

86-489-15075



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

ASSESSMENT REPORT
TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S) GEOCHEMICAL	TOTAL COST \$2,084 37
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AUTHOR(S) **Sherwin F. Kelly, P. Eng.** SIGNATURE(S) *Sherwin F. Kelly*
 DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED **June 10, 1986**
July 2, 1986 YEAR OF WORK **1986**
 PROPERTY NAME(S) **Corona Group**

COMMODITIES PRESENT **Gold, Silver, Tungsten, Copper, Lead, Zinc**

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN **?**

MINING DIVISION **Nicola** NTS **92-1/P 7E**

LATITUDE **50° 17½' North** LONGITUDE **120° 42½' West**

NAMES and NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

... **Old Corona 1 & 2 (654-5), Old Complex 2 & 3 (656-7), Swakum 1-3 (1418-20), Old Alameda 2-7 (932-37), Dam (1444), Dam Two (1545), Alameda A (1575), Alameda B (1576), Irene (1626).**

FILMED

OWNER(S)
 (1) **Gerald, D'Angelo** (2) **Sherwin F. Kelly, P. Eng.**
Keith D'Angelo

MAILING ADDRESS
P.O. Box 3064
Kamloops, B.C., V2C 5N3

OPERATOR(S) (that is, Company paying for the work)
 (1) **Pacific Northwest GeoTech** (2)

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**GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,075**

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

... **Triassic Nicola beds of volcanics and sedimentaries were folded, creating an asymmetrical, south plunging anticline at Swakum Mtn. They carry mineral deposits ranging from High-Temperature contact-metasomatic to Medium-Temperature hydrothermal veins of sulphides. This mineralization presumably originated from an unrevealed igneous whose position under Swakum Mtn. may now be indicated by the aeromagnetic map.**

REFERENCES TO PREVIOUS WORK
See following sheet.

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area)			
Ground
Photo
GEOPHYSICAL (line-kilometres)			
Ground
Magnetic
Electromagnetic
Induced Polarization
Radiometric
Seismic
Other
Airborne
GEOCHEMICAL (number of samples analysed for)			
Soil	99 gold	Irene	\$600.00
Silt
Rock	6 variously for Au, Ag, Cu	Alameda A, Old Alameda CG 4504 & 4505	184.50
Other	Pb, Zn, S. Report preparation	1,300.00
DRILLING (total metres; number of holes, size)			
Core
Non-core
RELATED TECHNICAL			
Sampling/assaying
Petrographic
Mineralogic
Metallurgic
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Legal surveys (scale, area)
Topographic (scale, area)
Photogrammetric (scale, area)
Line/grid (kilometres)
Road, local access (kilometres)
Trench (metres)
Underground (metres)
			TOTAL COST \$2,084.50

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)	
Value of work approved	
Value claimed (from statement)	
Value credited to PAC account	
Value debited to PAC account	
Accepted Date	Rept. No.	Information Class

ASSESSMENT REPORT
CORONA GROUP

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MAPS BOUND IN TEXT

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BOUND IN BACK OF TEXT

ENVELOPE 1

GEOCHEM MAPS FOR COPPER & TUNGSTEN
FROM REPORT OF NOV. 22, 1985

ENVELOPE 2

ECO-TECH LAB. CERTIFICATES OF
ANALYSES AND INVOICES

REPORT ON
GEOCHEMICAL SURVEYS ON THE
CORONA GROUP,
NICOLA MINING DIVISION, B.C.
BY
SHERWIN F. KELLY, P.ENG.

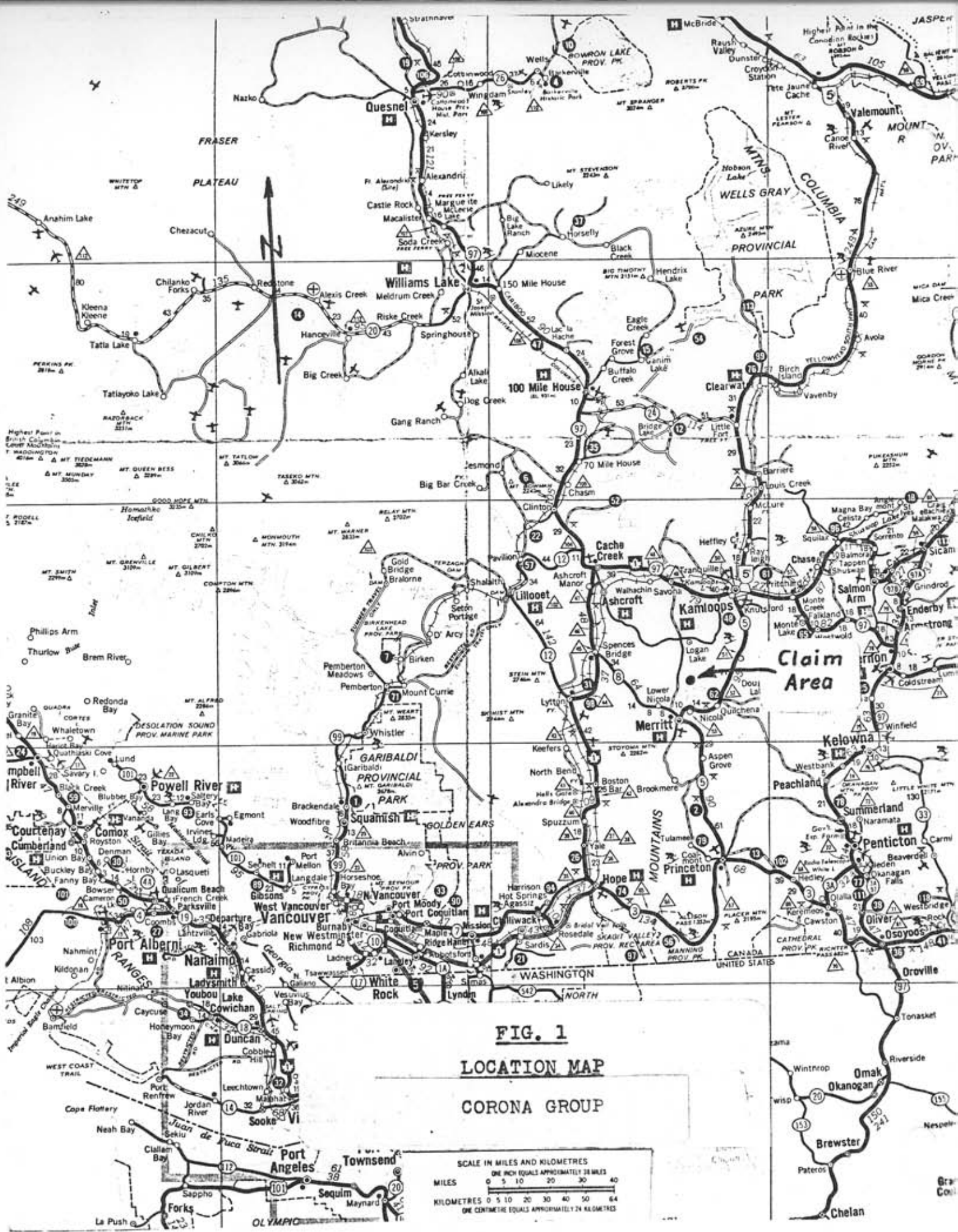
INTRODUCTION

This report relates the data obtained from a continuing examination of the soil samples gathered in July, 1985, from a portion of the Irene claim, included in the Corona Group on the top of Swakum Mtn., some 20 km north of Merritt in the Nicola Mining Division, in southwestern B.C. The principal results of that soil sampling and testing program were set forth in my report of November 22, 1985 (1). That report related to analyses for copper, tungsten, silver, zinc and lead. This present report sets forth the result of analysing some of the samples for gold, as well as multiple analyses on a few additional soil and rock samples. This presentation covers two submissions of "Statement of Exploration and Development", dated June 10, 1986, M.R. #228785E and July 2, 1986, M.R. #228793E.

PROPERTY DESCRIPTION

When the work herein reported was carried out, the Corona Group consisted of Reverted Crown Grants, two-post claims and grid-staked claims with a total of 39 units. The Reverted Crown Grants are Old Corona #1 & #2, Old Complex #2 & #3, Old Alameda #2 to #7; the two-post claims are Swakum #1 to #3, Dam and Dam Two; the modified grid claims are Irene, Alameda A and Alameda B.

(1) Numbers in parentheses refer to the numbered references cited in the "Bibliography of References" at the end of the text.



These claims were variously in the names of Gerald D'Angelo, his son Keith D'Angelo, Sherwin F. Kelly, Dirk Moreal and Douglas Wyatt. Recently, Aug. 18, 1986, two claims, Bob 1 and Bob 2 have been added and all the claims are now in the names of Gerald D'Angelo of Kamloops, Keith D'Angelo of Vancouver and Sherwin F. Kelly of Merritt. The Corone Group now consists of 52 units.

This assemblage of claims occupies a large portion of the top levels of Swakum Mtn., the peak of which lies at an elevation of 1,723m. It is approximately at $120^{\circ} 42\frac{1}{2}'$ west longitude and $50^{\circ} 17\frac{1}{2}'$ north latitude, some 21 km east of north from Merritt. The City of Merritt lies 195 km NE of Vancouver. The Location Map, Fig. 1, faces this page.

PHYSIOGRAPHY

The summit of Swakum Mtn. is an area of rolling, upland topography dotted by occasional small lakes and cut by a few small streams. It was formerly heavily wooded, but in recent years there has been much logging, with the result that large areas have been cleared and access greatly facilitated. Summer is a dry season, but winter snows can be heavy.

ACCESS

The Corone Group is within a short driving distance from Merritt. From the traffic lights at the corner of Voght St. and Nicole Ave., Highway 5 to Kamloops leads northerly out of town along Voght St. and easterly past the Airport. At about 4 km from the traffic-light intersection, a well-graded, gravel road for logging turns off to the left (north), leading to Swakum Mtn.

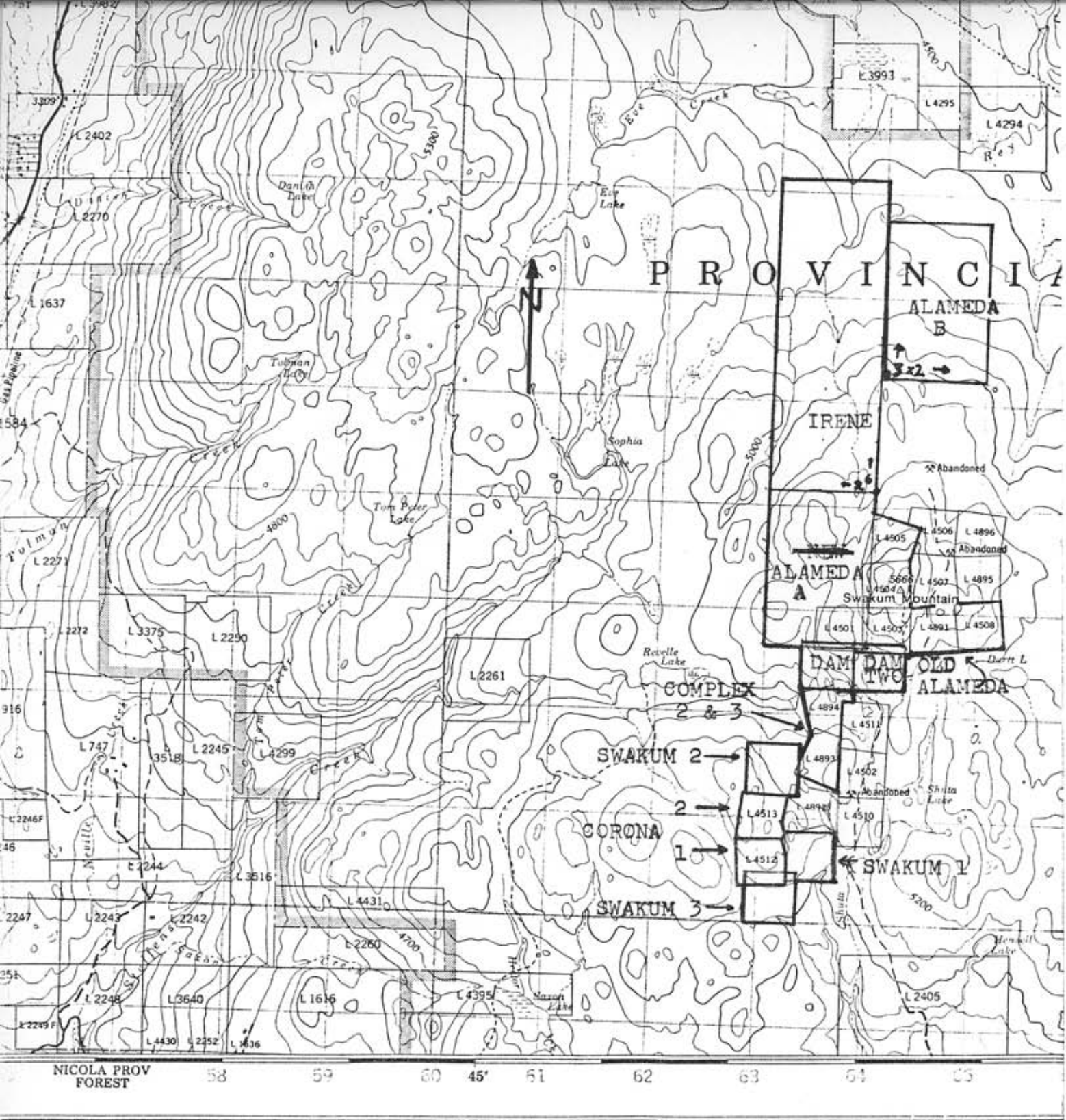


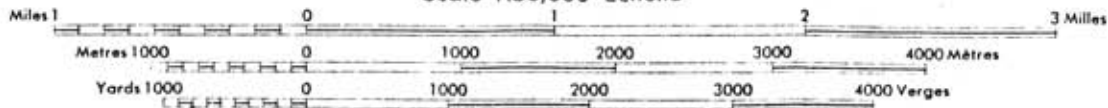
FIGURE 2

MAMIT LAKE
 KAMLOOPS DIVISION OF YALE LAND DISTRICT
 BRITISH COLUMBIA

CLAIM MAP

CORONA
 GROUP

Scale 1:50,000 Échelle



At the 27 km sign, the road forks. The left fork continues to the top of Swakum Mtn. and about 3 km further on it traverses the peak area near the east boundary of the Coron Group.

The Claim Map, Fig. 2, faces this page.

PREVIOUS WORK

The prior work in this area, which dates back to 1916 when Oscar Schmidt located the deposit on which he sank the Lucky Mike shaft, has been fairly thoroughly covered in my report of Nov. 22, 1985, on assessment work on the Old Alameda, Dam & Dam Two and the Alameda A & B claims (1). In that report I endeavoured to give a moderately comprehensive overview of the previous work and of the accumulated geological knowledge of the area. Reference should be made to it for more details on the geology and prior activities concerned with the mineral deposits on Swakum Mtn.

Briefly, Oscar Schmidt sank a short shaft on an exposure of copper mineralization a little north of the peak of the mountain. The deposit consisted of chalcopyrite in a metasomatic garnet skarn. Other shafts to the south were sunk by other owners. Some 800m south, in the SE corner of Lot 4506, the Old Alameda shaft was sunk on a moderately high-temperature hydrothermal vein of quartz carrying galena, sphalerite and some chalcopyrite. Two and a half kilometres further south, on Lot 4510 the Thelma and on Lot 4502 the Bernice shafts were sunk on hydrothermal quartz veins carrying sphalerite, galena and a little tetrahedrite. A shaft was sunk to the west, on the Old Corona, Lot 4512, that showed similar mineralization.

Small, test shipments of ore (from three to 89 tons each) were made from some of the shafts, which showed interesting and significant differences. The ore from the Lucky Mike showed the highest copper, 3.76%; no other metals were recovered. At the Old Alameda the ore was highest in lead, 9.6% and gold, 0.33 oz./ton. Further south, at the Thelma shaft, zinc at 5.75% was at its highest, as was silver at 83.35 oz./ton. Sacked ore at the Corona shaft showed the same mineralization as the Thelma, but was never sent for testing.

The above results were set forth by W.E. Cockfield in his Memoir 249 of 1948 on the Nicola Map-Area (2). He called attention to the thermal gradient from high temperature deposition at the Lucky Mike to lower, hydrothermal mineral formation in the deposits further south. He speculated that the source must have been an unrevealed igneous intrusive, since there were no outcrops evident of any igneous formation capable of having given rise to the deposits discovered.

The issuance in 1968 of the aeromagnetic map "Mamit Lake", convinced me that it provided the answer to the above dilemma (3). A strong magnetic high is centered only about half a mile south of west from the Lucky Mike shaft. Its peak lies on the mutual boundary between the Irene and Alameda A claims. This magnetic high probably corresponds, I believe, to an intrusive mass within the core of the mountain, an intrusive magma similar to the intrusives which formed the Guichon batholith immediately west of this area. The numerous, large copper deposits of the Highland Valley lie within that batholith. The similarity of relationships enhances

the expectation that the various, scattered mineral showings observed around the peak of Swakum Mtn. are the surface manifestations of deeper and more massive deposits. The aeromagnetic map offered the first clue to the possible location of the source of mineralization (4) and provided a guide to orient further exploration.

As the geochemical surveys by soil analyses progress, the concept of temperature zoning in mineral deposition emerges more clearly. The survey with which this report is concerned, on the south portion of the Irene claim, has yielded strong reactions in copper, gold and tungsten, a high temperature zone. Prior surveys, in 1981 on the Old Alameda (5) and in 1984 on the Dam Two (6), two kilometres to the south, showed strong zinc-silver readings extending from Dam Two north into Old Alameda Lots 4501, 4503 and into Lot 4504 (which includes the peak of Swakum Mtn.) weakening in the northernmost, Lot 4505. Continuation of the survey now under examination, both to north and south, is a priority project.

Some geophysical work has been conducted in this area. When Torwest held the top of Swakum Mtn., I made a spontaneous polarization (self-potential) survey of a small area north of the peak in 1958 or 1959. An impressive reaction was recorded, but on drilling proved to be a graphitic shear zone; no such formation had been previously seen or recorded there (1). It carried scattered, marcasite mineralization.

The plotted potentials consistently presented an odd profile, in the form of a broad dome surmounted by a cupola topped with a

spire. The latter coincided with the graphitic shear zone. I surmised that the striking, broad dome of electric potentials derived from a deeply buried, large body of sulphides. Torwest prepared to drill a couple of thousand-foot holes to test this possibility, but ran out of money; the holes have never been drilled.

At that time the aeromagnetic map had not yet been published. It now lends credence to the above supposition, as it presumably indicates a large body of massive, intrusive magma, which invaded the Nicola sediments and volcanics and solidified into a body of rock, probably a diorite such as forms many of the present exposures in this area. It underlies the exploration area. Such a magma, in the process of ~~solidifying~~ and cooling, would give off hydrothermal solutions laden with metallic minerals. Close to the contact with the invaded sediments and volcanics, such solutions could form ~~replacement~~ bodies of contact metasomatic mineralization, sometimes of massive sulphides.

Moving outward and upward in the tension cracks created in the invaded formations, hydrothermal veins of quartz and calcite will form, carrying metallic minerals. These are deposited, usually as sulphides, in a sequence controlled by their temperature-solubility. Those minerals which can come out of solution at high temperatures will deposit near the igneous source, while those that can remain in solution to lower temperatures will be deposited farther away. This is the temperature gradient effect noted by W. E. Cockfield in his 1948 Memoir (2).

The soil analyses programs, conducted on parts of these claims over the past few years by the present owners, have con-

firmed and expanded the temperature-gradient concept. The data set forth in this present report indicate a high-temperature zone of copper-tungsten-gold on the southern portion of the Irene claim, some 600 metres westerly from the Lucky Mike shaft. At that shaft, the copper mineralization (accompanied by scheelite) occurs in a contact-metasomatic zone of garnet and epidote skarn. A short distance east of that shaft, drilling by Torwest in 1965 revealed 350,000 tons of copper-tungsten mineralization in two lenses, averaging from 0.282% WO_3 to 0.318% WO_3 and with 0.56% Cu, in the lower lens (1,7).

Both the indicated mineralization on the Irene claim and the mineralization revealed in the vicinity of the Lucky Mike shaft, evidently belong in the high-temperature copper-tungsten-gold zone of deposition.

Nearly a kilometre south of the Lucky Mike shaft showing, the shaft on the Old Alameda, Lot 4506 (not part of this Corona Group) produced a test shipment of three tons of ore carrying 9.6% lead, 0.33 oz./ton in gold and 17 oz./ton in silver (1,2). This zone of mineralization belongs in the hydrothermal vein formations of moderately high temperatures, characterised by lead, gold, some zinc, silver and copper.

About two-and-a-half kilometres further south, the Thelma shaft, on Lot 4510, produced a test shipment of 89 tons, which gave 5.75% zinc, 83.35 oz./ton in silver, 0.011 oz./ton in gold and 5.4% lead. This is in a hydrothermal zone of deposition somewhat cooler than the Old Alameda shaft area, and is characterised by zinc and silver, with lead and some copper(1,2).

A few hundred metres west of the Old Alameda shaft and starting some 1,000 metres to the south, on the Dam Two claim, the geochemical survey has outlined a zone of very strong readings in zinc and silver. This zone extends in a band trending slightly east of north for about 1,500 metres. It starts on Dam Two and carries on through Old Alameda claim lots 4503, 4504 and 4505, all in the Corona Group(5,6). This mineralization lies in the zone of hydrothermal vein formation of slightly lower temperature than the mineralization in the Old Alameda shaft; it is characterised by high zinc and silver content with some lead and copper but minor gold.

The horizontal gradient of temperature-of-deposition on proceeding away from the focus of mineralization, will apply also in the vertical plane. Thus, the zone of silver-zinc mineralization just described, may be expected to pass into the higher temperature lead-gold one, as encountered in the Old Alameda shaft, as depth increases. As the source of mineralization is more closely approached at greater depths, the high temperature zone of copper-gold-tungsten may be expected. At the contact of the igneous intrusive this may take the form of bodies of massive, sulphide replacement.

No geophysical work was carried out on the Swakum area for ten years after my spontaneous polarisation survey for Torwest Resources. In 1969 a sketchy induced polarization survey was made for Zulco Explorations Ltd. by Jon C. Baird, P.Eng.(8). Only three lines were run for observations; one, a base line,- 6,000 feet long was cut E-W. From its mid-point a line was laid out north

for 2,800 ft. From the west end of the B.L. a line was extended for 4,500 ft. to the south. The map of the grid lay-out was not provided with the microfiche of the report, so the precise locations of the lines are in doubt. From the description it appears that the BL probably cut through the mid-portions of Old Alameda claims Lots 4501, 4503, 4891 and 4508. The line run north probably coincided with the east boundaries of 4503 and 4504, extending into Lot 4505 which tilts eastwards at this point. The line southwards from the west end of the Base Line presumably extended south along the west boundary of Old Alameda Lot 4501 and into the Old Complex Lots 4894 and 4893. All of these lots are listed Crown Grants that were objectives of the survey

The author admits that observations taken along randomly oriented lines, rather than on a closely spaced grid, are difficult to interpret. He calls attention, however, to three areas of high chargeability and low resistivity. One of these is at station 20N on the north line, which would seemingly be in Old Alameda Lot 4505. The geochemical survey of that (and other claims) area by the present owners in 1981 (5) revealed copper, zinc and silver anomalies. Baird considers this EM anomaly to be the most attractive of the three.

Another area of low resistivity and high chargeability was observed at the center of the Base Line. This would have been on, or close to the boundary between Old Alameda Lots 4503 and 4891. The geochemical survey in 1981, mentioned above (5), found a number of silver, zinc and copper anomalies in that area.

The third set of anomalous EM readings was recorded at the

south end of the line running south from the west end of the BL. These anomalies would then be in the Old Complex Lot 4893. A very rough, reconnaissance geochem survey, with lines spaced 150 m apart and readings at 50m intervals, was made of the Old Complex claims by the present owners, in 1981 (9). More thorough coverage was recommended. Readings, but only threshold values, were observed for copper and silver.

In 1972 a magnetometer survey was conducted on a grid, with a center line extending north 4,000 ft. from the Old Alameda shaft and east-west grid lines cut at three hundred foot intervals. The grid lines extended 1,000 ft. east and 1,000 ft. west. It was reported by C. H. Donaldson, P.Eng. (10). He noted that there were no pronounced magnetic highs, but that three lineations with a strike west of north might indicate fault zones. Others, with a weaker intensity, striking north-easterly, he thought might be due to rock contacts, or linear structures in the bedrock.

The survey was continued, extending the magnetic coverage and adding a geochemical soil survey and a VLF electromagnetic survey, as reported later by C.H. Donaldson, P.Eng. (11). He noted that geochemical and VLF electromagnetic anomalies corresponded well in the southern part of the area. Two main controls of mineralization, he observed, were faulting and magnetic lows.

The strongest magnetic fault indicator, which is accompanied, or bordered by geochemical anomalies, strikes northwesterly from east of the Old Alameda shaft to west of the Lucky Mike shaft and on to the northern and western borders of the grid area, where it impinges on the borders of the Irene and Alameda B claims.

A line of geochemical anomalies follows a magnetically indicated contact, in an S-curve, in the southwest corner of the grid, 1,500 to 1,600 ft. west of the Base Line. Two more zones, striking east of north lie at 2,000 and 2,200 ft. west of the B.L. These indications are all on the Old Alameda Lot 4505, of the Corona Group.

This geochemical survey showed a preponderance of lead and zinc in the southern part, with copper dominating the north, states Donaldson. Samples were tested only for copper, lead, zinc and tungsten

Detailed reviewing of the data in the report on soil analyses is not possible. No assumed background values are given for the individual metals; anomalies are simply ascribed to figures of 200 ppm for all four metals combined, copper, lead, zinc and tungsten. On the geochemical map, four values are entered at each sampling station, but there is no indication, on the map or in the text, as to which metal is in which position. Nevertheless, the results contribute significantly to the over-all perspective of the area and pointedly demonstrate that the way to conduct geophysical and geochemical exploration is not here and there, with randomly oriented lines of observations with a single technique, but by using multiple methods on a grid of closely spaced observations on closely spaced grid lines. Anything less is likely to be a waste of time, energy and money and be self-defeating.

The geological setting for the mineral deposits which are the objective of exploration in this area, was thoroughly studied and set forth by W.E. Cockfield in his Memoir of of 1948. To this,

Neil McKechnie added further information from his studies at the time Torwest was working on Swakum Mtn. (12).

The principal bedrock formations underlying this area, are the strata of the Nicola Formation, extending from the American border northwards across the Thompson River, in a wide band. These strata consist of volcanic flows and tuffs, mostly of andesitic type, intercalated with sedimentary beds of limestone, argillites and conglomerates. Throughout this area these beds are known to be favorable host rocks for mineral deposition. The formation is of Triassic Age.

In the region of Swakum Mtn. the Triassic beds of volcanics and sediments were folded into an asymmetric anticline plunging southerly. The Lucky Mike copper-tungsten mineralization in a contact—metasomatic gangue of garnet-epidote skarn, the Old Alameda shaft to the south on a quartz-calcite hydrothermal vein of lead-gold-copper-zinc in limy tuffs and yet further south, at the Thelma and Bernice shafts where lower temperature hydrothermal veins and stringers of quartz and calcite carry zinc-silver-lead-copper minerals, these are all in the greenstones (altered volcanics) and sediments on the east flank of the anticline. The beds strike northerly and dip easterly and are intersected by west-dipping fractures. These fractures may have been the conduits through which the mineralizing solutions rose and deposited their mineral loads in the intersected, receptive beds.

About a kilometre south-of-west from the Bernice shaft on Lot 4502, at the Corona shaft on Lot 4512 the mineralization is similar to that at the Thelma and Bernice claims. The Corona

deposits are, however, on the western limb of the anticline, in beds which strike northwesterly and dip gently southwest. Quartz and calcite stringers and veins carry sphalerite, galena and a little tetrahedrite and copper staining.

As noted previously, over a slightly arcuate length of more than four kilometres, there is a zonal pattern of mineral distribution from high temperature, contact metasomatic at the Lucky Mike to lower temperature, hydrothermal vein formations in the shafts to the south. W.E. Cockfield commented (2) "...a temperature zoning around a concealed body of intrusive rock." was responsible for this pattern of mineralization. Not until the aeromagnetic map (3) came out in 1968 was there any clue as to the probable location such such an igneous source body. It suggested to me that an intrusive occupied the core of the anticline at Swakum Mtn.

There are many, large intrusives of dioritic character in this area, often carrying mineralization. The most prominent one is the Guichon batholith to the west, only 6 miles distant, an oval some 40 miles long in its greatest, northwesterly length. It is of Jurassic age and is host to the numerous copper-molybdenum mining operations in the Highland Valley.

GEOCHEMICAL SURVEY

The soil samples analysed for gold, with which this report is concerned, were taken during the soil sampling described in my report of Nov. 22, 1985 (1). The costs of gridding, sampling, plus analysing for copper, zinc, silver, lead and tungsten were

claimed in that report of Nov. 22, 1985.

This present report is concerned with the submission of two "Statements of Exploration and Development" on June 10, 1986 (M.R. #228785E) and July 2, 1986 (M.R. #228793E). The June statement covered the analysis for gold on 102 soil samples from the Irene claim. These had been previously analysed for copper, lead, zinc, silver and tungsten. Those results were set forth in my report of Nov. 22, 1985 (1). That figure of 102 samples was corrected in the July 2nd filing to 99 samples, as it was found that the remaining material in three samples was insufficient to permit analyses. This reduced the cost listed June 10 as \$612, to the corrected figure of \$600, as set forth in the July 2 Statement.

The July 2 Statement was concerned principally with assays and analyses on rock samples from both the sampling grid and from elsewhere on the claim group. Some corrections are needed in the items listed for the rock samples.

The item "Geochem. anal. for 6 metals on 2 soil samples... ..\$26.60" was an erroneous invoice and was corrected by another, "re-issue" for "Assays for 6 metals on 2 rock samples...\$96.00" Through a mis-understanding of the invoices, both were entered on the Statement. It is now requested that a correction be made by subtracting the \$26.60 from the expenses listed in the Statement dated July 2, 1986. The item of \$96.00 is correct.

There is also an item, "Assays for 3 metals on 2 rock samples...\$50.00 That is correct.

The effect of the above-suggested subtraction of \$26.60 from the expenses listed on the July 2nd Statement will be

merely to reduce the amount to be claimed at a later date, from the figure given, \$717.50 to the sum of \$690.90.

Subsequent to filing the Statement of July 2, 1986, some additional rock samples were gathered and analysed. The costs were not, of course included in the Statement of July 2 and the material was assayed after the anniversary date of the Old Corona and Old Complex claims (July 3), to which the assessment work was being applied. The results are mentioned herein, however, since they are actually a part of this program.

The costs of these two sets of sample-assays can presumably be listed at a later date. The data are:-

July 21, 1986, Invoice ETK 86-83, assays for
gold and silver on two rock samples.....\$38.50

These costs have not been included in the present submission.

STATEMENT OF EXPENDITURES

The figures hereunder will not be the same as those recorded in the two "Statements of Exploration and Development" of June 10 and July 2, 1986, because the corrections enumerated above have entered in the figures below.

	JUNE 10, 1986	
Unclaimed balance from my Report of Nov. 22, 1985 (1).....	\$ 644.90	
Geochemical determinations of gold on 99 soil samples.....	600.00	✓
Report.....	1,000.00	✓
Total available.....	\$2,244.90	
I year to be applied to the Irene claim, 12 units, Record No. 1626.....	\$1,200.00	
Unclaimed balance.....	\$1,044.90	

JULY 2, 1986

Unclaimed balance from the Statement of June 10, 1986.....	\$1,044.90	
Assays for 6 metals on two rock samples.....	96.00	✓
Assays for 3 metals on two rock samples.....	50.00	✓
Added cost to put in above report.....	<u>300.00</u>	✓
TOTAL available.....	\$1,490.90	
1 year to be applied to each of Old Corona nos. 1 & 2 (Record nos. 654, 655) and Old Complex nos. 2 & 3 (Record nos. 656, 657)....	<u>800.00</u>	
Unclaimed balance, to be claimed later.....	\$ 690.90	

The analyses of rock and soil samples by geochemical and assay procedures, were carried out by Eco-Tech Laboratories Ltd., 10041 E. Trans Canada Hwy., Kamloops, B.C., V2C 2J3.

The field work was conducted by Pacific Northwest GeoTech Ltd., which was also the operator and paid for the work, of P.O. Box 3064, Kamloops, B.C., V2C 5N3.

EVALUATION OF RESULTS

The geochemical determinations for gold were made by the Eco-Tech Laboratories Ltd. of Kamloops. Analyses for some other metals, especially copper, lead, zinc, silver and tungsten were made on some samples of rock, but the main thrust of the work was the gold analyses on 99 samples from the lower, eastern part of the Irene claim. The relevant analytical returns are bound in an envelope in back of this text.

It should be noted that the gold returns have been entered on the record of the prior analyses of the samples from this area, for silver, copper, lead and zinc; the tungsten readings were left off for lack of room. The gold only are evaluated in this report and the gold only are being listed as costs, as far as this analytical document is concerned.

The analyses for gold could be made only to the nearest 5 parts per billion (ppb). Everything below 5 ppb was listed as 1 ppb. This introduces some ambiguity into the determination of background value. From the preponderance of the 1 ppb values, it is evident that background will be between 1 ppb and 5 ppb. The mean would be 3 ppb.

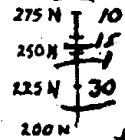
From gold determinations made on numerous samples from a nearby property close to Clapperton Creek, where the values were reported to 1 ppb, I found the background to be 2 ppb. There seems to be no reason for its being higher on the Irene, but to be safe I adopted the figure of 3 ppb as background.

With a background of 3 ppb, threshold is 6 ppb and values 9 ppb and over are all anomalous.

Corona Group Irene Claim



Anomalies



To Claim Line
+ E 2N To 3N

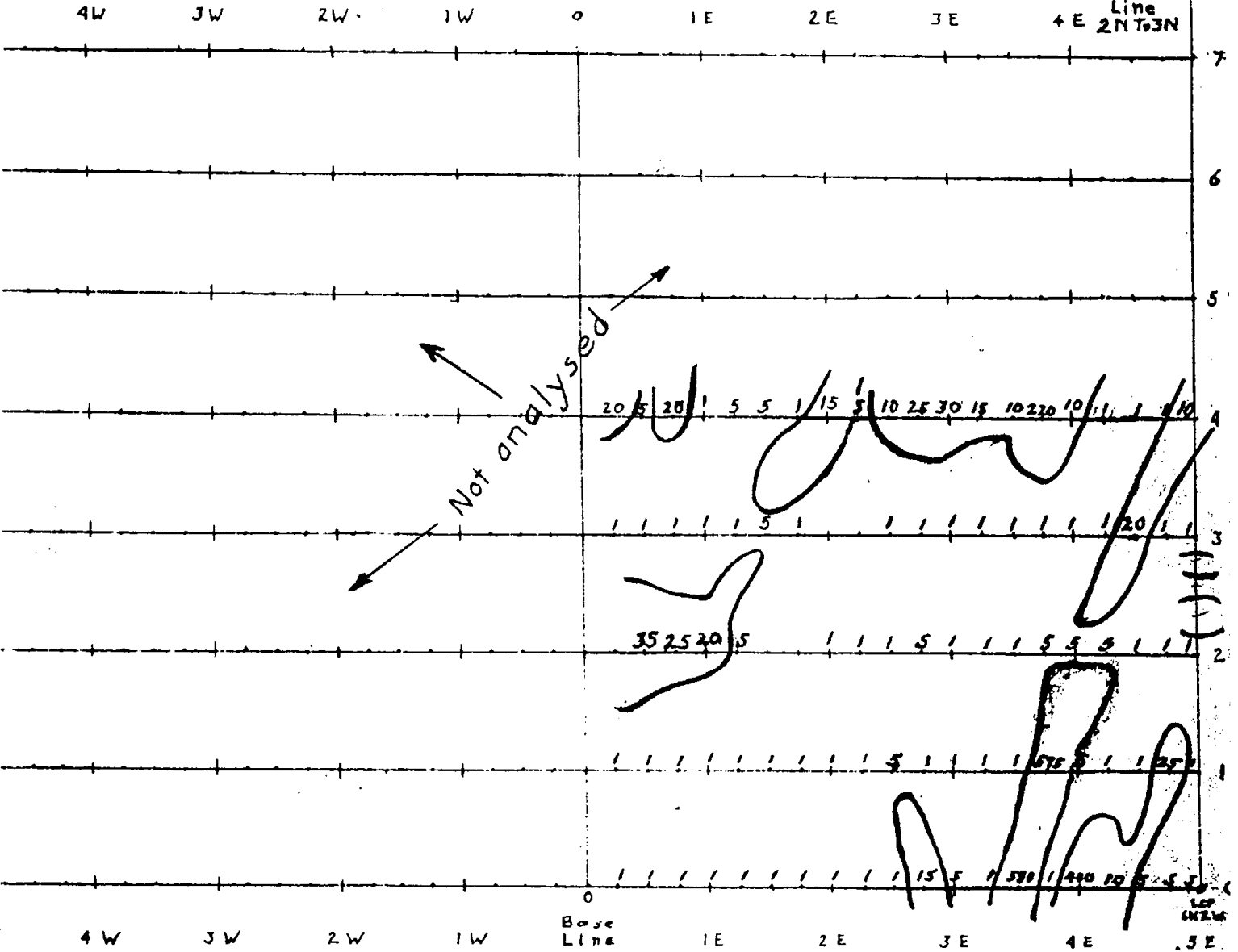
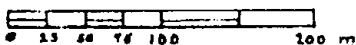


FIG.3. MAP OF TEST RESULTS
GEOCHEMICAL SURVEY - GOLD

GOLD
ppb

- Background.....3
- Threshold.....6
- Anomalous.....9

SCALE



Anomalies
are outlined.

Map to accompany assessment work report by
Sherwin F. Kelly, P.Eng. Aug. 30, 1986

The gold values have been entered on the grid map of the Irene claim, utilised in my prior report of Nov. 22, 1985 (1). This map, Fig. 3, is bound opposite this page. Anomalies are outlined.

A correction should be noted. The isolated line of samples at the northeast corner of the map records some anomalies apparently on the claim line north of the grid. Those samples and readings belong on the claim line, but between Lines 2N and 3N. This also applies to the maps in my prior report cited above.

This map, Fig. 3, covers only a small area, 500m by 400m but records an encouraging number of anomalies. Most of them are in the range of 2 to nearly 4 times background. There are a few of over 200 ppb; these may be due to a particle of gold in the overburden.

The pattern of anomalies indicates a trend slightly east of north. The incompletely outlined ones at the west end of Line 2N and the middle of Line 4N, look as though they might be parts of larger anomalous areas without such clear trends. If so, they would probably correspond with replacent deposits of a metasomatic contact type. The linear, NE trends, on the other hand, are likely to correspond with high temperature vein deposits with replacement of wall rock.

The number and patterns of the gold indications on this small area is very encouraging and underlines the urgent need to expand this survey over the rest of the Irene claim and over the Alameda A to the south, as well as the adjoining Old Alamedas on the east of Alamed A.

There is a significant relation between the gold anomalies and those of copper and tungsten in the same area, as related in my prior report, cited above.

Copper and gold coincide at the southeast corner of the grid, at the west end of Line 4N and on the claim line between 2N and 3N. The broad copper anomaly extending north from Line 1N across Line 4N, borders a gold anomaly just east of it and actually enters the gold anomaly on Line 4N. That was recorded on Fig. 3 of the Nov. 22, 1985 report and a copy is enclosed in an envelope bound in back of this text.

Tungsten anomalies adjoin or coincide with the gold and copper ones in the southeast corner of the grid, on the claim line between 2N and 3N and the west end of Line 4N. The correspondence between tungsten and gold anomalies is striking on Line 4N. This is shown on Fig. 4 of the earlier report, and a copy is enclosed in an envelope bound in back of this text.

Silver, zinc and lead assays were minimal on this area, in the earlier survey. Two, small zinc anomalies occurred on Line 2N, on the BL and just east of it, where there is an incompletely outlined gold anomaly. One, small lead anomaly is at 3+50E on Line 0, where it coincides with a gold anomaly. Might this signal an approach to the transition between high temperature contact metamorphic gold-tungsten zone of deposition on the north and slightly lower high-temperature zone of hydrothermal lead-gold deposition to the south? Speculation, but it underlines the need for expanding this investigation to the north and to the south.

A few rock samples were gathered from just south of the present survey area, Alameda A and adjoining Old Alameda 3, Lot 4505 and Old Alameda 4, Lot 4504. In the northeast corner of Alameda A there are some old workings. In a small, N-S gully some short adits have been driven westerly, in a small rock cliff bordering the gully on the west. The two principal ones, close together, have been designate North Adit and South Adit; the north one is horizontal and the south one is on a slight decline. They were driven on unimpressive veins. These adits are so close to the border with Old Alameda Lot 4505 that, in one case they were listed for Alameda A and in another as Old Alameda 4505. The adits were driven in the early years of this century.

Certificate of Analysis Number ET86-41 shows two analyses from Alameda, at the two adits mentioned. Number 41-1 was a chip sample from the wall at the entrance. It showed poor values in all six metals, gold, silver, copper, lead, zinc and tungsten; North Adit. Number 41-2 was of dump material from the South Adit. It yields 0.220 oz./ton in gold, 0.12 oz./ton in sulver and 0.32% copper. Lead, zinc and tungsten were negligible. This Certificate, June 2/86.

Certificate Number ETK-44, June 10, 1986, covers two rock samples, nos. 44-1 and 44-2. The first was chip samples from the South Adit mentioned above. It is low in gold, silver and copper, probably due to the fact that the sample was taken near the mouth of the adit, in gougy material from the weathered zone. The dump materiel, mentioned above, which gave good values in gold, silver and copper, came from deeper within the inclined adit.

The second sample, 44-2, was taken from a dump at an old drill site, some 300m or so southeast of the adits previously mentioned. It showed heavy sulphides and gave good values in silver, 16.0 oz./ton and copper, 0.68%. The sample should be assayed for the other base metals of interest here. The site is on Old Alameda Crown Grant, Lot 4505.

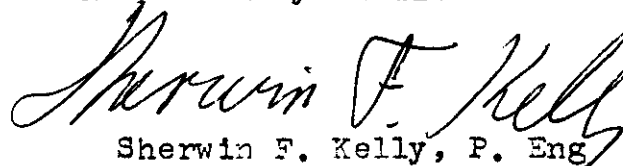
Certificate of Analysis ETK 86-83 involves two rock samples, one from Old Alameda Lot 4504 and the other ascribed to Old Alameda Lot 4505, but may be on Alameda A, as it is the South Adit previously considered. Number 83-1 is a sample from a dump beside a small, caved-in shaft about 25m west of the road down from Swakum Mtn., just west of the mountain peak. It showed heavy sulphides but was assayed only for gold and silver; both were low. Gold was negligible and silver was 0.65 oz./ton. In view of the sulphide mineralization noted, it would be well to assay this sample for the base metals occurring here. Number 83-2, ascribed to Lot 4505, is from the South Adit, also ascribed to Alameda A. The northwest corner-post of Lot 4505 has not been found, so the precise location of the boundary between that Lot and the Alameda A is, as yet, uncertain. This was also a sample at the dump of the South Adit and gave 0.229 oz./ton in gold but only 0.59 oz./ton in silver.

The earlier Certificate of Analysis, ETK85-69, mentioned in my Report of Nov. 22, 1985 (1), and charged for in that submission (not in this one), covered a rock sample from the Irene Claim, between Lines 2N and 3N on the east Claim Line. It was only geochemically tested, not assayed, for silver, lead and tung-

sten. Silver ran only 1.6 ppm and lead 95 ppm; there were no silver and no lead anomalies in the soil samples from that segment of the Claim Line. Tungsten on the other hand, returned a value of 200 ppm; in the soil sampling, there was a tungsten anomaly of 8 ppm in this area, as well as of gold and copper.

As the study in this portion of Swakum Mtn. progresses, the pattern of mineralization is gradually emerging, the pattern from high-temperature copper-gold tungsten in the north, passing into slightly lower-temperature zinc-silver in the south. Continued investigation by multiple methods is urgently required. The possibility that the same pattern may exist going north from the peak area, also should be investigated.

Respectfully submitted


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Aug. 30, 1986

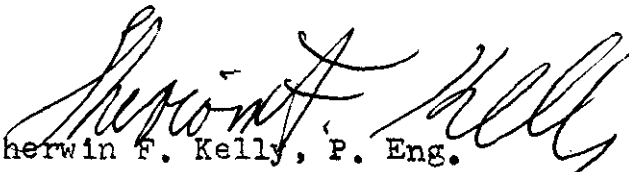
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CERTIFICATE OF QUALIFICATIONS

I, Sherwin F. Kelly, P.Eng., residing in Merritt, B.C.,
certify that:-

- (1) I am a registered Professional Engineer in the Province of British Columbia
- (2) I received the degree of B. Sc. in Mining Engineering from the University of Kansas in 1917. I pursued graduate studies at the University of Toronto, the University of Kansas, the Université de Paris (the Sorbonne), the Ecole des Mines and the Museum d'Histoire Naturelle, in Paris, in geology and mineralogy. I received my early instruction in geophysics from Prof. Conrad Schlumberger, of the Ecole des Mines.
- (3) I have practised as a geophysicist and geologist in Europe, North Africa, North, Central and South America and the Caribbean, since 1920. Since 1936, my work has been as a consultant.
- (4) I am the author of the accompanying "Report of Assessment Work by Geochemical Soil Surveys on Old Corona #1 & #2, Old Complex #2 & #3 and Irene Claims in the Corona Group on Swakum Mtn. in the Nicola Mining Division, B.C.", dated August 30, 1986.
- (5) I am in the partnership owning the claims.


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