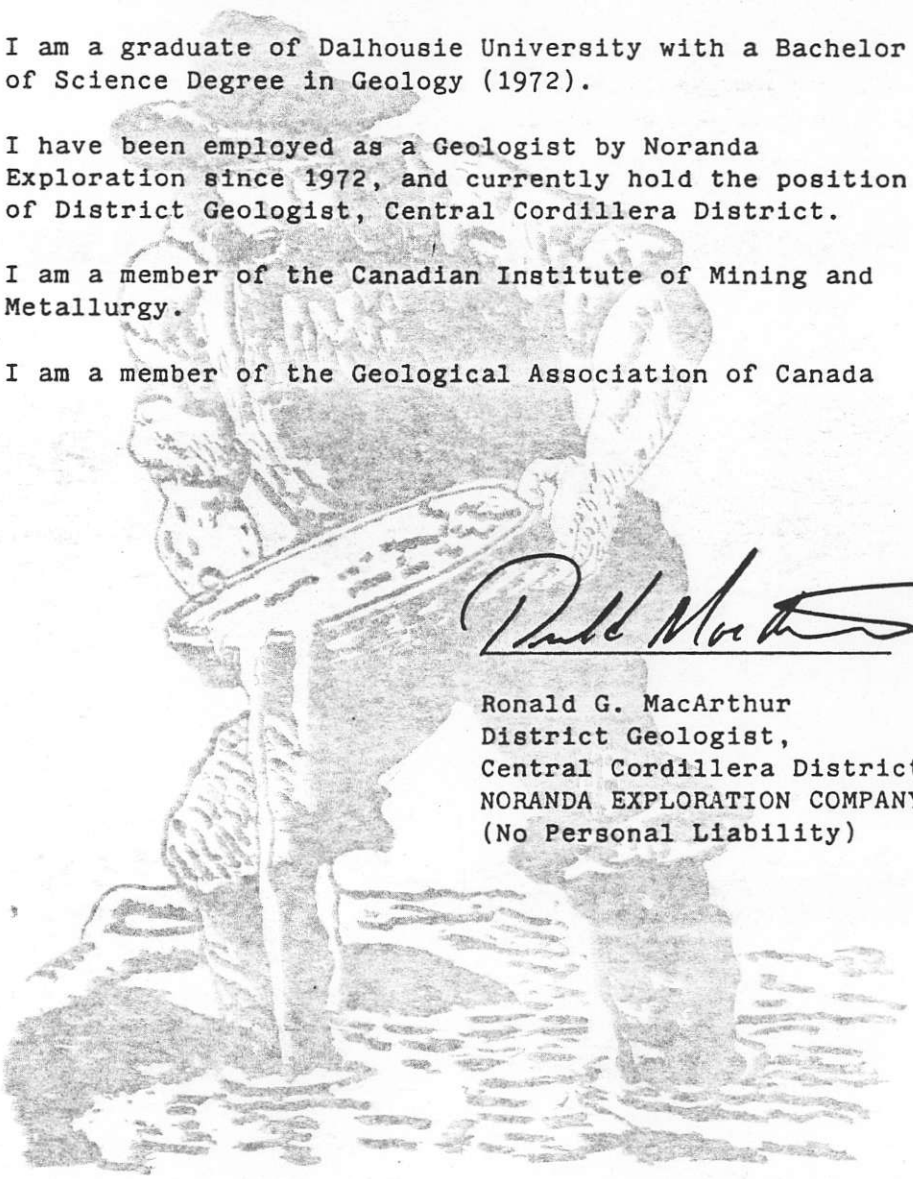
I, Ronald G. MacArthur hereby certify that:

1. I am a graduate of Dalhousie University with a Bachelor of Science Degree in Geology (1972).

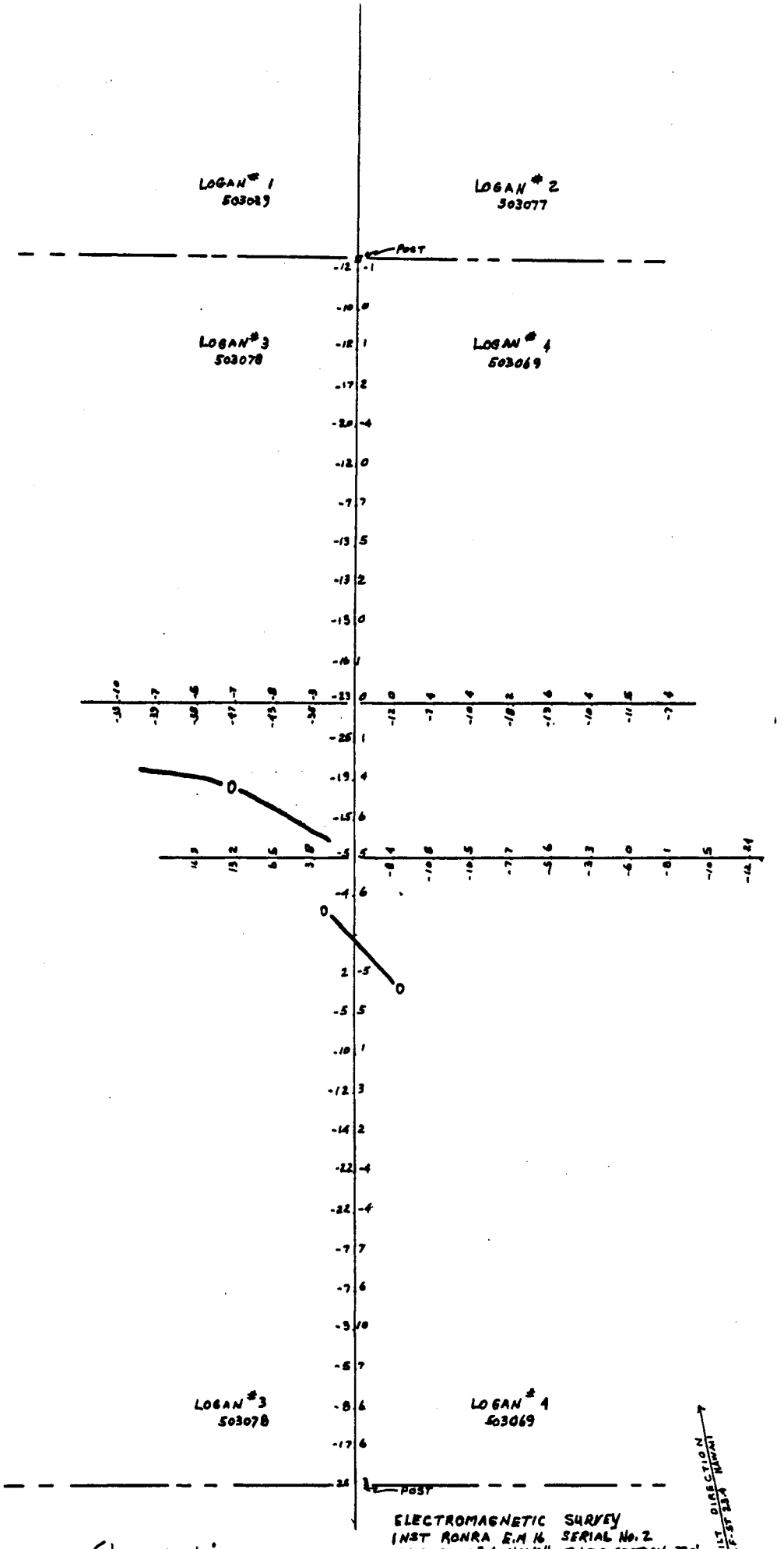
2. I have been employed as a Geologist by Noranda Exploration since 1972, and currently hold the position of District Geologist, Central Cordillera District.

3. I am a member of the Canadian Institute of Mining and Metallurgy.

4. I am a member of the Geological Association of Canada



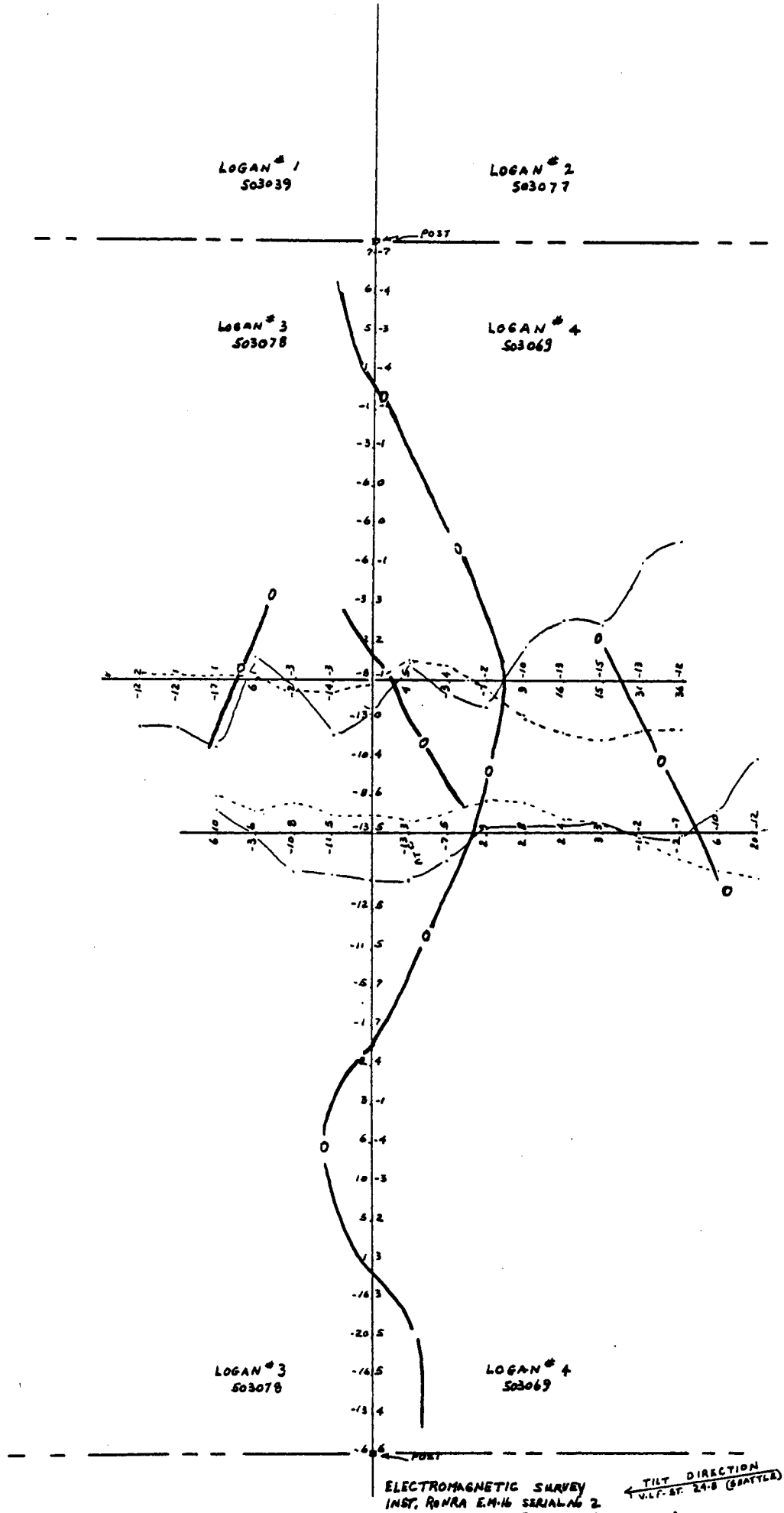
Ronald G. MacArthur
District Geologist,
Central Cordillera District
NORANDA EXPLORATION COMPANY, LIMITED
(No Personal Liability)



LOGAN Claims

ELECTROMAGNETIC SURVEY
INST RONRA E.M 16 SERIAL No. 2
V.L.F-ST 23.4 HAWAII TILT DIRECTION 330°
CONDUCTOR ——o——o——
SCALE: 0 ..... 20 ..... 40 METERS
DATE: SEPTEMBER 1983

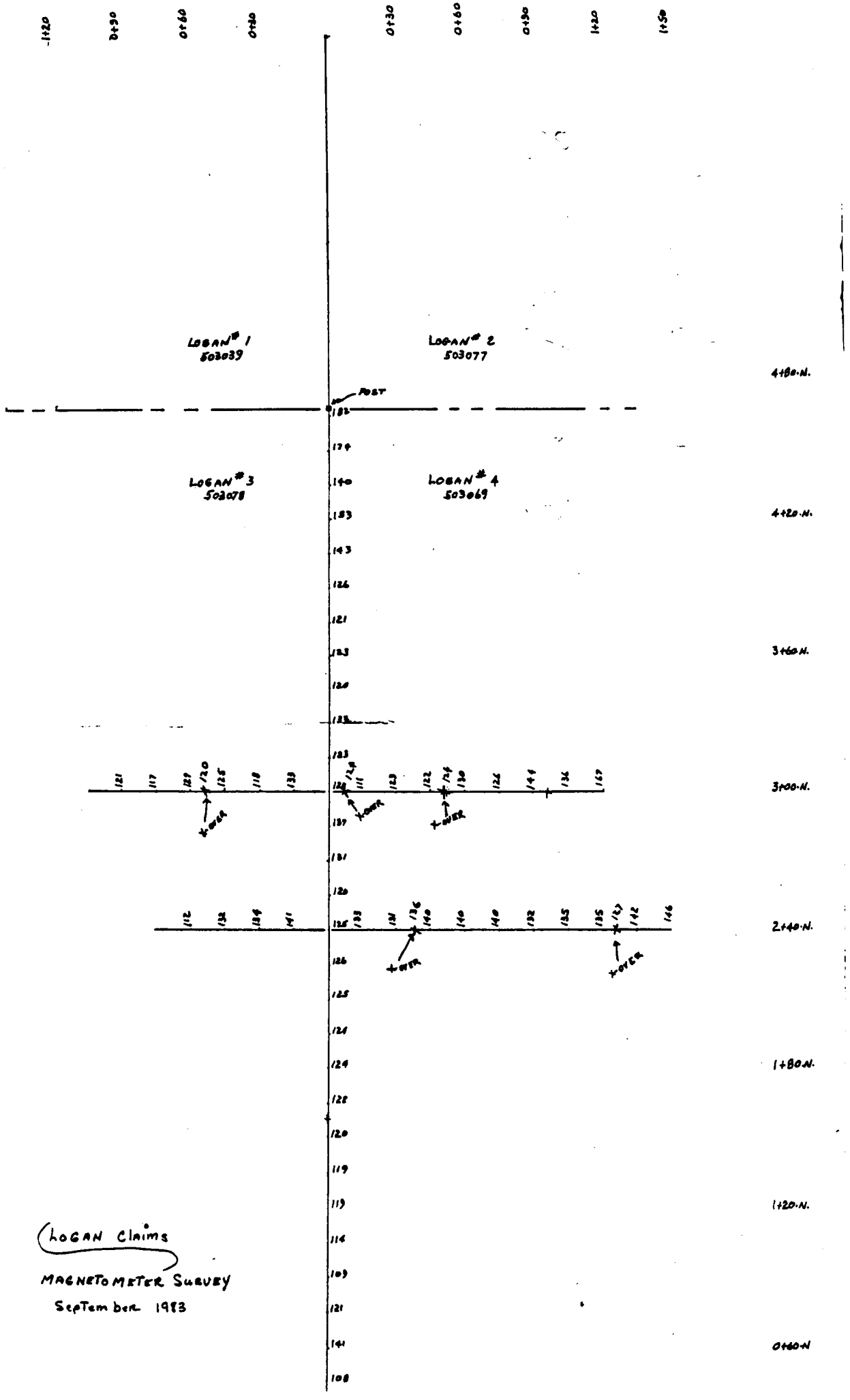
S. PRESUNRA



ELECTROMAGNETIC SURVEY
INST. RONRA E.M.16 SERIAL No 2.
V.L.F. ST 24.8 SEATTLE TILT DIRECTION 240°
INPHASE PROFILE
QUADRATURE PROFILE
CONDUCTOR
SCALE 0 30 40 METERS

TILT DIRECTION
V.L.F. ST. 24.8 (SEATTLE)

DATE: SEPTEMBER 1983
S. PRESUNKA.



LOGAN Claims

MAGNETOMETER SURVEY

September 1983

APPENDIX D

PHOTOGRAPHS