

GEOLOGICAL AND GEOPHYSICAL REPORT

on the

EPI 1-15 CLAIMS

Twin Lakes Area
Osoyoos Mining Division

82E-4, 5
(49° 15' N. Lat., 119° 46' W. Long.)

for

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by

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GEOLOGICAL BRANCH
ASSESSMENT REPORT

20,282

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SUMMARY AND RECOMMENDATIONS

The EPI Claims are located approximately 25 kilometers southwest of Penticton B.C. in southern British Columbia. The claims are bounded by Olalla on the west, Twin Lakes on the north, Park Rill on the east and Keremeos and Cawston on the south. The property consists of 15 claims covering 218 units in the Osoyoos Mining Division.

Mining has been carried out in the South Similkameen-South Okanagan since the late 1800's. The important gold camps in the area include Hedley, Fairview, Orofino Mountain and Olalla.

The EPI Claims are located in a favourable geological environment for epithermal gold and silver mineralization as they are mainly underlain by Tertiary volcanic and sedimentary rocks of the Penticton Tertiary Outlier. At least three gold occurrences are found within the Tertiary rocks of the area including the Vault, Dusty Mac and Venner Meadows Properties.

The Dusty Mac property produced 58,700 tons of ore yielding 19,484 ounces of gold and 339,282 ounces of silver from 1969 through 1976. Mineralization was related to a silicified lens of White Lake Formation cut by many faults. The mineralization appears to be associated with and occurs adjacent to these faults.

The Vault property is a relatively recent discovery (1982) and consists of two types of epithermal gold mineralization occurring within Tertiary rocks. The first is a large quartz stockwork zone with abundant chalcedony and pyrite and prominent east-west fractures. Gold values in this zone are on the average about 0.07 ounces per ton. A second, more important type of mineralization is a distinct east-west quartz-calcite-adularia vein. Considerable exploration on the vein has indicated reserves of 150,000 tonnes grading 0.49 ounces gold per ton. A northeast trending fault crossing the property is thought to be a major control of mineralization.

The 1989 program on the EPI Claims yielded a number of favourable results for the presence of epithermal gold mineralization. These included:

- 1) A number of north trending magnetic lows representing major structural trends have the potential to be feeder zones for epithermal gold mineralization.
- 2) A weak chargeability anomaly on Grid A near a clay altered outcrop of dacite may represent sulphide mineralization within an epithermal system.

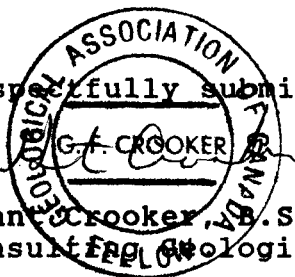
3) The discovery of a number of weakly to strongly clay altered zones and areas with chalcedony float. The most significant of these zones occurs on Grid B where sampling gave weakly anomalous mercury (130 ppb) and arsenic (77 ppm) values. The clay alteration may be indicating favourable structures with epithermal gold mineralization at depth.

The 1990 program covered by this report consisted of establishing a grid (Grid C) over several major structural trends and carrying out geological mapping, prospecting and magnetometer and VLF-EM surveying over the grid.

The program yielded a number of favourable results for the presence of epithermal gold mineralization. The magnetometer survey delineated a number of north trending magnetic lows and the VLF-EM survey indicated a number of conductors, some of which are coincidental with magnetic lows. The magnetic lows and some VLF-EM conductors represent structural trends which have the potential to be feeder zones for epithermal gold mineralization. Prospecting located several areas with fracturing and 1-3 mm chalcedonic and calcite veinlets. Sampling did not give any anomalous gold values, however a number of trace elements such as molybdenum, mercury and antimony were weakly anomalous.

Recommendations are to continue exploration on the property. This should include 1) Carrying out a program of drainage sampling along all major structural trends. 2) Continuing geological mapping and prospecting on all areas of the property. 3) Carrying out geophysical surveys over areas with major structural features.

Respectfully submitted,



Grant Crooker, B.Sc., F.G.A.C.,
Consulting Geologist

1.0 INTRODUCTION

1.1 GENERAL

Field work was carried out on the EPI Claims during June and August of 1990 by Grant Crooker Geologist, and one field assistant.

One grid (Grid C) was established over a number of major structural trends along the eastern boundary of the property, mainly on the EPI-14 claim. Prospecting, geological mapping and VLF-EM and magnetometer surveying were carried over the grid.

1.2 LOCATION AND ACCESS

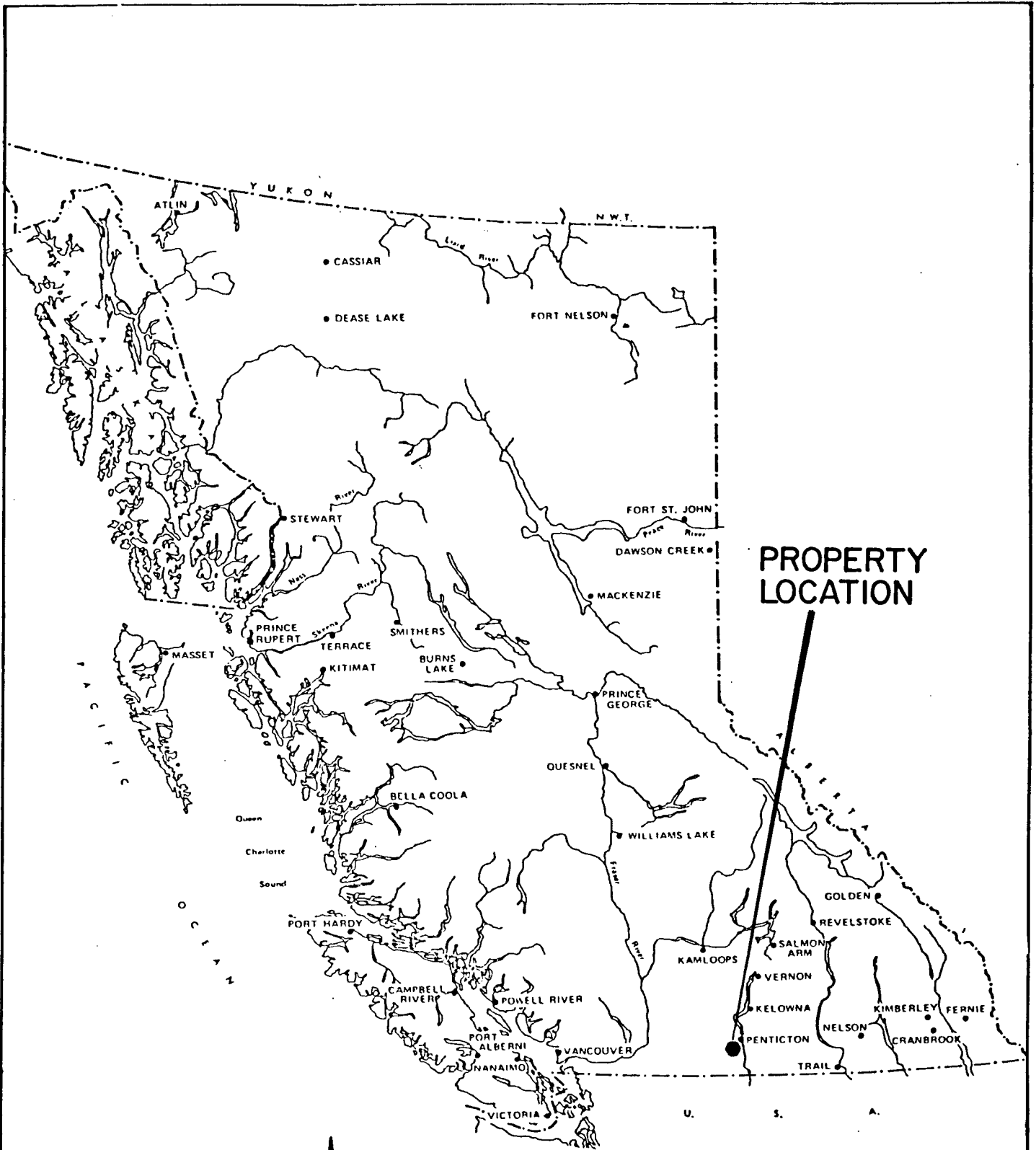
The property (Figure G-1) is located approximately 25 kilometers southwest of Penticton in southern British Columbia. It is bounded by Olalla (Figure G-2) on the west, Twin Lakes on the north, Park Rill on the east and Keremeos and Cawston on the south. The claims lie between 49°12'30" and 49°18' north latitude and 119°42'20" and 119°48'15" west longitude (NTS 82E-4, 5).

Excellent access to the property is available through a variety of routes. The Taylor Lake logging road provides the best access, turning off Highway 3A at the Twin Lakes junction and proceeding south. This is an all weather two wheel drive road which gives access to the eastern and southern portions of the property.

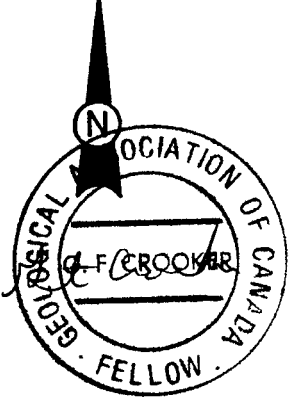
The Horn Creek logging road turns off from the Twin Lakes road and gives access to the northern and western portions of the property. This is a two wheel drive road but it does contain some rough sections.

An old four wheel drive logging road leads to Armstrong Creek and the Columns Provincial Park, and provides access to the southwestern portion of the property. This road turns east off Highway 3A between Keremeos and Olalla.

A large number of old logging roads and power line roads link up all of the above roads, although some of these are usable by four wheel drive vehicles only.



**PROPERTY
LOCATION**



GRANT F. CROOKER	
EPI CLAIMS	
LOCATION MAP	
N.T.S. 82 E-4,5	OSOYOOS M.D., B.C.
DRAWN BY: G.C.	SCALE: AS SHOWN
DATE: SEPT. 1990	FIGURE NO. G1

1.3 PHYSIOGRAPHY

The property is located within the Thompson Plateau section of the Interior Plateau. Elevation varies from 580 to 1580 meters above sea level and topography varies from flat to steep. Many of the higher sections of the property are relatively flat but extremely steep cliffs occur where the property drops down into Keremeos, Manuel and Horn Creeks.

Outcrop is relatively abundant on the ridges but becomes sparse on the lower slopes and structural trends.

A number of creeks flow through the property, including Horn, Manuel and Armstrong Creeks. These creeks all cut steep canyons through the property. Water can be found in all of these creeks in localized sections with the source of the water being abundant springs. Many swamps on the higher sections of the property contain water throughout the entire year.

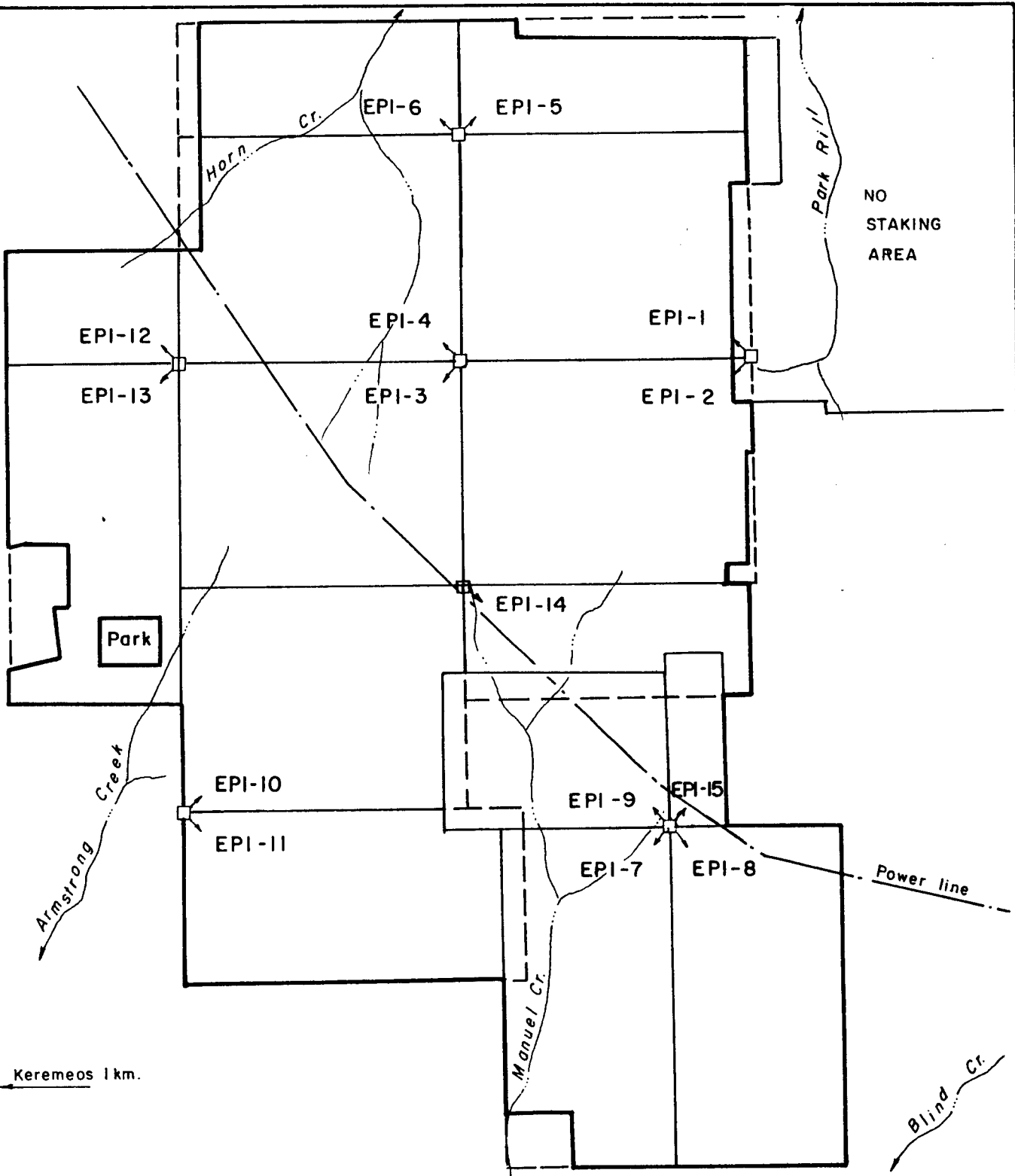
Vegetation varies from open range land to a forest cover of pine and fir trees. Large areas of the property have been logged from the 1950's to the present. A B.C. Hydro transmission line passes through the center of the property.

1.4 PROPERTY AND CLAIM STATUS

The EPI 1-15 Claims (Figure G-2) are owned by Grant Crooker of Keremeos B.C. and consists of 15 claims covering 218 units in the Osoyoos Mining Division.

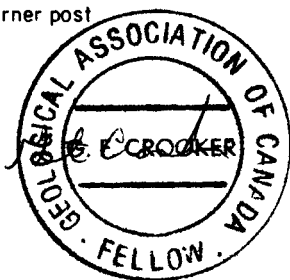
Claim	Units	Mining Division	Record Number	Record Date	Expiry Date
EPI-1	20	Osoyoos	3127(3)	17/03/89	17/03/94
EPI-2	20	Osoyoos	3128(3)	18/03/89	18/03/93
EPI-3	20	Osoyoos	3129(3)	21/03/89	21/03/93
EPI-4	20	Osoyoos	3130(3)	23/03/89	23/03/93
EPI-5	5(red.)	Osoyoos	3131(3)	22/03/89	22/03/94
EPI-6	10	Osoyoos	3132(3)	22/03/89	22/03/94
EPI-7	18	Osoyoos	3133(3)	26/03/89	26/03/93*
EPI-8	18	Osoyoos	3134(3)	26/03/89	26/03/92*
EPI-9	12	Osoyoos	3135(3)	26/03/89	26/03/92*
EPI-10	20	Osoyoos	3136(3)	29/03/89	29/03/92
EPI-11	18	Osoyoos	3137(3)	30/03/89	30/03/92
EPI-12	6	Osoyoos	3138(4)	01/04/89	01/04/93
EPI-13	18	Osoyoos	3139(4)	01/04/89	01/04/93
EPI-14	10	Osoyoos	3177(7)	04/07/89	04/07/93*
EPI-15	3	Osoyoos	3176(7)	04/07/89	04/07/94*

* Including the work credits from this report.



LEGEND

- Legal corner post
- Creek



GRANT F. CROCKER

**EPI CLAIMS
CLAIM MAP**

N.T.S. 82E-4,5

OSOYOOS M.D., B.C.



SCALE 1 : 50,000

DATE : SEPT. 1990

DRAWN BY : G.C.

FIGURE Nº. G2

1.5 AREA AND PROPERTY HISTORY

The EPI Claims are located in the South Similkameen-South Okanagan, an area which has a very rich history of mining. Placer mining began in the area in the 1860's, with hardrock mining beginning soon after. A number of gold camps are located around the claim group, including Hedley, Olalla, Orofino Mountain and Fairview. Many other gold properties, including the Dusty Mac, Venner Meadows (Au-Rain) and Vault are also located near the EPI Claims.

The Hedley Camp has the most significant production in the area, with 3,981,553 tons of ore producing 1,730,643 ounces of gold and 190,091 ounces of silver between 1904 and 1955. The Nickel Plate Mine was reopened in 1987 by Corona Corporation with open pit reserves of 7,200,000 tons grading 0.15 ounces per ton gold. The gold in the Hedley Camp is related to skarn mineralization.

The Fairview Camp has the second highest record of production in the area, with 536,500 tons of ore producing 17,040 ounces of gold and 169,497 ounces of silver between 1898 and 1949. Recent exploration within the Fairview Camp by Oliver Gold Corp. has given 762,000 tons of proven, possible and probable ore grading 0.110 ounces per ton gold and 1.2 ounces per ton silver. Production from this area has been from quartz veins.

A limited amount of ore has also been produced from the Orofino Mountain Camp. Approximately 21,800 tons of ore yielded 8,846 ounces of gold and 2,393 ounces of silver. Brightwork Resources Inc. currently has the Grandoro and King properties under option and carried out a 2500 foot diamond drilling program on the Grandoro property during June of 1990. This program was successful, with the best results a 5.58 foot section returning 1.040 ounces per ton gold.

Gold and silver mineralization at this camp is also related to quartz veins.

A number of precious metal occurrences are found within the Olalla Camp, although only a limited amount of ore has been produced. Gold and silver mineralization is related to skarns (Bullion, Juniper-Bell) and quartz veins and breccias with carbonate alteration (Sunrise, Something Good, Cliff Claims). Goldcliff Resource Corporation is currently exploring the Cliff Claims.

At least three gold and silver occurrences are found within the same Tertiary volcanic and sedimentary rocks that underlie the EPI Claims. These are the Dusty Mac, Vault and Venner Meadows (Au-Rain) properties and all are related to epithermal gold mineralization.

The Dusty Mac property produced 58,700 tons of ore yielding 19,484 ounces of gold and 339,282 ounces of silver between 1969 and 1976. The deposit consisted of a lens like zone of silicified Eocene White Lake Formation volcanic rocks and sedimentary debris containing minor disseminated pyrite and native silver. Some quartz veins on the property also carry minor bornite and chalcopyrite. The zone has been cut by an important system of reverse faults. The system generally trends southeasterly, with interwoven easterly and southerly striking segments and splays. Quartz veins and gossans are present in or adjacent to most of the main faults.

The Venner Meadows property was apparently discovered in a logging road cut in 1973 and was known at that time as the Au-Rain Claims. Work programs, including soil sampling, magnetometer and VLF EM surveys, and trenching were carried out by a number of companies through 1978, when the claims were allowed to lapse. Erratic gold and silver mineralization occurs within a northeasterly trending shear zone with associated silicified patches and bands and calcite veins.

The area was restaked in 1979 and additional work programs carried out. Subsequent diamond drilling intersected significant gold mineralization. The mineralization is associated with faulting and brecciation within a propylitically altered andesite. Quartz and carbonate veining is found throughout the andesite, as narrow 1 mm lacey veining and larger veins up to 20 cm in width. The veins are generally broken and cut by numerous small scale offsets, and pyrite is common along fractures, within quartz veins, as fine disseminations, and as partial matrix in breccia zones. Common accessory minerals are purple fluorite and amethyst. Electrum has been identified and is generally associated with and surrounded by pyrite and silica. At present the property is under option to Tigris Minerals Corp..

The Vault property is the most significant property within the Tertiary Penticton Outlier. It is a relatively recent discovery, having been staked by M. Morrison in March 1982 to cover a gossanous area of silicified breccias that carried anomalous values in gold. Riocanex optioned the property in May 1982, and carried out percussion drilling in late 1982 and diamond drilling in April of 1983. A number of intersections contained anomalous gold and silver values, but the grades were not considered high enough by Riocanex and the option terminated.

In late 1983 Dome Exploration (Canada) Ltd. optioned the property and in early 1984 an induced polarization survey was carried out over the Discovery Zone with follow-up diamond drilling. Dome concluded that the precious metals and associated arsenic, mercury and antimony values are related to a zone of multi-stage silicification, pyritization, and brecciation accompanied by argillic alteration along and above a major southerly dipping

fault zone which separates the Marron Formation from the overlying Marama Formation. They also concluded the mineralization was sub-economic and terminated the option.

Seven Mile High Resources Inc. optioned the property in November of 1984. Geological mapping, geochemical soil sampling and geophysical surveying were carried out over various areas of the property. This work resulted in the discovery of a new, large, gossanous, silicified and clay altered zone named the MH Zone. A number of percussion holes were drilled to test the new discovery but no economic intersections were encountered.

In May of 1986, Canadian Nickel Company Limited entered into an option agreement with Seven Mile High Resources Inc. to earn a 60% interest in the property and act as operator. Subsequent to this option agreement, approximately \$ 3,500,000 has been spent on exploration including 37,000 meters of diamond drilling. The drilling has located epithermal gold mineralization in two east-west trending zones: the Main Zone and North Vein.

The Main Zone contains numerous gold-bearing veins in a quartz stockwork which is 600 m long, 40 to 125 m wide and 5 to 30 m thick. The top of the mineralization is 170 m below surface at the west end and 500 m below surface at the east end. Although several ore-grade intersections have been identified within the veins, the overall grade of the stockwork is less than 0.07 ounces gold per ton.

The North Vein is a discrete narrow quartz-calcite-adularia vein located 300 m north of the Main Zone. Diamond drilling to date has indicated a mineral resource of 150,000 tonnes grading 0.49 ounces gold per ton. The average true width for the intersections included in the tonnage calculation is 0.57 m. The North Vein has been tested over a strike length of 1,050 m and a vertical depth varying from 100 to 200 m. The exploration program under consideration for 1990 by the partners is estimated to cost \$ 350,000 and to consist of surface sampling and diamond drilling on the North Vein.

The Vault deposit consists of two types of mineralized zones, individual quartz-calcite-adularia veins with high gold values (North Vein) and a larger quartz stockwork with low gold values (Main Zone). A northeast trending fault cuts through the property and epithermal gold-silver mineralization appears to be controlled by a set of east-west trending fractures. A first phase of ascending fluids selectively silicified the matrix of the pyroclastics, followed by repeated fracturing of the now brittle pyroclastics and emplacement of gold-silver bearing quartz veins and veinlets.

The Vault deposit is significant in that it is a new discovery and it is basically a blind deposit, with no significant gold values on surface.

There is little documentation of exploration on the EPI Claims. Pacific Petroleum (Petro Canada) carried out regional geological and geochemical surveys on the property for uranium in 1976. Several uranium, copper, molybdenum and fluorine anomalies were located by the survey. Detailed grid follow up and diamond drilling occurred in 1977 and 1978 but no radioactive deposits were found. In 1978 the claims were placed in the uranium moratorium, and when the claim came open in 1989 they were staked by Grant Crooker.

The 1989 program on the EPI Claims consisted of geological mapping and prospecting over various areas of the property. Two grids were also established and geological mapping, prospecting and magnetometer surveying carried out over the grids. Interpretex Resources carried out orientation induced polarization and Omni plus surveys over part of Grid A.

The program yielded a number of favourable results for the presence of epithermal gold mineralization. The magnetometer survey indicated a number of north trending magnetic lows which represent structural trends. These structural trends could represent feeder zones for epithermal gold mineralization. The induced polarization survey delineated a weak chargeability anomaly near a clay altered outcrop of dacite. This anomaly may represent sulphide mineralization within an epithermal system.

Prospecting and geological mapping resulted in the discovery of a number of weakly to strongly clay altered zones and areas with chalcedony float. The most significant of these zones was found on Grid B where sampling of chalcedony float gave weakly anomalous mercury (130 ppb) and arsenic (77 ppm) values. The clay alteration may be indicating favourable structures with epithermal gold mineralization at depth.

2.0 EXPLORATION PROCEDURE

The 1990 program consisted of establishing Grid C and carrying out prospecting, geological mapping, magnetometer and VLF-EM surveying on the grid.

The south end of a small lake near the legal corner post for the EPI 1 and 2 Claims was chosen as 10,000N and 10,000E. The necessary baselines were established from this point.

GRID PARAMETERS

- declination 21°
- Grid C baseline direction N-S along 9200E
- survey lines perpendicular to baseline
- survey line separation 100 meters
- survey station spacing 25 meters
- survey lines, 8000N-7200N
- survey total - flagged lines - 11.775 kilometers

GEOPHYSICAL SURVEY PARAMETERS

TOTAL FIELD MAGNETIC SURVEY

- survey line separation 100 meters
- survey station spacing 25 meters
- survey total - Grid C - 11.775 kilometers
- Scintrex MP-2 magnetometer used for all survey
- measured total magnetic field in nanoteslas (gammas)
- instrument accuracy ± 1 gamma

A base station reading was taken twice a day to check for diurnal variation. Readings were taken along the baseline to obtain standard values for all baseline stations. All loops ran off the baselines were then corrected to these standard values by the straight line method.

The total field magnetic profiles were plotted on figure 5 and the total field magnetic contours on figure 7 at a scale of 1:5000. The total field magnetic data is listed in Appendix IV.

VLF-EM SURVEY

- survey line separation 100 meters
- survey station spacing 25 meters
- survey total - Grid C - 10.725 kilometers
- transmitting station - Seattle - 24.8 KHz
- direction faced - southeasterly
- instrument - Geonics EM-16
- in-phase (dip angle) and out-of-phase (quadrature) components measured in percent at each station

The VLF-EM profiles were plotted on figure 6 at a scale of 1:5,000 and the data is listed in Appendix IV.

The total field magnetic and VLF-EM maps were plotted by Interpretex Resources Ltd..

GEOCHEMICAL SURVEY PARAMETERS

- survey total - 7 rock samples
- rock samples analyzed by 31 element ICP, Hg, F & Au

The rock samples were sent to Min-En Laboratories Ltd., 705 West 15th Street, North Vancouver, B.C. for geochemical analysis. Laboratory techniques for geochemical analysis consists of preparing samples by drying at 95° C, and grinding to minus 150 mesh. A 31 element ICP analysis, Hg, F and Au (aqua-regia digestion, atomic adsorption finish) were then carried out on the samples.

The geochemical data was plotted on figure G-5 at a scale of 1:5,000.

3.0 GEOLOGY AND MINERALIZATION

3.1 REGIONAL GEOLOGY

The EPI claims are located along the eastern margin of the Intermontane Belt of southern British Columbia. Most of the claims (figure G-3) are underlain by Early Tertiary volcanic and minor sedimentary rocks of the Penticton Tertiary Outlier. The Penticton Tertiary Outlier, as well as other bedded Tertiary deposits in southwestern British Columbia and northern Washington are erosional remnants of what was probably once a continuous belt composed of mainly volcanic rocks extending from central Washington to central British Columbia.

The Tertiary rocks rest on a pre-tertiary basement varying from Triassic or older metasedimentary and metavolcanic rocks of the Shoemaker and Old Tom Formations to Cretaceous and Jurassic granites, granodiorites and syenites.

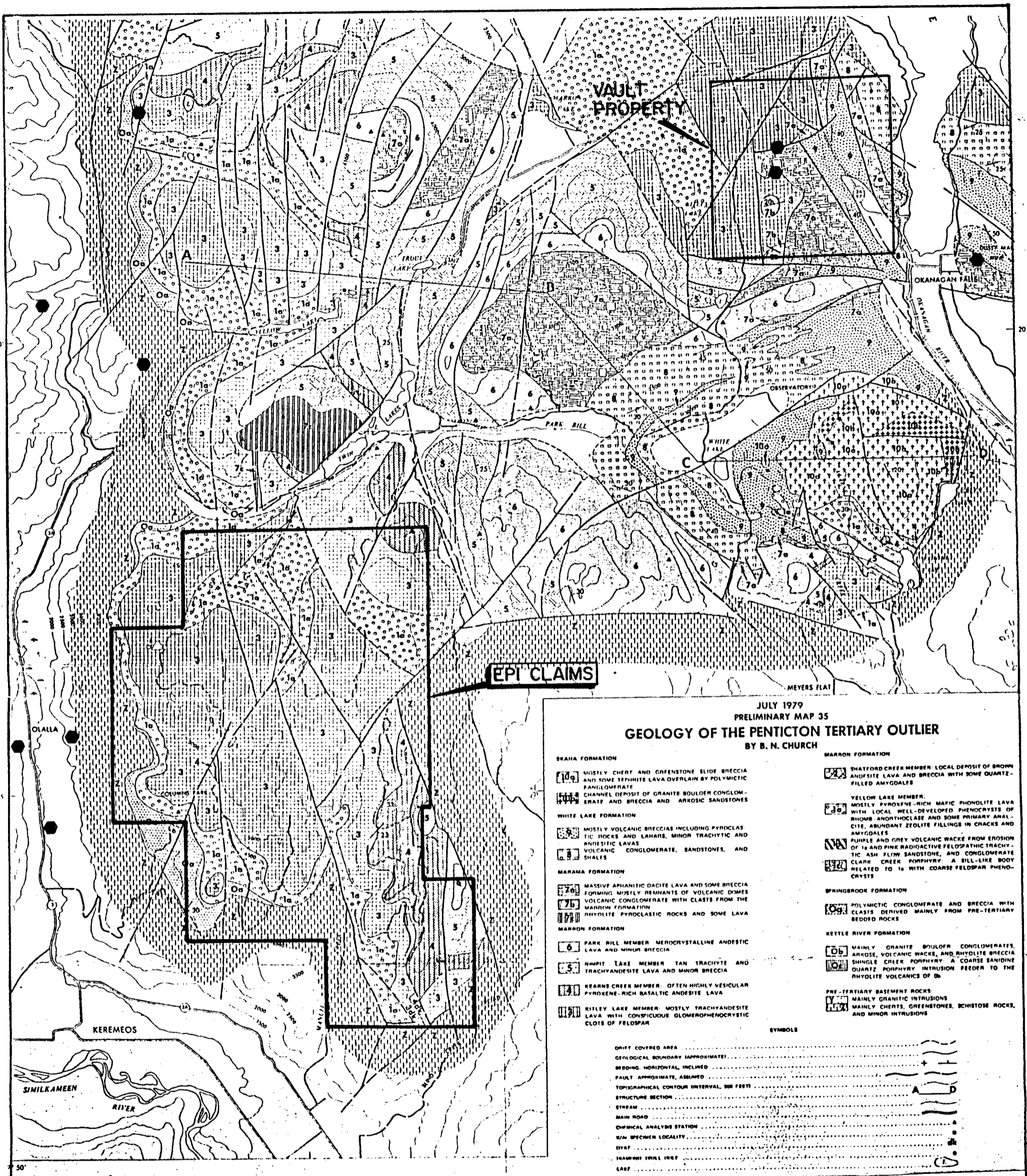
A brief description of the Tertiary rocks is given below as described by Church (1973, 1979).

The basal Springbrook Formation is the oldest formation and rests unconformably on pre-tertiary basement rocks. The formation is mainly exposed along the western extremity of the area and is believed to range in thickness from 200 to 700 feet. The basal beds are a conglomerate containing large angular boulders, grading upwards into a conglomerate composed of smaller, more rounded material, to an uppermost strata consisting of tuffaceous sandstones and siltstones. At present a Middle Eocene age has been tentatively assigned to the formation, based on K-Ar dates obtained from similar rocks in southern British Columbia.

The Springbrook Formation has been tentatively correlated with the following Tertiary sedimentary rocks: Kettle River, Curry Creek, Coldwater, Allenby and O'Brien Formations. The beds generally dip 10 to 15 degrees east.

The Marron Formation overlies with slight angular unconformity the Springbrook Formation and has been divided into the Yellow Lake, Kitley Lake, Kearns Creek, Nimpit Lake and Park Rill Members.

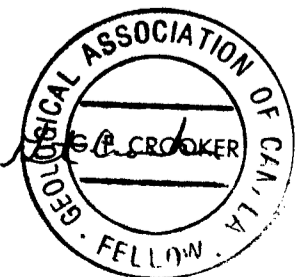
The Yellow Lake Member forms the lower most unit of the formation and varies from about 500 to 1,800 feet in thickness. The rocks can be broadly classified as anorthoclase-augite porphyry with many rocks containing rhomb-shaped phenocrysts of anorthoclase. In many places the rocks are amygdaloidal and contain abundant calcite and natrolite, some thomsonite and rarely brewsterite.



JULY 1979
PRELIMINARY MAP 35
GEOLOGY OF THE PENTITION TERTIARY OUTLIER
BY B. N. CHURCH

- | | |
|---|---|
| <p>SKAHA FORMATION</p> <p>10a MOSTLY CHERT AND GREENSTONE SLIDE BRECCIA AND SOME TEPHRITE LAVA OVERLAIN BY POLYMIC TIC FACIOLGHERATE</p> <p>10b CHANNEL DEPOSIT OF GRANITE BOULDER CONGLOMERATE AND BRECCIA AND ARKOSIC SANDSTONES</p> <p>WHITE LAKE FORMATION</p> <p>5 MOSTLY VOLCANIC BRECCIAS INCLUDING PYROCLASTIC ROCKS AND LAHARS, MINOR TRACHYTIC AND ANDESITIC LAVAS</p> <p>6 VOLCANIC CONGLOMERATE, SANDSTONES, AND SHALES</p> <p>MARAMA FORMATION</p> <p>7a MASSIVE APHANITIC DACITE LAVA AND SOME BRECCIA FORMING MOSTLY REMNANTS OF VOLCANIC DOMES</p> <p>7b VOLCANIC CONGLOMERATE WITH CLASTS FROM THE MARRON FORMATION</p> <p>7c RHYOLITE PYROCLASTIC ROCKS AND SOME LAVA</p> <p>MARRON FORMATION</p> <p>6 PARK HILL MEMBER MERCOCRYSTALLINE ANDESITIC LAVA AND MINOR BRECCIA</p> <p>5 WHIPIT LAKE MEMBER TAN TRACHYTIC AND TRACHYANDESITE LAVA AND MINOR BRECCIA</p> <p>4 KEARNS CREEK MEMBER: OFTEN HIGHLY VESICULAR PYROXENE-RICH BASALTIC ANDESITE LAVA</p> <p>3 RILEY LAKE MEMBER: MOSTLY TRACHYANDESITE LAVA WITH CONSPICUOUS GLOMEROPHOCRYSTIC CLOTS OF FELDSPAR</p> | <p>MARRON FORMATION</p> <p>2a SHATFORD CREEK MEMBER: LOCAL DEPOSIT OF BROWN ANDSITIC LAVA AND BRECCIA WITH SOME QUARTZ-FILLED AMYGDALLES</p> <p>2b YELLOW LAKE MEMBER: MOSTLY PYROXENE-RICH MAFIC PHONOLITE LAVA WITH LOCAL WELL-DEVELOPED PHENOCRYSTS OF RHOMB ANORTHOCLASE AND SOME PRIMARY ANALCITE, ABUNDANT ZEOLITE FILLINGS IN CRACKS AND AMYGDALLES</p> <p>2c PURPLE AND GREY VOLCANIC WACKE FROM EROSION OF 1a AND PINK RADIOACTIVE FELDSPATHIC TRACHYTIC ASH FLOW SANDSTONE, AND CONGLOMERATE CLARK CREEK PORPHYRY, A BILL-LIKE BODY RELATED TO 1a WITH COARSE FELDSPAR PHENOCRYSTS</p> <p>SPRINGBROOK FORMATION</p> <p>9a POLYMIC TIC CONGLOMERATE AND BRECCIA WITH CLASTS DERIVED MAINLY FROM PRE-TERTIARY BEDDED ROCKS</p> <p>KETTLE RIVER FORMATION</p> <p>10b MAINLY GRANITE BOULDER CONGLOMERATES, ARKOSE, VOLCANIC WACKES, AND RHYOLITE BRECCIA</p> <p>10c SHINGLE CREEK PORPHYRY, A COARSE SANDIQUARTZ PORPHYRY INTRUSION FEEDER TO THE RHYOLITE VOLCANICS OF 10</p> <p>PRE-TERTIARY BASEMENT ROCKS</p> <p>11 MAINLY GRANITIC INTRUSIONS</p> <p>12 MAINLY CHERTS, GREENSTONES, SCHISTOSE ROCKS, AND MINOR INTRUSIONS</p> |
|---|---|
- SYMBOLS**
- | | |
|---|-------|
| DRIFT COVERED AREA | ..... |
| GEOLOGICAL BOUNDARY (APPROXIMATE) | ..... |
| BEDDING: HORIZONTAL, INCLINED | ..... |
| FAULT: APPROXIMATE, ASSUMED | ..... |
| TOPOGRAPHICAL CONTOUR: INTERVAL, 500 FEET | ..... |
| STRUCTURE SECTION | A B |
| STREAM | ..... |
| MAIN ROAD | ..... |
| CHEMICAL ANALYSIS STATION | ..... |
| 1/4" SPECIMEN LOCALITY | ..... |
| DYKE | ..... |
| UNARMED SWELL TREE | ..... |
| CARE | ..... |

● GOLD OCCURRENCE



GRANT F. CROCKER	
EPI CLAIMS	
REGIONAL GEOLOGY	
N.T.S. 82E- 4,5	OSOYOOS M.D., B.C.
0 2 4 KM.	
SCALE AS SHOWN	DATE: SEPT. 1990
DRAWN BY: G.C.	FIGURE NO. G3

The Kitley Lake Member conformably overlies the Yellow Lake Member and has a relatively uniform thickness of 1,000 feet. It forms the lower part of the Marron Formation. The rocks form conspicuous, thick, tan trachyte flows with discrete tabular crystals, polygonal clusters and clots of feldspar phenocrysts measuring 3 to 6 millimeters in diameter.

Conformably overlying the Kitley Lake Member in the middle part of the Marron Formation is the Kearns Creek Member. This unit attains a maximum thickness of about 400 feet and consists of dark brown, vesicular, basaltic lava and flow breccia. The rocks typically have abundant pyroxene phenocrysts and scattered laths of plagioclase. Most vesicules are filled with chlorite, chalcedony and some calcite.

The Nimpit Lake Member overlies the Kearns Creek Member conformably in the upper middle part of the Marron Formation. It varies between 200 and 1000 feet in thickness. The rocks are chemically similar to the Kitley Lake trachyte and trachyandesite lavas but differ in texture and stratigraphic position. The trachyte flows are typically yellowish or cream coloured when fresh and contain scattered small phenocrysts of pyroxene, and radiating plagioclase glomerophenocrysts. Pyroclastic deposits are generally thin, discontinuous and composed of agglomerate and tuff.

The Park Rill Member forms the uppermost unit of the Marron Formation and conformably overlies the Nimpit Lake Member. The unit varies in thickness from 200 to 1500 feet and is mainly dark brown, non-vesicular andesite lavas. The rocks are typically microcrystalline, containing equal parts glass and crystal measuring about one millimeter in diameter.

The dip of the Marron beds rarely exceeds 30 degrees except in areas of severe fault disturbance. The beds are cut by numerous faults, many of which are of the gravity type show large vertical displacement. The Marron Formation appears to be correlative with the Midway, Princeton and Kamloops Groups.

The Marama Formation is a unit characteristically composed of rhyolitic and rhyodacitic rocks that unconformably overlie the Marron Formation and underlie the White Lake Formation. The rocks are up to 1,000 feet in thickness but in several areas the formation appears to be absent from the stratigraphic succession.

The lowermost beds of the Marama Formation consists of conglomerate, minor sandstone, and shale with seams of pyroclastic rocks intercalated throughout. These beds appear to be overlain by rhyodacite volcanic breccia and massive lava. The upper part and major portion of the formation is composed of thick rhyodacite lavas. These rocks are shades of grey, light brown and cream, and are brittle, non-vesicular and tend to

cleave into thin plates perpendicular to the bedding surface.

The Marama beds show great variation in attitude and have been cut by many north trending normal faults, some of which have downthrows of several hundred feet. The Marama Formation may be comparable to the Sanpoil Volcanics in northeastern Washington State.

The White Lake Formation overlies the Marron and Marama Formations with angular unconformity and is in turn overlain by younger sedimentary rocks and breccias. The formation consists of a thick succession of lake and stream sediments and volcanic rocks that is about 3,500 feet thick at its thickest section.

The White Lake beds are divisible into three members. The lower and middle members contain interdigitated sedimentary and volcanic deposits while the upper member consists mainly of volcanic rocks with some intercalated sedimentary rocks.

The stratigraphy of the sedimentary rocks consists of a lower succession of thick beds of fine grained sediments overlain by equally thick beds of coarse grained sediments. The mudstones range in colour from light to dark grey and are thinly bedded, but because of their non-resistant nature are poorly exposed. The sandstones are commonly massive but locally thinly bedded or flaggy. These rocks contain a high percentage of volcanic fragments and may be best described as a volcanic wacke. Carbonaceous shales with thin seams of coal are reported throughout the sequence.

The sedimentary rocks are intercalated with many lenses and layers of pyroclastic rock with the tuffaceous layers generally non-fissile and light coloured. Wood, stems and leaf fossils are abundant in these rocks, especially in mudstones. Needle-bearing branches identified as *Metasequoia* sp. are common, along with some fern like *Comptonia* sp. and broad leaf foliage.

The volcanic rocks have a thickness of about 3,000 feet and can be divided into three members. The lowest member is about 1,500 feet thick and consists of thin feldspar porphyry lava flows and abundant lahar and pyroclastic rocks containing some accidental fragments of Marama dacite. The middle member, about 1,200 feet thick consists of a few feldspar porphyry lava flows and much lahar and agglomerate. The upper member is about 300 feet thick and consists mainly of brown augite porphyry lava and breccia containing small quartz xenoliths and a few blocks of granite.

The White Lake beds are folded and cut by many faults. Near White Lake the beds are folded into the broad "White Lake syncline", plunging about 25 degrees east. White Lake beds are generally more steeply inclined than older Tertiary rocks in adjacent areas.

These beds are probably of Eocene but may be of Oligocene age and bear marked structural and lithological similarity to the lower unit of the Klondike Mountain Formation north of Republic in Washington State.

The Skaha Formation contains the youngest Tertiary beds in the area. It is slightly younger than the White Lake Formation and overlies the White Lake Formation with minor unconformity. The Skaha Formation consists of two members, a lower one composed mainly of slide breccia and some volcanic rock, and an upper one composed of coarse boulder block conglomerate (fanglomerate).

The lower member consists of three facies, basal breccia, augite porphyry and granite breccia. The basal breccia facies are composed mainly of fragments of the Shoemaker, Old Tom and Vaseaux Formations in a chaotic mixture of coarse and finely broken rocks, massive blocks of chert and greenstone, and some conglomerate. The augite porphyry lave (tephrite) is massive, dense, dark brown and contains large euhedral augite crystals embedded in a fine grained matrix. It makes up only a small portion of the formation. The granite breccia facies consists of slide debris, mainly slabs and blocks of granite and some aplite, and a few beds of granite boulder conglomerate and arkose.

The upper member of the Skaha Formation consists of coarse clastic sedimentary rock of mixed provenance. The unit is a thick bedded mixed boulder and block conglomerate containing fragments up to six feet in diameter, but commonly less than one foot. The fragments are composed of older Tertiary and pre-Tertiary rocks.

The rocks of the Penticton Tertiary Outlier have been intersected by many important gravity faults. Folds are important only within the White Lake and Okanagan Falls synclines. The main structural features are as follows: 1) The area underlain by Tertiary rocks is mostly bounded by gravity faults. 2) The Tertiary pile is thickest and structurally lowest near the Okanagan Valley. 3) Beds commonly dip in an easterly direction, westerly dipping beds are few.

3.2 CLAIM GEOLOGY

The EPI Claims are mainly underlain by Tertiary volcanic rocks with minor sedimentary rocks. The 1990 program consisted of carrying out geological mapping at a scale of 1:5,000 over Grid C (figure G-5). This information was compiled on figure G-4 at a scale of 1:15,000 to allow interpretation of the data as a whole. The same terminology for the rock units used by Church was kept for the claim geology to keep continuity of information. A brief description of the rock units found on Grid C is given below.

The oldest rocks are pre-Tertiary units occurring along the eastern boundary of the claim group. They have been labelled unit Z, and divided into Z-a, consisting of quartzite and Z-c, consisting of granite.

Unit Z-a is the oldest, consisting of white, blue and grey massive quartzite of the Carboniferous or older Kobau Group. This unit is in fault contact with Tertiary rocks on the west, and overlain by Jurassic? intrusive rocks of the Oliver Pluton (Unit Z-c) on the east. The granite shows considerable variation in appearance near the contact. Some areas resemble a coarse pegmatite while others show a fine grained texture. As one moves away from the contact it becomes porphyritic and coarse grained. Biotite is the main mafic constituent.

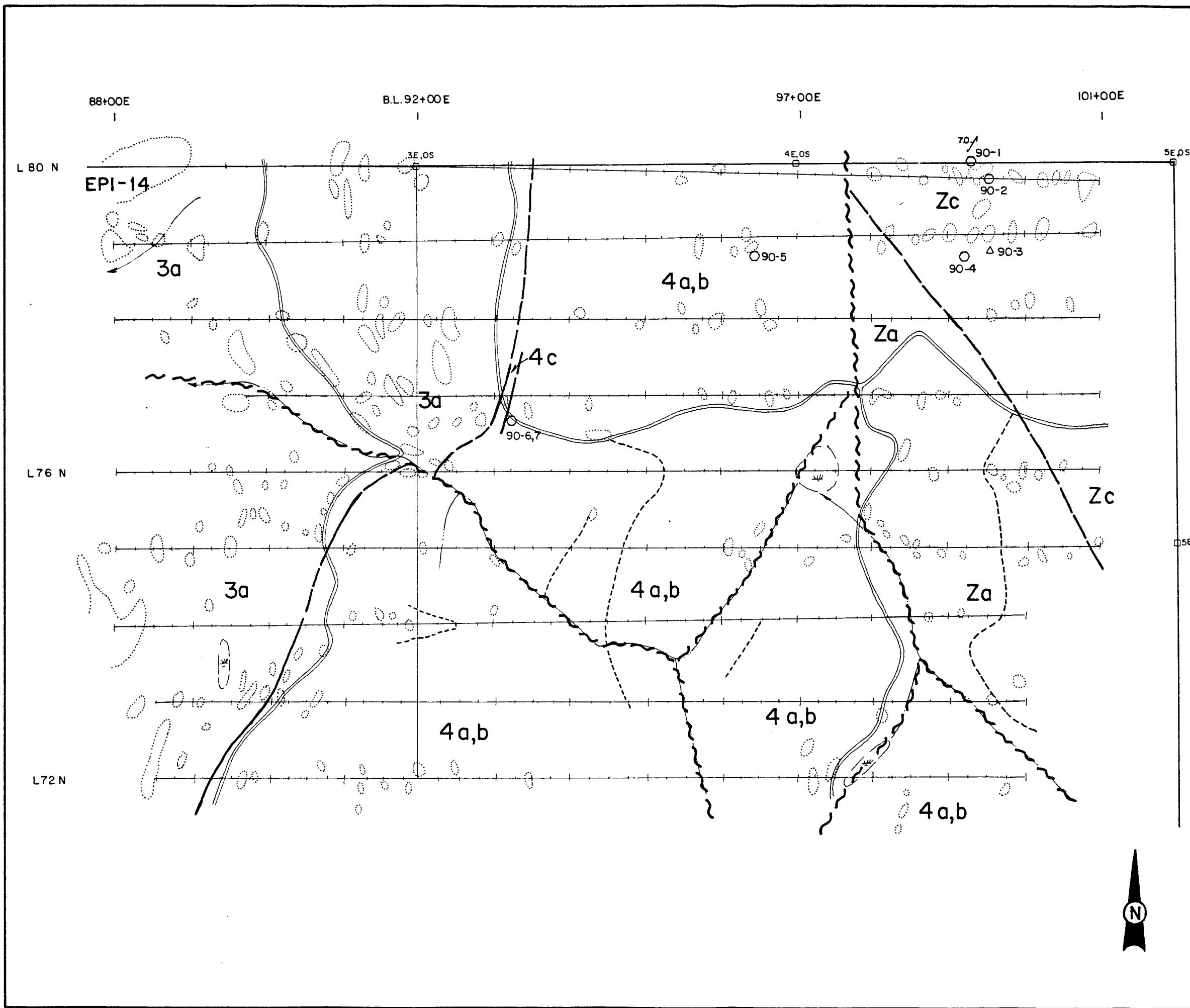
Rocks of the Marron Formation underlie the remainder of Grid C and consist of the Kitley Lake and Kearns Creek Members.

The Kitley Lake Member, unit 3, underlies the western portion of Grid C. Unit 3-a is a cream to tan coloured trachyte and trachyandesite with abundant discrete tabular crystals and clots of feldspar phenocrysts 3 to 6 millimeters in diameter. Plagioclase is the most abundant feldspar and biotite flecks are often imbedded in the fine crystalline matrix.

Rocks of the Kearns Creek Member, unit 4, are the most abundant underlying Grid C and they overlie the Kitley Lake Member. It has been divided into units 4-a, 4-b and 4-c.

Unit 4-c is the lowest and consists of a relatively narrow band of grey tuffaceous sandstone and mudstone overlying the Kitley Lake Member. This unit is very recessive and is only exposed in a road cut at 7700N and 9300E. It does however outcrop along the main road south of Grid C (figure G-4).

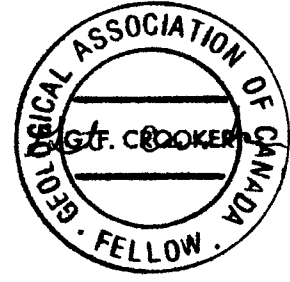
Units 4-a and 4-b make up almost all of the Kearns Creek Member. Unit 4-b is a dark brown to black, massive basaltic andesitic lava, typically with abundant pyroxene phenocrysts and scattered laths of plagioclase. Unit 4-a is similar to 4-b, except it has abundant vesicles often filled with chlorite, chalcedony and calcite. It is not possible to differentiate these rock types



LEGEND

- MARRON FORMATION
- NIMPIT LAKE MEMBER
- 5 Trachyte, trachyandesite, minor tuff & breccia
- KEARNS CREEK MEMBER
- 4a Vesicular basaltic andesite lava
- 4b Massive " " "
- 4c Tuffaceous sandstone & siltstone
- KITLEY LAKE MEMBER
- 3a Tan trachyte & trachy andesite
- 3b Agglomerate with trachyte & trachyandesite clasts
- YELLOW LAKE MEMBER
- 1a Anorthoclase-augite porphyry
- 1b " " " with abundant amygdules
- SPRINGBROOK FORMATION
- 0a Tuffaceous sandstone, minor siltstone
- 0b Polymictic conglomerate
- PRETERTIARY BASEMENT
- Za Chert, argillite, quartzite
- Zb Greenstone
- Zc Granite

- Outcrop
- Geological contact - defined, approx., assumed
- - - Fault
- ~ Bedding
- ||| Fracturing
- 99-2 Bedrock sample location & N^o.
- △ 99-3 Float
- 99-2H Heavy metal concert. sample location & N^o.
- Grid station
- ~ Clay alteration
- Spring
- Creek
- Road
- Claim post
- ~ Swamp
- py Pyrite



GRANT F. CROOKER	
EPI CLAIMS GRID C GEOLOGY	
N.T.S. 82 E-4,5	OSOYOOS M.D., B.C.
SCALE 1:5000	DATE: SEPT. 1990
DRAWN BY: G. C.	FIGURE N ^o . G 5

into distinct units at this time.

A number of northerly trending faults were noted on the property. The most prominent feature is the structure separating the Tertiary rocks from the pre-tertiary along the eastern portion of the grid. This feature is evident from both the topography and geophysics.

A number of other northerly trending structures occur on the grid and these are also evident from both topography and geophysics.

3.3 MINERALIZATION AND ALTERATION

Prospecting was carried out over Grid C and seven rock samples were taken (Table 1).

Samples 90-1, 90-2 and 90-4 are grab samples of 1 to 5 mm fractures with chalcedonic quartz. These fractures trend 025°-035°, dip steeply north and occur within the granite near the major structure separating the younger Tertiary volcanics from the older intrusive and sedimentary rocks. Up to 3 cm on the margins of the narrow chalcedonic veinlets are weakly silicified. Gold values were not anomalous, but antimony, molybdenum and to a lesser extent mercury are weakly anomalous.

Sample 90-3 is a sample of white quartz vein float with narrow, rusty, manganese stained fractures. The sample was not anomalous in gold, but arsenic, antimony and mercury were weakly anomalous.

Sample 90-5 is of a 1 cm wide grey chalcedonic veinlet within massive Kearns Creek rocks. The veinlet appears to have very limited strike length and was not anomalous in gold.

Samples 90-6 and 90-7 consist of narrow 1-3 mm fractures with chalcedony and calcite occurring along the contact of the Kearns Creek and Kitley Lake Members of the Marron Formation. The veinlets are only a few cm in strike length and not anomalous in gold. They are however weakly anomalous in barium, mercury and silver.

Sample No.	Au ppb	Hg ppb	F ppb	Ag ppm	As ppm	Mo ppm	Ba ppm
90-1	5	75	85	1.1	1	4	47
90-2	5	80	70	.5	4	7	64
90-3	5	75	17	.6	29	7	11
90-4	5	65	90	.1	1	7	47
90-5	5	95	600	1.8	1	1	166
90-6	5	65	340	1.9	1	1	157
90-7	5	85	690	2.1	1	1	1215

Table I - Rock Geochemical Results, EPI Claims.

4.0 GEOPHYSICS

4.1 MAGNETOMETER SURVEY

A total field magnetometer survey was carried out over Grid C. The magnetic response over Grid C was observed to be moderately active with total field magnetic values ranging from 55328 to 58213 nT. The magnetic datum value for the total field magnetic profile map, figure # 5, was determined by statistical analysis to be 56700 nT. This datum value which graphically shows if a magnetic reading is above or below the mean value for the grid, was also the threshold between dashed and solid contours for the total field magnetic contour map, figure # 7.

The magnetic environment over the grid was observed to be moderately active. The area generally exhibits large areas of higher magnetism cut by linear trends of lower magnetism. These linear trends of lower magnetism are believed to represent structural features.

The most significant of these linear trends of lower magnetism extends from 8,000N & 9,775E to 7,200N & 10,000E. This trend represents a major fault separating younger Tertiary rocks on the west from older Mesozoic intrusive and sedimentary rocks on the east. A number of other linear trends of lower magnetism occur from 7,600N & 9,700E to 7,200N & 9,425E, 7,300N & 9,850E to 7,200N & 9,975E, 7,700N & 8975E to 7,200N & 9,650E and 7,800N & 9,300E to 7,300N & 9,300E.

These trends appear to represent fault zones and trend northwesterly, northerly and northeasterly. Most are coincident with very sharp, linear topographic lows, many containing creeks.

4.2 VLF-EM SURVEY

The VLF-EM data were noise free and no cultural sources were observed. A number of weak to moderate, north to north northeasterly trending conductors were delineated by the survey. The anomalies generally exhibit short wavelengths and vary from single line to multiple line anomalies.

Conductors A and E are weak to moderate conductors of short wavelength which appear to be part of the same conductor system and are coincidental with a linear zone of lower magnetism. While there is some offset of conductors within the zone, the trend is defining a major fault which separates younger Tertiary volcanic rocks on the west from older Mesozoic intrusive and sedimentary rocks on the east.

Conductor B is a weak conductor of broad wavelength which is coincidental with a zone of high magnetism. No cause is evident for this conductor.

Conductors C and D are moderate conductors which appear to be part of the same conductor system and occur within a zone of high magnetism. This conductor system appears to be defining the contact between the Kitley Lake and Kearns Creek Members of the Marron Formation.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The EPI Claims are located in a favourable geological environment for epithermal gold and silver mineralization as they are mainly underlain by Tertiary volcanic and sedimentary rocks of the Penticton Tertiary Outlier. At least three gold occurrences are found within the Tertiary rocks of the area including the Vault, Dusty Mac and Venner Meadows Properties. These gold occurrences are related to strong structural features.

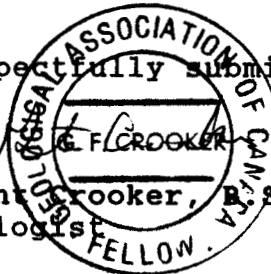
The 1990 program covered by this report consisted of establishing a grid (Grid C) over several major structural trends and carrying out geological mapping, prospecting and magnetometer and VLF-EM surveying over the grid.

The program yielded a number of favourable results for the presence of epithermal gold mineralization. The magnetometer survey delineated a number of north trending magnetic lows and the VLF-EM survey indicated a number of conductors, some of which are coincidental with magnetic lows. The magnetic lows and some VLF-EM conductors represent structural trends which have the potential to be feeder zones for epithermal gold mineralization. Prospecting located several areas with fracturing and 1-3 mm chalcedonic and calcite veinlets. Sampling did not give any anomalous gold values, however a number of trace elements such as molybdenum, mercury and antimony were weakly anomalous.

Recommendations are to continue exploration on the property. This should include 1) Carrying out a program of drainage sampling along all major structural trends. 2) Continuing geological mapping and prospecting on all areas of the property. 3) Carrying out geophysical surveys over areas with major structural features.

Respectfully submitted,

Grant Crooker, B.Sc., F.G.A.C.,
Geologist



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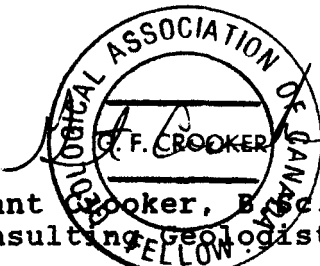
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7.0 CERTIFICATE OF QUALIFICATIONS

I, Grant F. Crooker, of Upper Bench Road, Keremeos, in the Province of British Columbia, hereby certify as follows:

1. That I graduated from the University of British Columbia in 1972 with a Bachelor of Science Degree in Geology.
2. That I have prospected and actively pursued geology prior to my graduation and have practised my profession since 1972.
3. That I am a member of the Canadian Institute of Mining and Metallurgy.
4. That I am a Fellow of the Geological Association of Canada.
5. That I am the owner of the EPI 1-15 claims.

Dated this 17th day of Sept. , 1990, at Keremeos, in the Province of British Columbia.


Grant Crooker, B.Sc., F.G.A.C.
Consulting Geologist

Appendix I

CERTIFICATES OF ANALYSIS

Appendix II

GEOPHYSICAL EQUIPMENT SPECIFICATIONS

SCINTREX
MP-2 PROTON PRECESSION MAGNETOMETER

Resolution: 1 gamma

Total Field Accuracy: \pm gamma over full operating range

Range: 20,000 to 100,000 gammas in 25 overlapping steps.

Internal Measuring Program: A reading appears 1.5 seconds after depression of Operate Switch & remains displayed for 2.2 secs. Recycling feature permits automatic repetitive readings at 3.7 sec. intervals.

External Trigger: External trigger input permits use of sampling intervals longer than 3.7 seconds.

Display: 5 digit LED readout displaying total magnetic field in gammas or normalized battery voltage.

Data Output: Multiplied precession frequency and gate time outputs for base station recording using interfacing optionally available from Scintrex.

Gradient Tolerance: Up to 5,000 gammas/meter.

Power Source: 8 size D cells \approx 25,000 readings at 25° C under reasonable conditions.

Sensor: Omnidirectional, shielded, noise-cancelling dual coil, optimized for high gradient tolerance.

Harness: Complete for operation with staff or back pack sensor.

Operating Temperature Range: -35 to +60° C.

Size: Console, 8 x 16 x 25 cm; Sensor, 8 x 15 cm; Staff 30 x 66 cm;

Weights: Console, 1.8 kg; Sensor, 1.3 kg; Staff, 0.6 kg;

Manufacturer: Scintrex
222 Snidercroft Road
Concord, Ontario

GEONICS LIMITED
VLF EM 16

Source of Primary Field VLF transmitting stations

Transmitting Stations Used: Any desired station frequency can be supplied with the instrument in the form of plug-in tuning units. Two tuning units can be plugged in at one time. A switch selects either station.

Operating Frequency Range: About 15-25 Hz.

Parameters Measured: 1- The vertical in-phase component (tangent of the tilt angle of the polarization ellipsoid).
2- The vertical out-of-phase (quadrature) component (the short axis of the polarization ellipsoid compared to the long axis).

Method of Reading: In-phase from a mechanical inclinometer and quadrature from a calibrated dial. Nulling by audio tone

Scale Range: In-phase $\pm 150\%$; quadrature $\pm 40\%$

Readability: $\pm 1\%$

Operating Temperature Range: -40 to 50° C.

Operating Controls: ON-OFF switch, battery testing push button, station selector, switch, volume control, quadrature dial $\pm 40\%$, inclinometer $\pm 150\%$

Power Supply: 6 size AA alkaline cells ≈ 200 hrs.

Dimensions: 42 x 14 x 9 cm (16 x 5.5 x 3.5 in)

Weight: 1.6 kg. (3.5 lbs)

Instrument Supplied With: Monotonic speaker, carrying case, manual of operation, 3 station selector plug-in tuning units (additional frequencies are optional) set of batteries.

Manufacturer: Geonics Limited
1745 Meyerside Drive/Unit 8
Mississauga, Ontario
L5T 1C5

Appendix III

ROCK SAMPLE DESCRIPTIONS

ROCK SAMPLE DESCRIPTIONS

Sample No.	Grid Coord.	Type	Description
90-01	8465N 7600E	grab	-1 to 3 mm silicified fractures, rusty within granite
90-02	8520N 8200E	grab	-1 mm chalcedonic veinlets, 3 to 5 cm silicified zone, within granite
90-03	8520N 8200E	float	-fractured rusty white quartz, manganese stain?
90-04	8520N 8200E	grab	-1 to 2 mm chalcedonic veinlets within a 5 cm silicified zone, rusty, manganese stain within granite
90-05	8440N 8260E	grab	-1 cm grey chalcedonic veinlet within Kearns Creek
90-06	9640N 8700E	grab	-4 cm wide grey chalcedony veinlet within siltstone
90-07	9825N 8715E	grab	-1 to 3 mm pink and white calcite veinlets 5 mm chalcedony veinlet within siltstone

Appendix IV

VLF-EM and MAGNETIC DATA

INTERPRETEX RESOURCES LTD. Data Listing

Area: Keremeos, B.C.

Current File Name: EPIDAT.WR1

Grid: EPI

From File Name: EPI.XYZ

Date: September, 1990

INSTRUMENT TYPE: Scintrex MP-2 Magnetometer and Geonics EM-16

(Line & Station + = Northings and Eastings,
- = Southings and Westings)

DATA TYPE(S):

- #1. Total Field Magnetic Values
- #2. VLF-EM In-Phase Values
- #3. VLF-EM Quadrature

DATA DETAILS:

- Corrected total magnetic field
- Seattle Transmitter
- Seattle Transmitter

E/W STATION	N/S LINE #	# 1.	# 2.	# 3.
8950	8000	149.0		
8975	8000	347.0		
9000	8000	776.0		
9025	8000	558		
9050	8000	576		
9075	8000	678		
9100	8000	1104		
9125	8000	840		
9150	8000	779		
9175	8000	849		
9200	8000	1056	6	-2
9225	8000	778	7	-7
9250	8000	1039	10	-4
9275	8000	566	15	-6
9300	8000	673	20	-5
9325	8000	1957	12	-4
9350	8000	592	5	-1
9375	8000	794	0	2
9400	8000	757	1	6
9425	8000	934	0	5
9450	8000	931	-2	3
9475	8000	925	3	2
9500	8000	839	8	4
9525	8000	1063	8	4
9550	8000	702	8	7
9575	8000	1885	-1	2
9600	8000	1486	0	-1
9625	8000	1026	0	-2
9650	8000	1113	-2	-1
9675	8000	1098	-1	-1
9700	8000	833	0	-2
9725	8000	945	0	-2
9750	8000	726	-3	0
9775	8000	556	-17	-1
9800	8000	702	-2	3
9825	8000	782	-4	3
9850	8000	768	-2	2
9875	8000	817	0	2
9900	8000	882	0	3
9925	8000	909	0	0
9950	8000	911	-2	0
9975	8000	964	-4	-1

10000	8000	930	-4	-2
10025	8000	966	-6	-1
10050	8000	1023	-6	-2
10075	8000	933	-10	-4
10100	8000	1005	-13	-4
8900	7900	261		
8925	7900	663		
8950	7900	1205		
8975	7900	565		
9000	7900	1900		
9025	7900	924		
9050	7900	686		
9075	7900	482		
9100	7900	589		
9125	7900	662		
9150	7900	553		
9175	7900	1192		
9200	7900	902	10	0
9225	7900	1083	16	-2
9250	7900	974	16	-2
9275	7900	811	17	-6
9300	7900	1073	15	-4
9325	7900	738	16	-6
9350	7900	771	18	-4
9375	7900	561	16	-3
9400	7900	513	13	0
9425	7900	847	12	0
9450	7900	764	14	0
9475	7900	980	13	-1
9500	7900	967	10	-2
9525	7900	694	10	2
9550	7900	903	1	0
9575	7900	905	3	3
9600	7900	686	-3	-1
9625	7900	1002	-5	-2
9650	7900	731	-6	-4
9675	7900	968	-4	-4
9700	7900	928	-4	-5
9725	7900	857	1	-2
9750	7900	857	-3	-4
9775	7900	332	-1	-1
9800	7900	574	4	4
9825	7900	688	4	4
9850	7900	847	4	4
9875	7900	770	5	5
9900	7900	802	1	1
9925	7900	829	2	2
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9975	7900	944	0	0
10000	7900	911	-1	-1
10025	7900	909	-2	-2
10050	7900	939	0	0
10075	7900	973	-4	-4
10100	7900	975	-4	-4
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8825	7800	597	-12	6
8850	7800	831	-10	7
8875	7800	1080	-10	6

8900	7800	879	-8	6
8925	7800	891	-5	5
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8975	7800	862	-3	2
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9050	7800	825	1	3
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9100	7800	636	8	5
9125	7800	509	11	5
9150	7800	1074	14	9
9175	7800	1060	13	4
9200	7800	812	8	-4
9225	7800	908	8	-3
9250	7800	1204	15	-6
9275	7800	920	15	-5
9300	7800	605	15	-4
9325	7800	269	14	-4
9350	7800	986	14	-2
9375	7800	966	11	-4
9400	7800	633	7	-4
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9475	7800	884	-9	-4
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9525	7800	872	-12	-4
9550	7800	350	-14	-5
9575	7800	1221	-15	-4
9600	7800	1058	-11	7
9625	7800	471	-12	-4
9650	7800	977	-5	-2
9675	7800	921	-4	-2
9700	7800	1170	-4	-6
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9175	7700	1044	10	-6
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9250	7700	597	10	-7
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9475	7700	919	-11	-2
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9575	7700	569	-9	-1
9600	7700	579	-6	1
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9650	7700	793	-4	0
9675	7700	1059	-5	-4
9700	7700	859	-4	-7
9725	7700	637	-2	-4
9750	7700	401	-2	1
9775	7700	410	-5	8
9800	7700	473	-12	10
9825	7700	536	-25	6
9850	7700	651	-18	8
9875	7700	661	-11	6
9900	7700	685	-8	6
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9950	7700	721	-7	4
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10000	7700	742	-6	2
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10050	7700	811	-8	2
10075	7700	797	-5	2
10100	7700	839	-7	2

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8850	7600	983		
8875	7600	1096		
8900	7600	943		
8925	7600	1046		
8950	7600	1324		
8975	7600	1081		
9000	7600	1034		
9025	7600	1329		
9050	7600	1053		
9075	7600	1517		
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9125	7600	697		
9150	7600	110		
9175	7600	332		
9200	7600	367	37	-1
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9250	7600	541	31	-6
9275	7600	568	24	-9
9300	7600	369	21	-8
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9400	7600	1310	-1	-8
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9450	7600	284	-12	-3
9475	7600	632	-11	-4
9500	7600	511	-10	-3
9525	7600	619	2	1
9550	7600	513	3	1
9575	7600	1214	4	1
9600	7600	859	1	1
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9675	7600	854	-3	-5
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9775	7600	418	3	-5
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9875	7600	647	9	1
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9975	7600	656	12	5
10000	7600	660	11	4
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10050	7600	770	13	6
10075	7600	806	12	5
10100	7600	770	13	5
8800	7500	1811	6	4
8825	7500	1695	6	2
8850	7500	1878	7	-1
8875	7500	291	8	-4
8900	7500	1936	10	-6
8925	7500	1443	12	-7
8950	7500	1693	13	-11
8975	7500	1437	18	-10
9000	7500	964	23	-10
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9050	7500	956	38	-8
9075	7500	947	47	-4
9100	7500	709	47	-6
9125	7500	688	25	-11
9150	7500	1138	24	-8
9175	7500	788	20	-8
9200	7500	1001	17	-11
9225	7500	609	14	-11
9250	7500	514	13	-10
9275	7500	280	10	-10
9300	7500	39	9	-8
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9475	7500	554	12	8
9500	7500	730	13	7

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9575	7500	988	3	-1
9600	7500	921	-4	-8
9625	7500	607	-4	-12
9650	7500	169	6	-4
9675	7500	-365	19	2
9700	7500	825	18	6
9725	7500	-33	16	3
9750	7500	518	17	0
9775	7500	441	17	0
9800	7500	279	8	-4
9825	7500	242	17	3
9850	7500	399	16	4
9875	7500	504	9	2
9900	7500	527	11	1
9925	7500	610	14	2
9950	7500	639	13	2
9975	7500	604	11	3
10000	7500	702	24	10
10025	7500	649	1	-3
10050	7500	733	8	-2
10075	7500	741	13	4
10100	7500	791	9	5

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8825	7400	1702	8	-4
8850	7400	1419	12	-6
8875	7400	1185	14	-7
8900	7400	1413	20	-5
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9000	7400	1113	48	-6
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9075	7400	669	26	-11
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9125	7400	762	21	-9
9150	7400	318	23	-3
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9250	7400	182	13	-4
9275	7400	999	9	-5
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9325	7400	846	4	-4
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9375	7400	-125	2	-1
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9425	7400	319	6	3
9450	7400	560	7	4
9475	7400	602	9	0
9500	7400	787	6	-3
9525	7400	1209	4	-6
9550	7400	742	0	-9
9575	7400	294	3	-10
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9625	7400	-184	17	3
9650	7400	-672	20	7

9675	7400	723	21	7
9700	7400	456	16	4
9725	7400	739	17	1
9750	7400	718	11	1
9775	7400	639	9	-1
9800	7400	700	10	-2
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9850	7400	-401	15	1
9875	7400	19	6	4
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9975	7400	450	12	0
10000	7400	433	8	0

8850	7300	1189	22	-2
8875	7300	1635	22	-7
8900	7300	1460	12	-9
8925	7300	1248	37	-8
8950	7300	927	54	-5
8975	7300	1066	30	-11
9000	7300	770	29	-10
9025	7300	947	22	-12
9050	7300	391	32	-7
9075	7300	951	30	-2
9100	7300	873	28	-2
9125	7300	1093	23	-2
9150	7300	775	25	1
9175	7300	794	27	5
9200	7300	1005	20	6
9225	7300	734	12	0
9250	7300	648	9	-1
9275	7300	502	15	2
9300	7300	928	14	2
9325	7300	143	12	4
9350	7300	456	12	2
9375	7300	426	10	3
9400	7300	608	11	2
9425	7300	661	12	1
9450	7300	615	7	0
9475	7300	22	14	3
9500	7300	319	15	3
9525	7300	395	14	2
9550	7300	122	13	-1
9575	7300	165	11	-1
9600	7300	353	17	3
9625	7300	383	20	6
9650	7300	682	14	5
9675	7300	1069	12	0
9700	7300	901	10	0
9725	7300	843	6	-2
9750	7300	832	3	-2
9775	7300	422	1	-5
9800	7300	456	8	-2
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9875	7300	42	14	6
9900	7300	140	13	5
9925	7300	198	9	2
9950	7300	188	12	-1

9975	7300	248	8	-2
10000	7300	302	1	2
8850	7200	2213	25	-6
8875	7200	1591	33	-10
8900	7200	1458	44	-8
8925	7200	1392	58	-4
8950	7200	748	42	-8
8975	7200	861	26	-9
9000	7200	775	26	-5
9025	7200	1256	25	-2
9050	7200	1421	25	-1
9075	7200	847	26	2
9100	7200	615	27	2
9125	7200	935	24	6
9150	7200	946	19	4
9175	7200	949	13	1
9200	7200	667	8	1
9225	7200	711	8	1
9250	7200	804	2	-2
9275	7200	711	1	0
9300	7200	578	4	1
9325	7200	944	0	-2
9350	7200	925	4	-1
9375	7200	743	-3	-5
9400	7200	627	-5	-5
9425	7200	714	2	-5
9450	7200	416	10	-4
9475	7200	565	13	-2
9500	7200	682	12	-3
9525	7200	531	8	-7
9550	7200	71	9	-5
9575	7200	63	7	-4
9600	7200	408	9	-2
9625	7200	277	-11	2
9650	7200	604	13	-1
9675	7200	535	10	-3
9700	7200	540	14	-2
9725	7200	572	14	-2
9750	7200	390	7	-6
9775	7200	228	12	-4
9800	7200	-336	25	3
9825	7200	235	31	11
9850	7200	477	30	7
9875	7200	901	28	3
9900	7200	652	25	3
9925	7200	478	20	3
9950	7200	729	15	0
9975	7200	59	18	1
10000	7200	-392	12	1

Appendix V

COST STATEMENT

COST STATEMENT

SALARIES

- Grant Crooker, Geologist
June 20, 21, August 6-10, 11, 28, 29
September 12, 1990.
11 days @ \$ 350.00/day \$ 3,850.00
- Lee Mollison, Field Assistant
June 20, 21, August 6-10, 1990
7 days @ \$ 175.00/day 1,225.00

GEOPHYSICAL SURVEY

- Interpretx Resources Ltd.
plotting geophysical maps 400.00

MEALS and ACCOMMODATION

- Grant Crooker - 7 days @ \$ 60.00/day 420.00
- Lee Mollison - 7 days @ \$ 60.00/day 420.00

TRANSPORTATION

- Vehicle Rental(Ford 3/4 ton 4x4)
June 20, 21, August 6-10, 1990
7 days @ \$ 60.00/day 420.00
- Gasoline 77.00

EQUIPMENT RENTAL

- Magnetometer - Scintrex MP-2
June 20, 21, August 6-10, 1990
7 days @ \$ 25.00/day 175.00
- VLF-EM - Geonics EM-16
August 6-10, 1990
5 days @ \$ 25.00/day 125.00

SUPPLIES

- Hipchain thread, flagging, etc. 63.00

FREIGHT

7.15

ANALYSIS

- 7 rock samples, 31 element ICP, Au, F, Hg
@ \$ 23.25/sample 162.75

DRAUGHTING

189.00

PREPARATION of REPORT

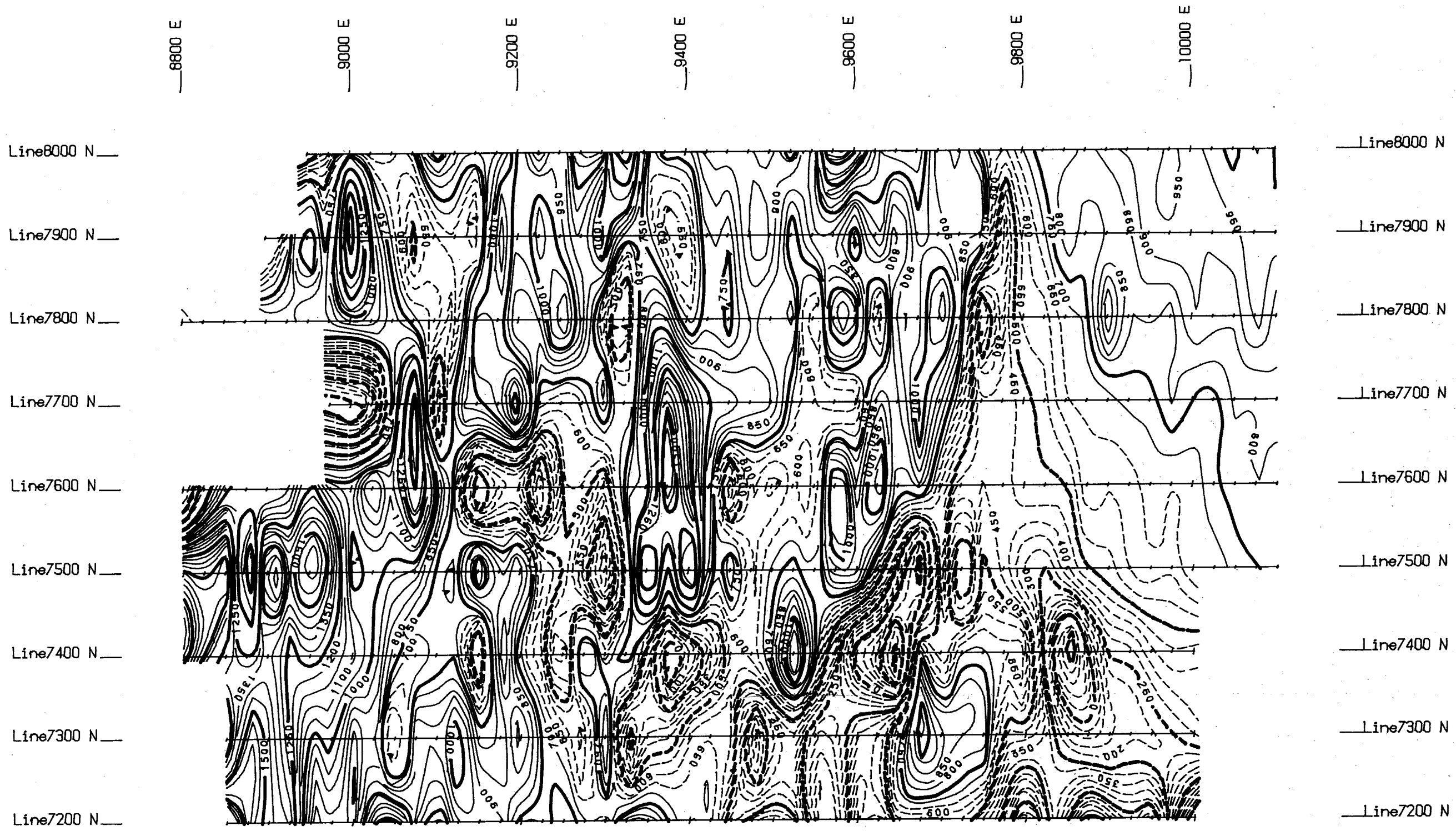
- Secretarial, reproduction, telephone,
Office overhead etc.

400.00

TOTAL

\$

7,933.90



8800 E — 9000 E — 9200 E — 9400 E — 9600 E — 9800 E — 10000 E —

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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GRANT F. CROOKER

EPI CLAIMS (Grid C)

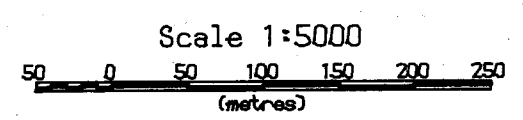
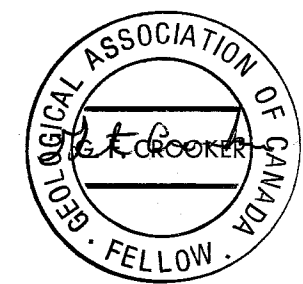
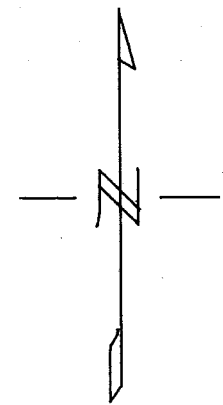
Total Field Magnetic Contours
 NTS 82E-4,5 Osoyoos Mining Division, B.C.
 September, 1990
 Figure # 7

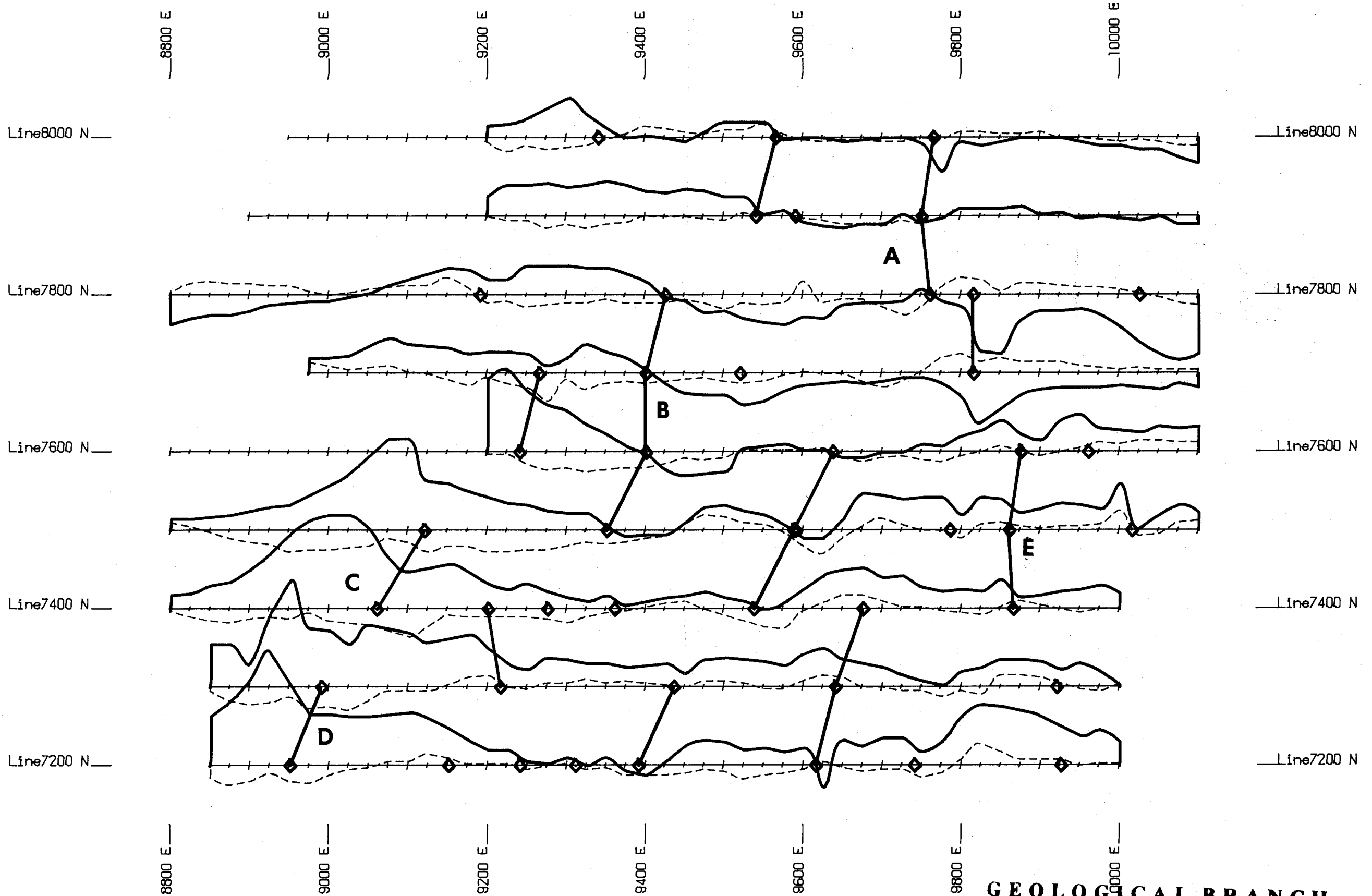
Interpretex Resources Ltd.

LEGEND

Contour Interval

< 56700 nT	> 56700 nT	
---	---	50 nT
---	---	250 nT

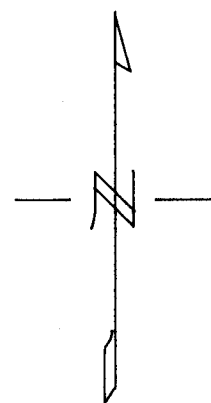




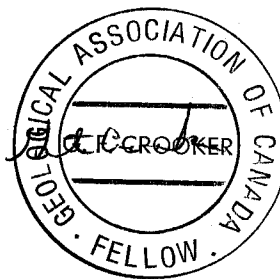
**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

LEGEND
NLK, Seattle, Washington

- Anomalous Inflection
(In-Phase)
 - In-Phase
 - Quadrature
 - VLF-EM Conductor
- } 1 cm. = 20 %



Scale 1:5000
50 0 50 100 150 200 250
(metres)



20,282

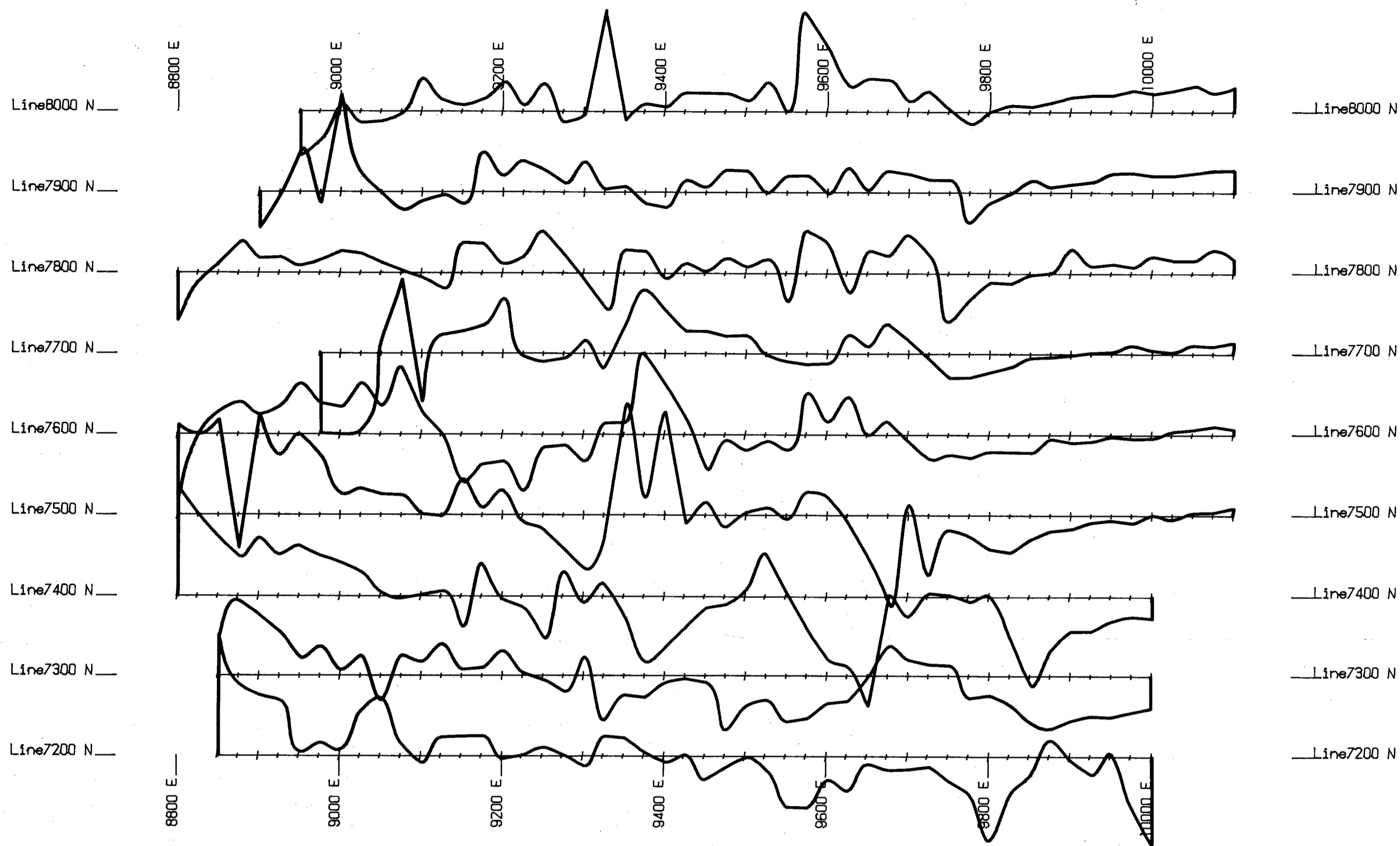
GRANT F. CROOKER

EPI CLAIMS (Grid C)

VLF-EM Profiles

NTS 82E-4,5 Osoyoos Mining Division, B.C.
September, 1990
Figure # 6

Interpretex Resources Ltd.



**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

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GRANT F. CROOKER

EPI CLAIMS (Grid C)

Total Field Magnetic Profiles

NTS 82E-4,5 Osoyoos Mining Division, B.C.

September, 1990

Figure # 5

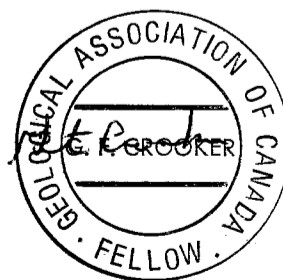
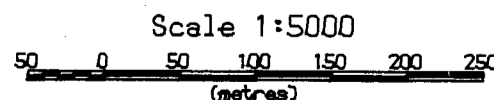
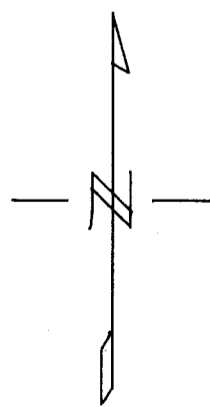
Interpretex Resources Ltd.

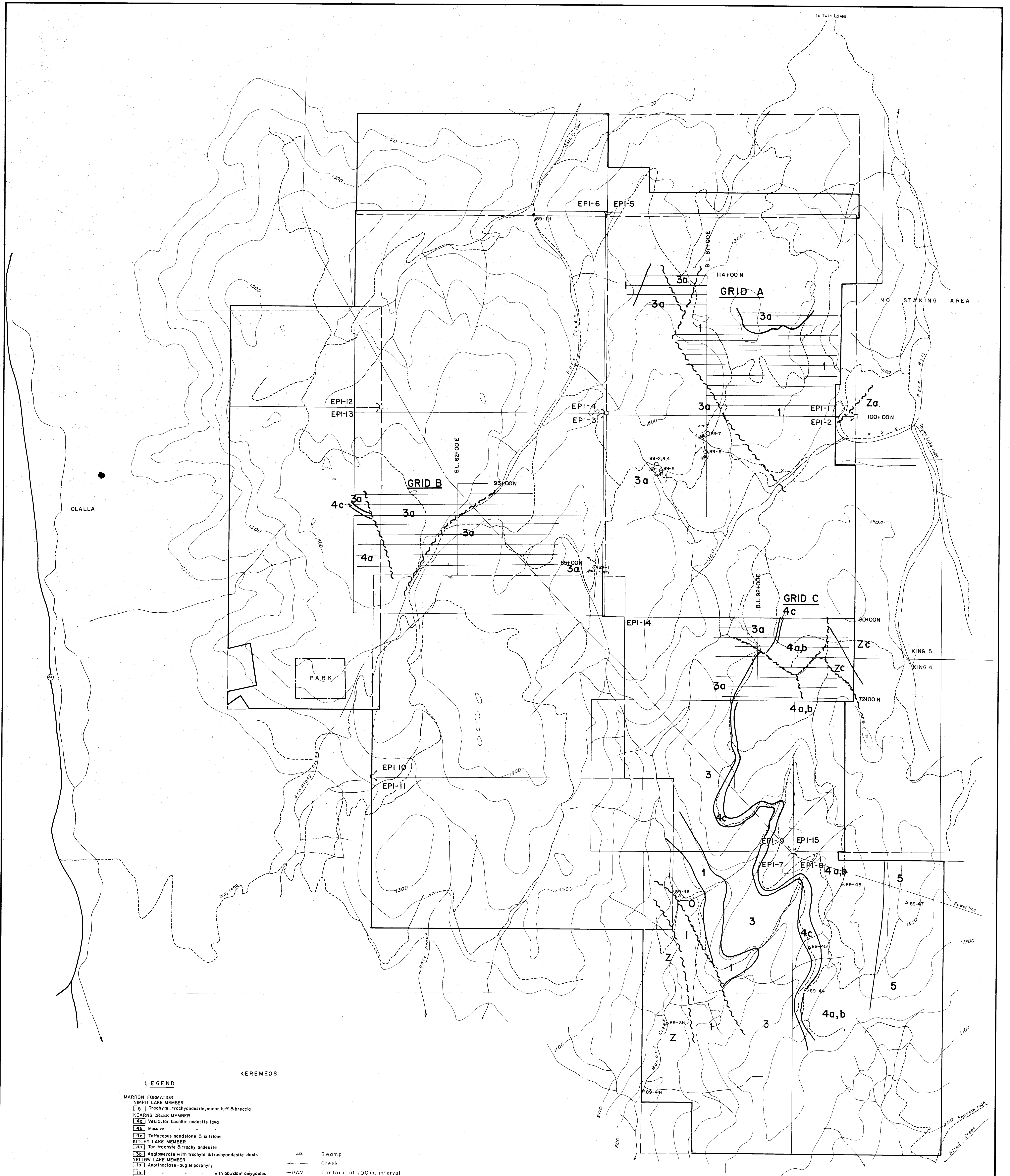
LEGEND

— Magnetic Field Strength

1 cm. = 500 nT

Magnetic Field Datum Level = 56700 nT





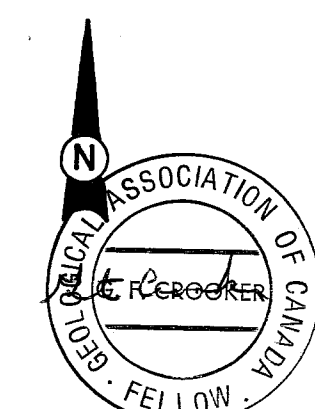
LEGEND

- MARRON FORMATION**
- NIMPIT LAKE MEMBER**
 - [5] Trachyte, trachyandesite, minor tuff & breccia
 - HEARNS CREEK MEMBER**
 - [4a] Vesicular basaltic andesite lava
 - [4b] Massive " "
 - [4c] Tufaceous sandstone & siltstone
 - KITLEY LAKE MEMBER**
 - [3a] Tan trachyte & trachy andesite
 - [3b] Agglomerate with trachyte & trachyandesite clasts
 - YELLOW LAKE MEMBER**
 - [1a] Anorthoclase-augite porphyry
 - [1b] " " with abundant omygdules
- SPRINGBROOK FORMATION**
- [6a] Tufaceous sandstone, minor siltstone
 - [6b] Polymictic conglomerate
- PRETERTIARY BASEMENT**
- [2a] Chert, argillite, quartzite
 - [2b] Greenstone [2c] Granite
- x Outcrop
 --- Geological contact - defined, approx., assumed
 - - - Fault
 ~ ~ ~ Bedding
 - - - Fracturing
 ○ 89-2 Bedrock sample location & N^o.
 △ 89-3 Float " " " "
 ○ 89-24 Heavy metal concert. sample location & N^o.
 + Grid station
 - - - Clay alteration

KEREMEOS

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

20,282



GRANT F. CROOKER
EPI CLAIMS
CLAIM GEOLOGY

N.T.S. 82E-5W OSOYOOS M.D., B.C.

SCALE 1:15,000 DATE: SEPT. 1990
 DRAWN BY: G.C. FIGURE N^o. G4