

6610



178 + 41 + 63

GEOLOGICAL REPORT

DRIFTWOOD CREEK PROSPECT

OMINECA M.D.,

MAPSHEET 93L-15W

Lat: 54 55' N.

Long: 127 10' W.

Annie D, Driftwood, P11, D.C., Summer, Winter claims.

for:

PETRA GEM EXPLORATION LTD.

200, 3540 W. 41 Ave, Vancouver, B.C.

CENTRAL RESOURCES BRANCH

ASSESSMENT REPORT

N.O.

6610

MAP NO.

February 17, 1978

B. J. PRICE, M.Sc., FGAC

GEOLOGICAL AND GEOCHEMICAL REPORT
DRIFTWOOD CREEK PROPERTY, OMINECA M.D.

SUMMARY

The Driftwood Creek prospect, situated in the Babine Range, 12 miles northeast of Smithers, B.C., was first explored prior to 1924 and produced a small amount of high-grade copper-silver ore. Sporadic exploration from 1924 to 1965 concentrated on several narrow quartz-carbonate veins containing tetrahedrite and chalcopyrite with significant silver and gold values. In 1969, a zone of low-grade mineralization in rhyolitic tuff was discovered by L.B. Warren and P.J. Huber, owners. The mineralization consisted of tetrahedrite, bornite, chalcopyrite in disseminations and fractures in altered crystal tuff. The zone was extended by cat trenching and prospecting.

Geological mapping, soil geochemical surveys and sampling of the low grade zone was undertaken by Petra Gem Exploration of Canada Ltd. in 1977. Total cost of the program was \$6530.49. Mapping showed that the two types of mineralization are genetically related to a southeast trending shear-fracture system, and are not confined to one stratigraphic unit. Geochemical surveys indicate a broad area with weakly to strongly anomalous values overlying and adjacent to the known mineralization. Present metal prices indicate that gold and silver values will dictate economics of the two types of mineralization.

Barry Price

Barry Price, M.Sc.

Feb. 17, 1977.



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INTRODUCTION:

Copper-silver showings in the Babine Range, including the Driftwood Creek showings, were among the first to be explored in the Smithers area. However, the property has never been explored by current methods and detailed geological work had not been done until the present study. Recent geological mapping by the Geological Survey of Canada has also aided interpretation of the relationship of mineralization to stratigraphy in the area.

LOCATION AND ACCESS:

The prospect is located 12 miles north-east of Smithers, B.C., on the south-west facing flank of the Babine Mountains. The claims are reached by gravel road from Driftwood School, which is serviced by good, all-weather road extending from the paved portion of the Driftwood-Glentanna road. The last 1½ miles of road are poor, and 4-wheel drive is recommended. A steep cat-road affords access to the central part of the claim block, although repairs would be necessary for vehicle access.

Smithers is served by daily flights from Vancouver via Prince Rupert, Terrace or Prince George. Supplies, services and labour are available from Smithers. Electrical power is available within 5 miles of the property. Sufficient water for drilling is available on most parts of the property. Because the property is at relatively low elevation, snow is gone from the lower parts in early spring; Although some remains late on north facing and shaded slopes.

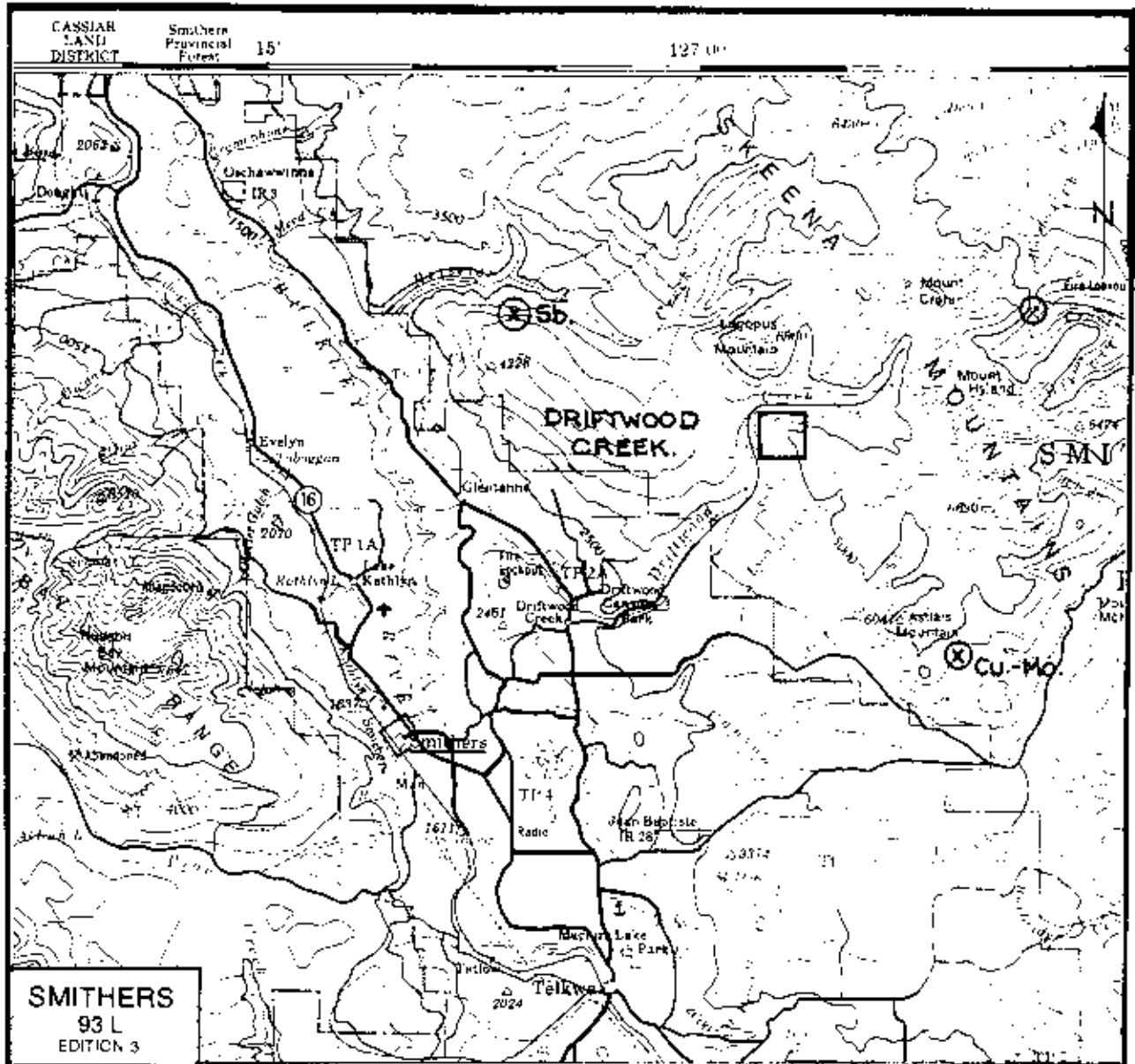


FIGURE 1: Location Map Smithers Area

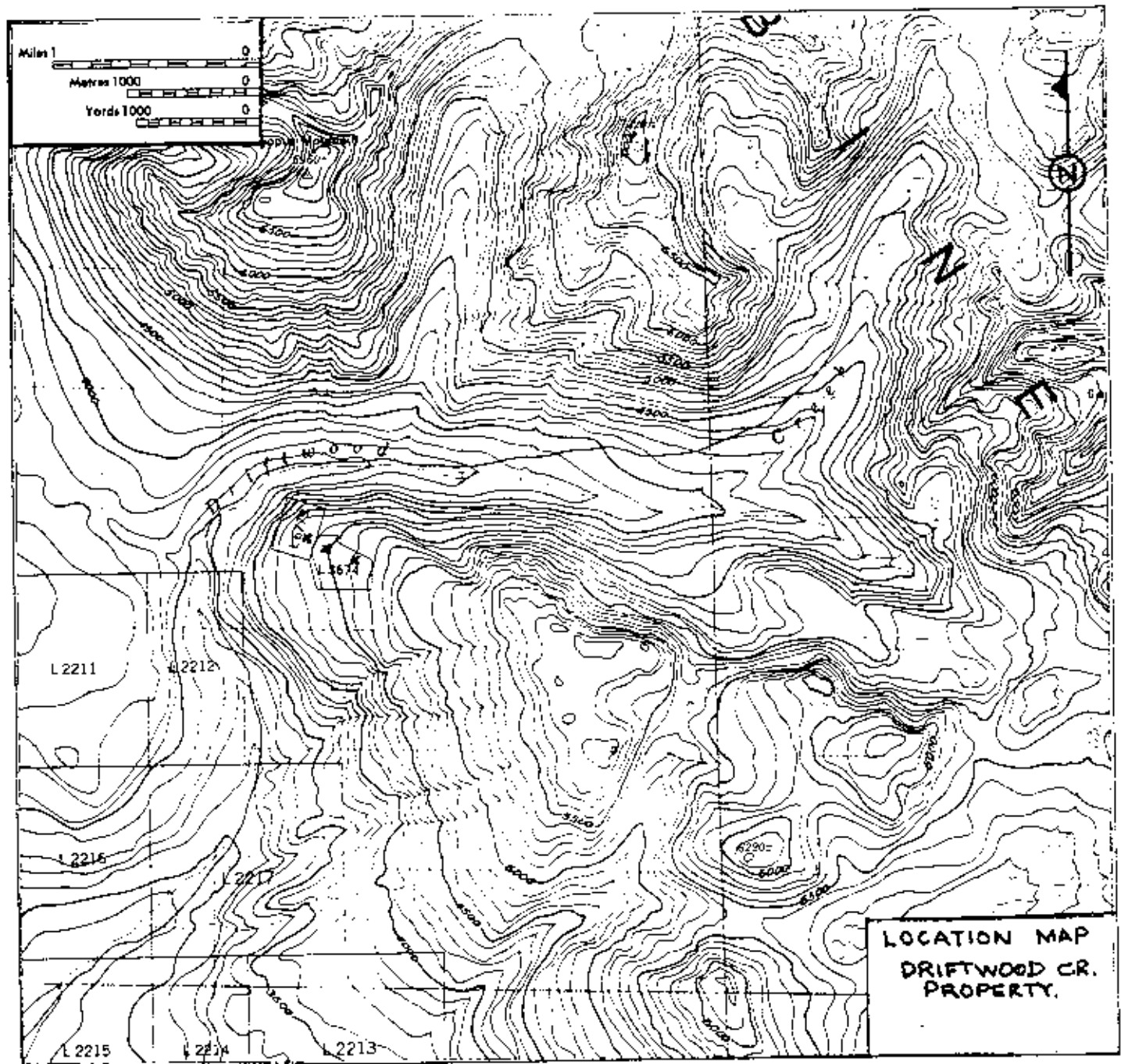


FIGURE 2: Location Map - Driftwood Creek Area

CLAIMS:

The nucleus of the property is covered by reverted crown grants L6779 (Rec No. 436) and L3674 (Rec. No. 253). Adjacent to L6779 is PL1 claim of one unit

A large claim, D.C. 1 (20 units) was staked to protect pre-existing claims; this was recorded Dec. 10, 1976. A complete listing of claim data is given below:

Summer and winter claims were purchased from the estate of the late Gordon Harvey

LIST OF CLAIMS

<u>Name</u>	<u>Rec.No.</u>	<u>Rec.Date</u>	<u>Exp. Date</u>
Annie D. (L.3674)	253(4)	Apr. 5/76	Apr. 5/82
Driftwood Creek (L 6779)	436 (10)	Oct.4/76	Oct. 4/82
PL 1	37 (7)	July 11/75	July 11/82
D.C.	519 (12)	Dec.10/76	Dec. 10/77
Summer	V31-P 149	July 28/20	July 28/78
Winter	V30-P 71	Aug. 11/11	Aug. 11/78

*OWNERSHIP: All claims except summer and winter claims are owned jointly by P.J. Huber (25%), L.B. Warren(25%) and Petra Gem Exploration of Canada Ltd. (50%). According to the terms of an option-purchase agreement registered with the mining recorder, Omineca Mining District.

Summer and winter claims are owned 100% by Petra Gem Exploration of Canada Ltd., through its Vice-President, B.J. Price.

Claims are shown in figure 3.

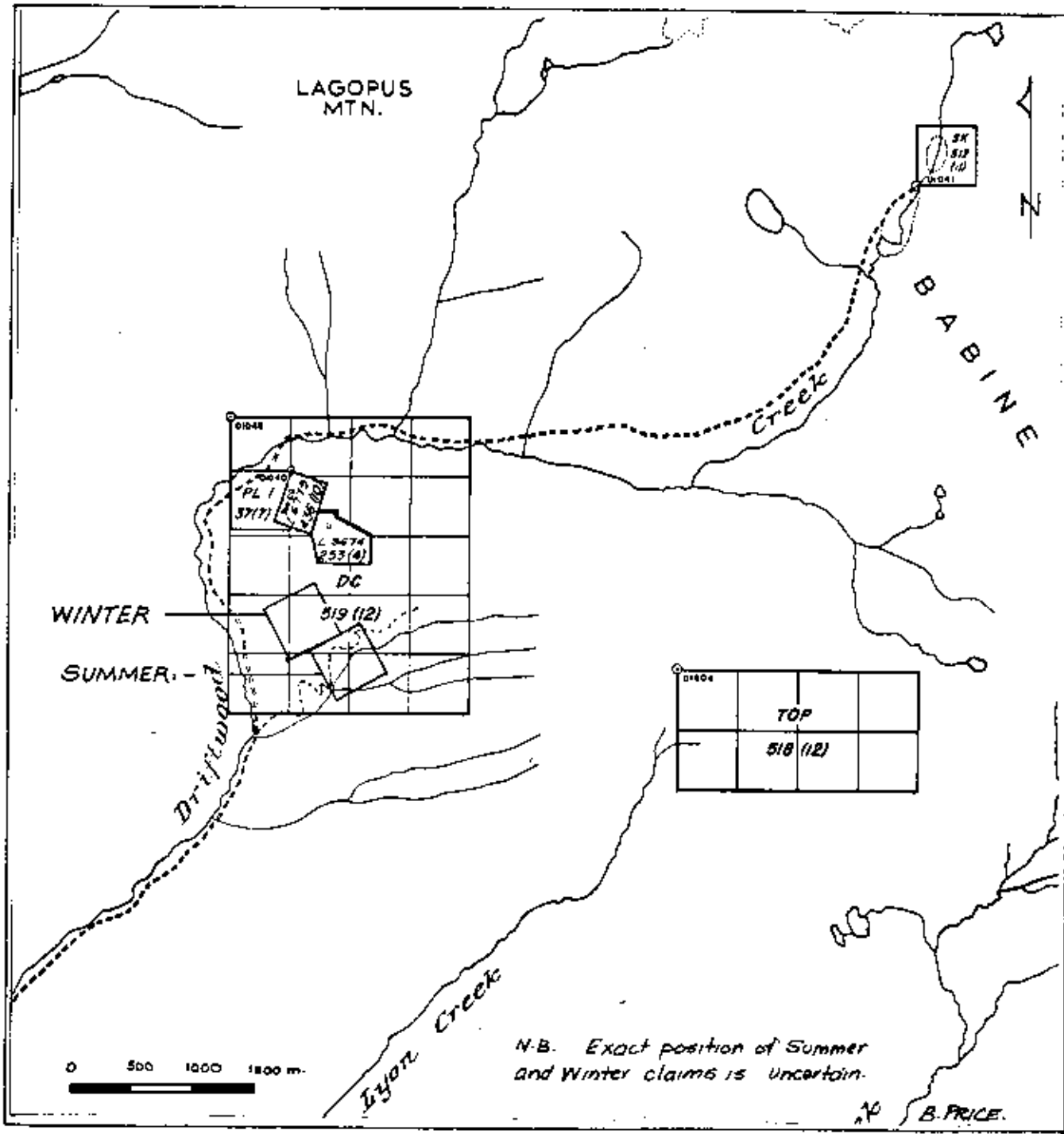


FIGURE 3: Claim Map

HISTORY OF THE PROPERTY:

Showings near Driftwood Creek were prospected initially in 1910-1915. In 1919 one of the original claims of C.G. Harvey was staked and development work begun. Prior to 1924, much prospecting had been done on Harvey Mtn. and numerous claims staked over the Driftwood Creek showings by Taylor, Wright, Driscoll, Kelly, and Orchard. In 1928, a large portion of the property along with the adjacent Harvey Group was optioned and explored by Consolidated Mining and Smelting Company. Little work was done from 1929 to 1965 when the ground was acquired by L. Warren in partnership with A. Cope. Additional claims were staked to cover showings on the original "Judges Group", east of the crown grants. The property was explored and sampled by Reindeer Mines Ltd. in 1966 and several road trenches were cut across the "Rainbow" (lower) showings. In 1968 the ground was optioned to D.W. Small and associates, and examined by W. Sharp, who sampled the lower vein occurrences. Late in 1969 a road-cut crossed mineralization of low grade well above the veins, and the zone of disseminated and fracture-controlled mineralization was extended by further cat-trenches. During the same period, the adjacent Harvey property was explored by Driftwood Mines Ltd., under the supervision of Sherwin F. Kelly., and several diamond drill holes completed. Mineralization on this ground was found to be of the same type as on the Driftwood claims.

During the summer of 1969, a small tonnage of high-grade copper, silver ore was shipped to Tacoma by lessee J. Millhouse (see smelter certificate in appendix). Approximately 15 tons were shipped with value \$154.71 per ton after smelter charges. combined smelter and freight charges were high (approx. \$129 per ton.) Minor exploration efforts by the owners continued to 1976, and the property was optioned to Petra Gem Exploration of Canada in January 1977.

REGIONAL GEOLOGY (Figure 4)

Stratigraphy:

The property is situated in the Babine Range of the Skeena Mountains, which trend northwest between the valleys of the Bulkley River and Babine Lake. The area is classified as the "Intermontane Belt" on the eastern flank of the Coast Crystalline Complex.

The Smithers area is underlain mainly by sedimentary and volcanic rocks of the Hazelton Group (Lower to Middle Jurassic), deposited in the elongate "Hazelton Trough" (Tipper and Richards, 1976). Subsequent to this complex period of transgression and regression, involving both sub-aerial and sub-aqueous volcanism, the area was involved in uplift as the "Skeena Arch", following which clastic deposition occurred in the Nechako and Bowser basin.

In the Babine Range, most rocks belong to the L-M Jurassic Telkwa Formation - Several distinct facies exist; the Babine Range is believed to be underlain mainly by the "Howson sub-aerial facies", which is 1000 to 2500 meters thick. The unit is described by Tipper and Richards as follows -

"Strata of the Howson subaerial facies are bright red, maroon, purple, pink, grey-green, well-bedded, slightly deformed basalt to rhyolite (dominantly andesite-dacite), pyroclastic, flow and sedimentary rocks deposited in a terrestrial environment. Pyroclastic rocks predominate.....The commonest strata include andesitic to dacitic pyroclastics including dense, fine-grained tuff, crystalline-vitric tuff, lapilli tuff, accretionary lapilli tuff, lahar and coarse to fine-grained breccia.....Thickness of individual members varies from a few centimeters to more than 40 m. The thickest accumulation is in the northern Howson Range where composite sections reach 300 m. Significantly these concentrations of acidic volcanics coincide with centers of early Jurassic plutonism. Elsewhere, rhyolites are common as thick individual blanket-like beds of

TABLE 1

REGIONAL GEOLOGICAL MAP - LEGEND

Qal QUATERNARY Aliuvial material

PEs PALEOCENE - EOCENE Sediments

SKEENA GROUP: CRETACEOUS

lKb Brian Boru Formation

lKr Red Rose Formation

lKrv Rocky Ridge volcanics

lKks Kitsuns Creek sediments

BOWSER LAKE GROUP: JURASSIC

muJa Ashman Formation

HAZELTON GROUP: JURASSIC

mJs Smithers Formation

lJn Nilkitkwa Formation

lJr Red Tuff member

lJt Telkwa Formation

INTRUSIVE ROCKS:

KEg Late Cretaceous - Eocene intrusives

Thrust fault

Fault or Lineament

Area of Claims

Source: Open File 351, Mapsheet 93L, Smithers Area
G.S.C. 1977. Tipper and Richards.

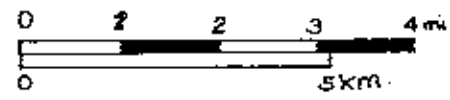


FIGURE 4: Regional Geology - Babine Range

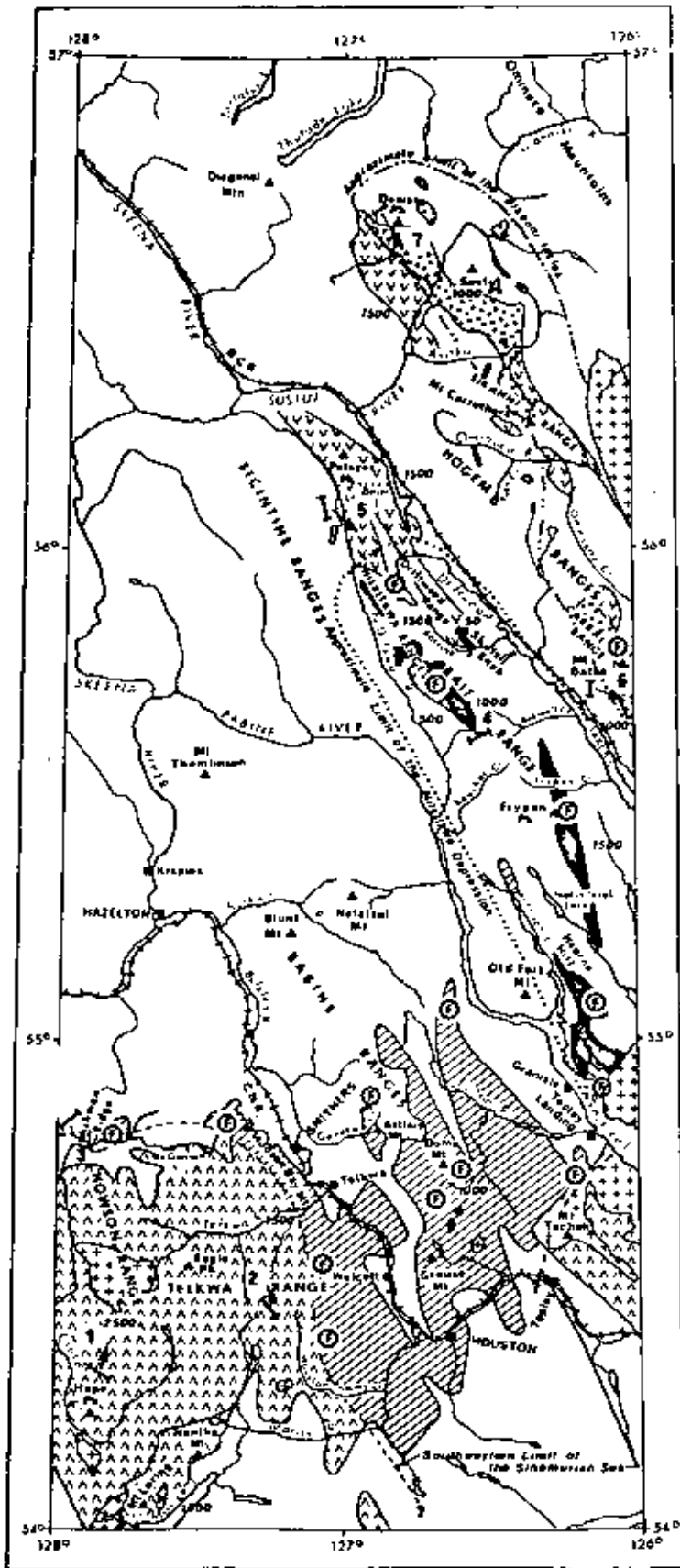


probable ignimbrite origin. Flows are subordinate to pyroclastic volcanics and include olivine basalt, tholeiite basalt, and feldspar porphyry andesite.....Many flows are thin (1-3 m thick) but are laterally extensive and interbedded with fine-grained pyroclastic rocks and accumulations of interbedded, intravolcanic sediments. This suggests that the flows were deposited within topographic lows, a relationship in keeping with their low viscosity as compared to acidic members."

"Rocks of the Howson sub-aerial facies have been extensively altered. The mineral assemblages belong to the sub-greenschist zeolite regional metamorphic facies, but their origin may be more akin to a paleo-hot-spring system, contemporaneous with volcanism."










Structure

Examination of Tipper and Richards map for the Babine Range indicates that extensive thrust faulting has occurred with the resistant volcanic suite of the Howson facies thrust over the relatively plastic shaly units: Middle Jurassic Smithers Formation, middle-upper Jurassic Ashman Formation and lower Cretaceous Kitsuns Creek and Red Rose Formations. A diagrammatic table of formations is provided for reference. The thrust plates dip generally south west, and are probably cut by later normal faults trending parallel with the strike of the valley, and a conjugate system of normal faults trending north east and east/south-east. Folding is thought to be of minor importance in the volcanics but is likely complex in the sedimentary horizons.



DISTRIBUTION
and FACIES of the
SINEMURIAN to LOWER PLIENSCHACHIAN
TELKWA FORMATION
HAZELTON GROUP

LEGEND

-  Sikanni clastic volcanic facies
-  Bear Lake subareal facies
-  Kotsine subaqueous facies
-  Babine shell facies
-  Howson subareal facies
-  Topley Hogem intrusive bodies
-  Fossil locality
-  1000 Thickness in metres (approximate)
-  Stratigraphic Section (Appendix III)

Kilometres



Figure 6

FIGURE 5: Facies Map
Hazelton Group

G.S.C


 TABLE 2. *Formations, members, and facies of the Hazelton Group*

Unit	Lithology	Thickness (m)	Age
Smithers Formation	Greywacke, argillite, siltstone, sandstone, sharpstone, conglomerate, glauconitic sandstone, ash-fall tuff, tuffaceous sediments	40-800	Middle Toarcian to Lower Callovian
Bait Member	Argillite, siltstone, fine-grained greywacke, limestone, sharpstone conglomerate, tuff, and tuffaceous sediments	30-450	Middle Toarcian to Middle Bajocian
Yuen Member	Siltstone, tuffaceous siltstone, reddish tuff, fine tuffaceous greywacke	780	Toarcian to Middle Bajocian
Niokitwa Formation	Shale, siltstone, greywacke, limy shale, limestone, rhyodacite airfall tuff and breccia, basalt	30-1200	Early Pliensbachian to Middle Toarcian
Carruthers Member	Pillow basalt, aquagene tuff, breccia, minor flows and limestone	60	Late Pliensbachian to Early Toarcian
Ankwell Member	Subaerial and subaqueous alkali olivine basalt, minor sandstone and limestone	10-1000	Middle Toarcian
Red Tuff Member	Subaerial airfall tuff, lapilli tuff, rhyolite to basalt flow breccia and tuff, minor subaqueous volcanics	50-300	Middle and ?Late Toarcian
Telkwa Formation			Late Sinemurian to Early Pliensbachian
Howson subaerial facies	Calc-alkaline basalt to rhyolite flows, breccia, tuff; intravolcanic sediments; minor marl	1000-2500	
Babine shelf facies	Calc-alkaline basalt to rhyolite; subaerial and subaqueous flow, breccia, and tuff; limestone, greywacke, siltstone, and shale	1000?	
Kotsine subaqueous facies	Calc-alkaline basalt and rhyolite; subaqueous flow, breccia, tuff, pillow breccia; limestone, greywacke, siltstone, and shale	30-1500	
Bear Lake subaerial facies	Calc-alkaline basalt to rhyolite flow, breccia, and tuff; and intravolcanic sediments	2000	
Sikanni clastic-volcanic facies	Subaerial conglomerate, sandstone, mudstone, lahar, rhyodacite flow, breccia, basalt, andesite; minor shallow-marine sandstone and conglomerate	200-1000	

1977 EXPLORATION PROGRAM:

During the summer of 1977, 35 man-days work on the property were done by P.Howard, Pat Bartlett, Bruce Anderson, line cutters and soil-samplers under the supervision of B.J.Price, geologist. Work done included cutting and flagging a reconnaissance type base-line and grid, soil sampling , geochemical analyses, geological mapping and assaying. The grid includes a baseline oriented 120 degrees , 3000 feet long, with cross lines flagged at 200 foot spacing, up to 1000 feet south and 1500 feet north of the baseline. Stations are marked at 100 foot intervals.

Separate maps included in the report with the grid superimposed show geology, copper and silver soil geochemical results. Total cost of the program was \$530.49. A detailed cost schedule is provided in the appendix.

RESULTS OF 1977 WORK

a) GEOLOGY

Geological mapping verified that mineralization is related to shears and fractures parallel or sub parallel to strike, with steep dip. Most of the mineralization occurs in the altered crystal tuff, but some also occurs in dark green altered basalts or andesites, and bleached and altered red shaly tuffs. The lower "high-grade" veins are on strike with and are probably contemporaneous with the areas of disseminated mineralization. Sulphides accompany sericite-carbonate alteration or silicic - jasperoid alteration. The carbonate- sericite alteration results in softer, buff-colored rocks, and the silicic-jasperoid alteration results in light colored, "bleached" rocks weathering slightly rusty. or in mixtures of bright red and pure white quartz. Additional areas of altered rocks were found outside the known mineralized zones, although only scattered mineralization was seen accompanying these zones. Examples are the areas near Ln 36 E/ baseline and also above Ln 40 / 1 to 5 N.

b) GEOCHEMISTRY:

Over 300 soil samples were taken at grid stations spaced 100 feet (30m) apart, on lines 200 feet (60m) apart. over an area roughly 2500 x 2500 feet (760 x 760m). Samples were taken from depths

ranging from 2 in to over 12 in. (5 to 30 cm). in the B-horizon. Soil development is generally poor, with thin B-horizon. Soils vary from grey and very clay-rich to black and organic in topographic depressions with small streamlets. Color of soil is generally a good guide to underlying rock type; red soils lie over red shaly tuff horizons, grey rocky clay or brown soil lie over unaltered and altered volcanic tuffs. Many soil samples were rocky, containing unweathered rock fragments of underlying material.

Samples were collected and dried in kraft bags, sieved and dissolved by hot acid extraction, then analyzed with atomic absorption spectrophotometer. All samples were analysed by Vangeochem Labs under the supervision of Conway Chun and E.Zay. Analyses are shown in the appendix.

Analytical results were interpreted according to the scheme below:

	COPPER (ppm.)	SILVER (ppm.)
Background	30	1.5
Weakly Anomalous	30-99	1.5-2.0
Moderately Anomalous	100-199	2.0-4.0
Strongly Anomalous	200	4.0

Results are seen in figures and . Copper and silver correlate well. Both elements show weak response directly over the disseminated mineralization with more pronounced values adjacent to the zone in a slight topographic depression. The shift in anomaly may be caused by: 1) concentration of elements in more organic soil; 2) Offset by movement of material along glacial direction, or, 3) presence of stronger mineralization adjacent to the contact of the crystal tuff and red shaly tuffs.

Scattered anomalies on the upper grid lines may correlate with areas of silica-jasper alteration in volcanics. Values on Ln 38E/0-10 S are moderately to strongly anomalous and suggest the presence of mineralization. Line 22E/ 10s has strongly anomalous silver value and additional sampling should be done to verify this anomaly. The overall pattern of values indicates a broad zone of weakly anomalous values with scattered stronger anomalies, possibly resulting from scattered higher grade sections in an area of disseminated low-grade mineralization.

GEOLOGY OF THE PROPERTY

The property covers the north west salient of a flat-topped peak known locally as Harvey Mtn. Major showings are exposed on and near cat-roads which afford good access. A good gravel-base road follows Harvey Creek and gives excellent access to the central part of the claim block which surrounds the original Summer and Winter claims. Slopes are steep to the 4000 ft. contour and where creeks have cut canyons. In addition the northern portion of the property facing Driftwood Creek valley has very steep slopes.

Outwash and glacial till mantle the slope fairly thickly below 4000 feet A.S.L., but over much of the ridge, adjacent to the north cliff, and on which most of the showings occur, outcrop is plentiful and overburden - thin clayey glacial debris and poor soil, is thin. Measured glacial grooves trend N70-75°.

The ridge covered by the property is underlain by basaltic to rhyolitic volcanic flows and tuffs of the Howson facies of the lower to middle Jurassic Hazelton Group. Reconnaissance by the writer has verified that the eastern and northern flanks of Harvey Mtn. exhibit massive volcanic strata thrust over - brown to black - weathering shaly formations. In addition, siltstones, shales and probable greywackes were seen near Harvey Creek, possibly as a result of upward throw of the shaly formations present below the main thrust fault.

Much of the top of Harvey Mountain is covered by thick, dark green and purple weathering basaltic or andesitic flows with vesicular, Amygdaloidal or massive textures. Amygdules are generally completely filled with calcite. Numerous small showings of "flow-top" copper mineralization - bornite-chalcocite - occur in this unit, but individual showings, though high grade, are very small.

Several narrow porphyritic grey dykes were seen on the plateau immediately east of the north branch of Harvey Creek, but no large intrusives are known to exist in this area.

Mapping on grid lines over the PL 1, Driftwood and Annie D claims indicated that volcanic units strike 90 to 120° (averaging 110°) in the vicinity of the trenches, and 120 to 140 higher on the ridge above timberline. Dips are steep to the south-west.

Several main rock types traceable across the road-trench system are:

- 1) Red fissile tuff, with pronounced cleavage and kink banding. Grainsize is very fine and no fragments are visible.
- 2) Massive green andesite - strongly altered to epidote-chlorite-hematite etc.
- 3) Dark purple vesicular or amygdaloidal basalt (?) - (possibly andesite)
- 4) Rhyolitic crystal tuff - dense and hard - light purple to grey and speckled.
- 5) White to buff altered rhyolite or tuff - very strongly silicified in some areas, but softer and converted to sericite-carbonate with silica in other areas. This unit may be a sheared bleached and altered variant of the crystal tuff (4)
- 6) Layered rhyolitic (welded?) tuff - also possibly a variant of (4).

Rhythmic deposition of red tuffaceous shales and more dense volcanics occurred, and rapid change in composition of the flows and tuffs may indicate slightly different source areas.

Shearing:

Most units, including the competent volcanics, have suffered considerable shearing, although effects are not uniform. The zones of strongest shearing display material reduced to clay - part of this effect is undoubtedly due to contemporaneous alteration by hydrothermal fluids. The red shale units show extensive rodding, kink banding and minor dragfolding (for example on the road exposures).



Faulting:

Several faults are postulated on the basis of (1) juxtaposition of different rock types (2) presence of brecciated zones infilled with calcite, and (3) zones of strongly oxidized slickensided altered material which was probably andesitic flow rock at one time. Examples of these three phenomena (1) & (2), are at road exposure near 24E/10N and (3) at trench exposure 24E/9N respectively. In addition, the zone of intense shearing in the trench at L18/25 may accompany a major fault.

Alteration:

Alteration of the various rock types is strongly related to shearing. All rock types are altered along shears and fractures. Red shales, where crossed by shears are bleached to a buff or even light green colour, and converted to a carbonate-sericite mixture. The dense crystal tuffs, where sheared are also converted to carbonate-sericite with variable amounts of silica. Extensive jasperoid or white silification has affected large areas of this rock type in the eastern portion of the grid and in the higher ground close to timberline. Some of the more basic volcanic flow rocks are pervasively altered to epidote-chlorite-carbonate mixtures, - this type of alteration does not appear to be related to shearing but is more regional. Below and adjacent to line 16E/4N shear zones are filled with dense finely banded carbonate which has replaced the original rhyolitic material. -This feature is confined to one shear, but similar material was seen on the Harvey Showings.

Mineralization:

Two main types of mineralization are present on the property:

- (1) Narrow lensoid veins along shears and faults. Quartz and carbonate (sideritic) with clots and masses of tetrahedrite and chalcopyrite, -occasionally veins of 12" of massive mineralization, but mostly $\frac{1}{2}$ " to 2".

- (2) Quartz stockworks with veinlets and disseminations of tetrahedrite, chalcopyrite, bornite with minor chalcocite and covellite, malachite and azurite.

The first type of mineralization is confined to the "Lower" showings - open cuts and adits from which production of high grade material has occurred. The second type is present in wall rock at the vein occurrences but is potentially more important in the "Upper" zone exposed in trenches above (east of) the vein showings. In this area the mineralization is present in irregular zones of alteration and shearing over an area roughly 450 feet by 100-150 feet. Sporadic mineralization is seen east of the trenches, but continuation of the zone is also suggested by geochemical results.

The two types of mineralization lie along strike and are genetically related, as narrow high grade veins are present in the upper zone. The mineralization is of hydrothermal origin related to a deep regional zone of shearing; the flow top and shear mineralization present across the top of Harvey Mountain, and covered by the TOP claims lies along the same trend.

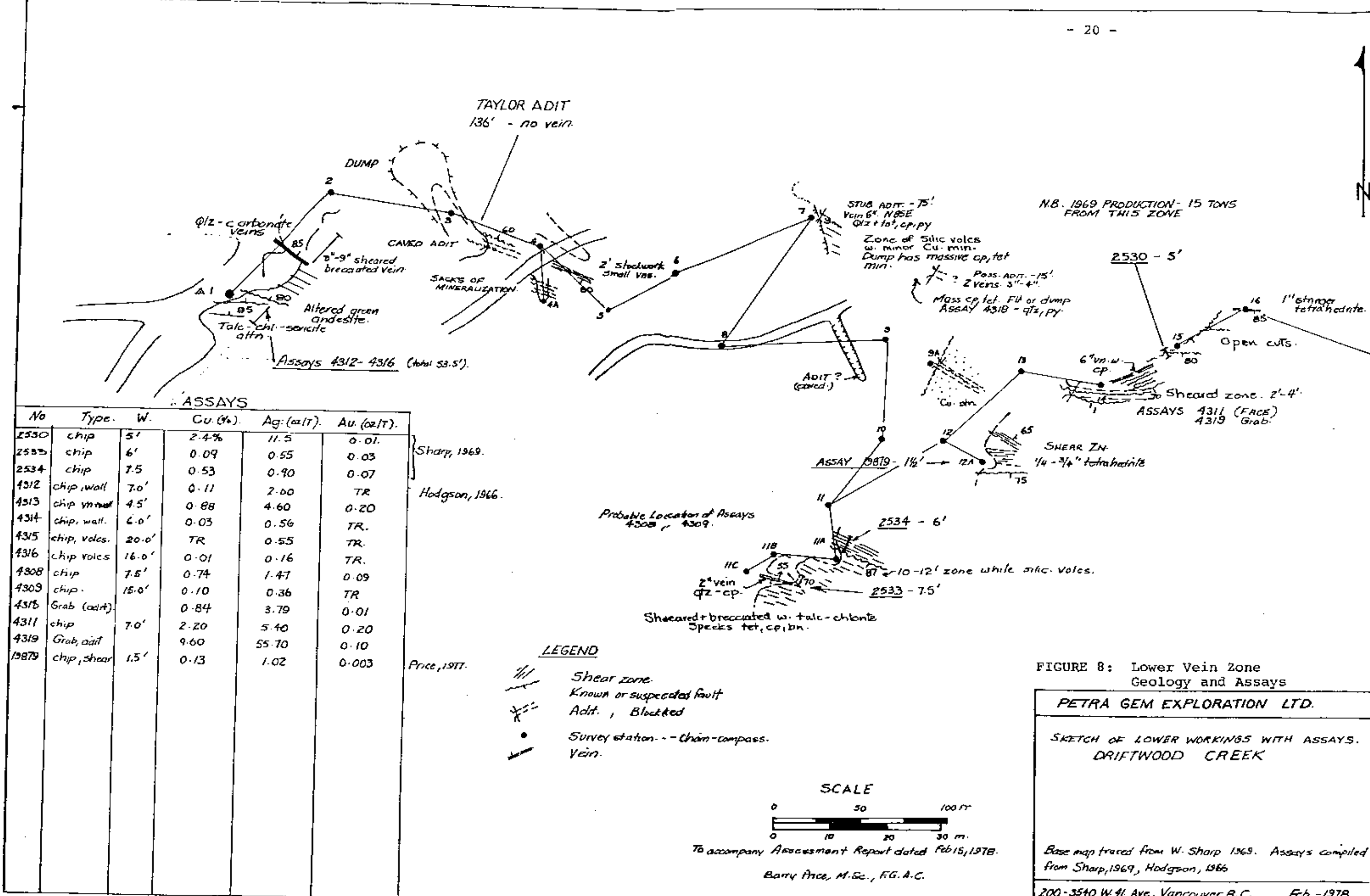
Vein Zone:

The vein zone of high grade mineralization is shown in figure 8 (Sharp, 1969). Assay data from several sources are plotted on the same map. Assays range from 0.09% to 9.60% copper, 0.16 to 55.70 oz/ton silver and trace 0.20 oz/ton gold. Higher assays from selected samples are known but the best indication of average tenor of high grade material is from production records.

13 sacks 12% Cu, 40.2 oz/T Ag, 0.57 oz/T Au
(1940?)

1969-29, 138 lb.

(approx. 15T) 9.55% Cu, 50.08 oz/T Ag, 0.106 oz/T Au.



ASSAYS

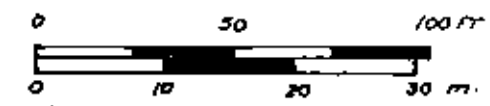
No	Type	W.	Cu. (%)	Ag. (oz/T)	Au. (oz/T)
2530	chip	5'	2.4%	11.5	0.01
2533	chip	6'	0.09	0.55	0.03
2534	chip	7.5'	0.53	0.90	0.07
4312	chip, wall	7.0'	0.11	2.00	TR
4313	chip, vein	4.5'	0.88	4.60	0.20
4314	chip, wall	6.0'	0.03	0.56	TR
4315	chip, veins	20.0'	TR	0.55	TR
4316	chip, veins	16.0'	0.01	0.16	TR
4308	chip	7.5'	0.74	1.47	0.09
4309	chip	15.0'	0.10	0.36	TR
4318	Grab (adit)		0.84	3.79	0.01
4311	chip	7.0'	2.20	5.40	0.20
4319	Grab, adit		9.60	55.70	0.10
19879	chip, shear	1.5'	0.13	1.02	0.003

Sharp, 1969.
Hodgson, 1966.
Price, 1977.

LEGEND

- Shear zone
- Known or suspected fault
- Adit, Blocked
- Survey station - Chain-compass.
- Vein.

SCALE



To accompany Assessment Report dated Feb 15, 1978.

Barry Price, M.Sc., F.G.A.C.

FIGURE 8: Lower Vein Zone Geology and Assays

PETRA GEM EXPLORATION LTD.

SKETCH OF LOWER WORKINGS WITH ASSAYS.
DRIFTWOOD CREEK

Base map traced from W. Sharp 1969. Assays compiled from Sharp, 1969, Hodgson, 1966

200-3540 W 41 Ave. Vancouver, B.C. Feb - 1978.



Low Grade Zone:

Mineralization in the low grade zone is sparse and irregular; grade over any significant width is difficult to estimate by random grab or chip samples, and bulk sampling methods are probably necessary to give a realistic idea of tenor. However, samples 26-9-77 1 to 9, chip and grab samples taken from blast pits in the trench near Ln 20E-7N give the following results:

(Geometric mean)

		Cu(%)	Ag(oz/T)	Au(oz/T)
1) Selected mineralization	\bar{X}	0.77	2.88	0.012
	S.D.	0.68	3.68	0.011
2) Chips (52m)	\bar{X}	0.07	0.30	0.008
	S.D.	0.014	0.04	0.006

CONCLUSIONS AND RECOMMENDATIONS:

Geological and geochemical investigations of the Driftwood Creek property have indicated that vein and disseminated copper-silver mineralization are related genetically to a regional direction of shearing and fracturing. The mineralization is hydrothermal, is not confined to any one horizon, and may be related to local centers of rhyolitic intrusives or extrusives. Economics of both types of mineralization seen are dependent on grade of gold and silver present accompanying the copper sulphides.

Further exploration should be directed toward 1) finding more continuous "high-grade" veins or 2) finding larger areas of lower grade disseminated material with significant values in gold and silver. Exploration of both types of showings could be aided by a series of relatively shallow diamond drill or rotary percussion holes. The geochemically anomalous areas should be explored by limited cat-trenching. Geological mapping should continue to cover the Summer and Winter claims to trace the mineralized horizons toward the upper zone of the Driftwood Creek property. Because of the restricted price of copper at present, exploration should proceed cautiously. The zones, as now extended by geochemical interpretation has good length and width, and some effort is worthwhile to search for higher grade mineralization.



Barry J. Price, M.Sc., F.G.A.C

February 17, 1978.



BIBLIOGRAPHY:

Tipper, H.W., and Richards, T.A., 1976, Jurassic Stratigraphy and History of North Central British Columbia. G.S.C. Bull 270.

Tomlinson, F.C., 1969, Progress report on Ken and Hudson Group of claims, Private report for Babine Lake Mines Ltd.

Warren, L.B., 1966, Geological Summary, Driftwood Creek Area. Private Report.

Hodgson, A.G., 1966, L. Warren Property, (Rainbow), Driftwood Creek near Smithers, B.C. Private Report For Reindeer Mines Ltd.

Kelly, Sherwin. F, 1970, Drift Claims on Harvey Mountain near Smithers, B.C. Assessment Report for Driftwood Mines Ltd. NPL.

Hanson, George, 1924, Driftwood Creek Map Area, Near Smithers, B.C. G.S.C. Summary Report 1924 pt. A.

B.C. Minister of Mines, Annual Reports. for 1928, 1929, 1930, 1932.

Sharp, W.M., 1969, Driftwood Creek Property. Private Report for D.W. Small and Associates.

QUALIFICATIONS

NAME: Barry James Price.

BORN: Smithers, B.C., August 19, 1944.

EDUCATION:

- A) High school: Smithers, B.C. Graduated 1961.
- B) University: B.Sc. Honors Geology 1965, Thesis topic:
(U.B.C.) "Tertiary Sediments at Driftwood
Creek, Smithers Map Area, B.C."
M.Sc., Geology, 1972, Thesis topic:
"Minor Elements in Pyrite and
Exploration Applications of
Minor Element Studies."

EMPLOYMENT RECORD:

- 1964, (summer): GEOLOGICAL SURVEY OF CANADA., junior assistant, mapping party in Rocky Mts., supervised by Dr. G.B. Leech.
- 1965 - 1968 CHEVRON STANDARD LTD., Alberta. Senior assistant, regional mapping party in Mackenzie and Richardson Mts. Subsurface geological studies, carbonate reef research, wellsite supervision and production department studies.
- 1968 (summer) MANEX MINING LTD. Smithers, B.C. Geological mapping and diamond-drill supervision.
- 1969 (summer) MANEX MINING LTD. Smithers, B.C. Property mapping and evaluation, geophysical and geochemical studies, supervision of diamond drilling, geological mapping for Jade Queen Mines Ltd.
- 1970 (summer) ARCHER, CATHRO AND ASSOC., Party chief, regional study of sedimentary copper potential of Mackenzie Mts. Reconnaissance mapping and geochemical interpretation.
- 1971 (summer) J.R. WOODCOCK CONSULTANTS LTD., Project geologist in charge of exploration of massive sulphide prospect, including geological mapping, geochemistry, geophysics, and diamond drilling. Concurrently supervised regional exploration program.

- 1972 - 1974 MANEX MINING LTD., Vancouver, Geologist
in charge of field projects. Consulting
geological work for New World Jade Ltd.,
and Delphi Resources Ltd.
- 1974 - 1976 Manex Mining Ltd., Geologist in charge
of field projects. Consulting geologist
for Delphi Resources Ltd., Territorial
Gold Placers Ltd., Nephro-Jade Canada Ltd.
- 1976 Petra Gem Exploration Ltd. Geological
Consulting.
- 1975 Elected Fellow, Geological Society of Canada.



APPENDICES I, II

- I - EXPLORATION EXPENSE SCHEDULE
- II - ASSAY AND GEOCHEM LISTS



EXPLORATION of CANADA LTD.

3540 West 41st. Ave., Vancouver, B.C. V6N 3E6
BUS 263-2678 RES 733-6902

EXPLORATION EXPENSES - DRIFTWOOD PROJECT

<u>Wages:</u>	<u>Position</u>	<u>Dates</u>	<u>Rate</u>	<u>Total</u>
Pat Bartlett	Soil Sampler	June 15-19/77	\$70/day	280.00
Bruce Anderson	Soil Sampler	June 15-19/77	\$50/day	150.00
Peter Howard	Soil Sampler	July 26-27, 29-31, Aug. 1-3	\$100/day	800.00
L. Warren	Road Repair	Aug. 31 (½)	\$70/day	(70.00
P. Huber	Road Repair	Aug. 31 (½)	\$70/day	- (
				<hr/>
				\$1300.00

Consulting Fees:

B. Price - Geology, sampling and supervision

Rate - \$150/day

Days worked - June 11, 12, 15-19 (7)

July 27, 29, 30, 31 (4)

Aug. 1, 2, 31 (3)

Sept. 4, 26 (2)

Report Dec. 22, 28, 29, 30 (4)

Total 20 days

\$3000.00

Vehicle Costs:

Lease - H. Carter Lease Ltd. Vandura
1 month @ \$157.82 157.82

- Land Rover - B. Price personal vehicle
10 days @ \$35.00/day 350.00

Vehicle Repair - 10.00

Gas & Oil 90.26

\$ 608.08

.....2

Assays: Invoice Numbers 4102, 4201, 4217, 4299, 4281*, 4205*,
4382* (part)

Van Geochem Labs Ltd., Vancouver, B.C.

\$1,085.06

Disbursements: (as per expense accounts submitted by B. Price)

Groceries	\$ 100.37
Postage, Xeros, maps & printing	60.44
Sample freight	33.05
Equipment & Supplies	67.64
Supplies - Bridge repair	62.92
Restaurant Meals	81.90
Motel Accommodation	51.23
Airfare Smithers-Vancouver (P. Howard)	79.80

\$ 537.35

TOTAL COSTS

\$6,530.49

NOTE: Complete Invoices will be provided if requested.

Barry Price
BARRY PRICE, M.Sc.



VANGEOCHEM LAB LTD.

1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

TELEPHONE: 988-2172
AREA CODE: 6

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

Petroleum Expt.
200 - 3540 W. 41 Ave.
Vancouver, B.C. V6K 3K6
Attention: Barry Price

Report No: 77 01 012 Page 1 of 3
Samples Arrived: June 22, 1977
Report Completed: June 24, 1977
For Project:
Analyst: E.T.
Invoice# 4201 Job# 77 062-2

Sample Marking	Cu ppm	Ag ppm			
EL 1600 E	3	0.6			
1700	20	1.1			
1800	215	3.1			
1900	17	1.0			
2000	6	0.6			
2100	11	0.6			rocky, red, 4"
2200	20	1.3			good, 3"
2300	4	0.5			clay
2400	6	1.4			"
2500	6	1.0			"
2600	6	0.7			" and rock
2700	2	1.0			rock and clay
2800	6	0.8			rocky
2900	6	0.6			rocky
EL 3000 E	3	0.8			clay
L 16 E 1 N	4	1.0			rock
2	6	1.2			rock
3	5	0.8			rock
4	3	0.6			rock
L 16 E 5 N	6	0.4			rock
L 16 E 6 N	12	1.2			rock
7	7	1.2			
L 16 E 8 N	23	0.8			92' from stat., 58 on ledge of very steep cliff
L 18 E 1 N	12	0.8			
2	34	1.4			
3	40	1.0			
4	6	0.8			
5	4	0.4			rock
6	3	0.7			rock
7	9	1.0			
8	58	2.0			rock
9	74	2.6			15' from stat., good
10	4	0.3			rock
L 18 E 11 N	22	1.0			rock, cliff
L 20 E 1 N (A)	53	1.4			
1 N (B)	62	1.4			
1 N (C)	22	1.8			20' from stat., edge of trench
2	18	1.5			edge of trench
L 20 E 3 N	10	1.2			

REMARKS: COPY to Barry Price, General Delivery, Smithers, B.C. V0J 2R0

Signed:

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



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Petra Gem Exploration Ltd.

Report No: **77 72 006** Page **2** of **3**
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

Attention.

Sample Marking	Cu ppm	Ag ppm			
L 2600 E 1 S	5	0.8	Red		
2	20	1.2	Brown		
3	14	1.0	Red		
4	13	0.8			
5	21	0.7	Red		
6	4	0.4	"		
7	4	0.6	"		
8	5	1.1	"		
9	7	0.8	"		
L 2600 E 10 S	16	1.4	"		
L 2800 E 1 S	22	1.0	Brown		
2	3	0.5	Red		
3	45	1.8	Brown		
4	7	1.1	Red		
5	12	1.0	Red Brown		
6	10	1.0	Red		
7	4	0.9	"		
8	3	1.0			
9	3	1.0	Red		
L 2800 E 10 S	3	0.6	"		
L 3000 E 1 S	7	0.8	"		
2	43	2.3	Brown		
3	6	0.8	Red		
4	8	0.8	"		
5	3	0.8	"		
6	5	1.1	"		
7	4	1.2			
8	3	0.8	Red Grey		
9	5	0.6	Red		
L 3000 E 10 S	23	1.4	Brown		
BL 3100 E "00"	10	0.7	Red		
L 3200 E 1 S	27	1.2	"		
2	5	0.8	"		
3	19	1.2	"		
4	7	0.8	"		
5	6	0.8	"		
6	5	0.4	Grey Red		
7	7	0.8	Red		
L 3200 E 8 S	28	2.1	L. Brown		

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REMARKS:

Signed:

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Report No: **77 72 006**
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

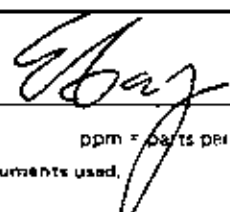
Page 3 of 3

Attention:

Sample Marking	Cu ppm	Ag ppm			
L 3200 E 9 S	73	3.3	Brown Red		
L 3200 E 10 S	13	1.0	"		
L 3800 E 1 S	23	1.6	Brown		
2	25	1.4	L. Brown		
3	52	1.8	"		
4	33	1.2	"		
5	58	2.6	Red		
6	1000	7.6	Black		
7	104	2.6	L. Brown		
8	51	1.4	Red		
9	75	1.7	"		
L 3800 E 10 S	20	1.5	"		
L 4000 E 1 S	32	1.7			
2	35	1.2	Red		
3	30	1.3			
4	18	1.4			
5	25	1.4			
6	11	1.0	Red		
L 4000 E 7 S	22	1.2	"		
L 4000 E 8 E	20	1.2			
L 4000 E 9 S	10	1.2	Red		
L 4000 E 10 S	67	1.7	L. Brown		
BL 24 E	6	0.6	Red - Grey Clayey Rocky		
L 24 1 S	5	0.6			
2	10	0.7	Pebby Till		
3	5	0.6	Pebby Clayey		
4	12	1.0			
5	4	0.6	Rocky Clay		
6	15	1.0	Bm Good Soil		
7	8	0.6	Red Clayey Rocky		
8	10	1.1			
9	11	1.8			
L 24 10 S	10	1.0			

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REMARKS:

Signed: 

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Petra Gem Expl.

Report No: **77 01 012** Page **2** of **3**
Samples Arrived:
Report Completed:
For Project:
Analyst:

Attention:

Sample Marking	Cu ppm	Ag ppm			
L 20 E 4 N	3	0.5			rocky and clay
	275	5.4			rock
L 20 E 5 N	12	2.0			rock
L 21 E 20 N	6	0.8			super steep hill rock
L 22 E 1 N	6	0.6			rock
	253	4.2			clay mat
	870	2.6			
	157	3.2			
	10	0.5			rock
	49	2.0			edge of trench
	30	1.2			
	22	1.2			edge of trench
	4	1.0			rock
	12	1.4			edge of trench
L 22 E 11 N	2	0.8			steep hill side rock
L 24 E 1 N	5	0.6			rocky and clay
	6	1.2			rocky and clay
	370	3.6			mat
	22	0.5			clay
L 24 E 5 N	89	2.0			20' from stat.
L 24 E 6 N	175	3.0			30' 370' N of stat., end of trench
	31	1.0			creak mat
	11	0.9			edge of trench
	94	1.8			middle of trench
	22	1.3			trench
L 24 E 11 N	3	0.8			below trench clay
L 25 E 11 N	12	1.0			end of trench
L 26 E 1 N	3	0.7			only
	2	0.2			clay, rock
	2	0.6			rock
	6	0.2			
	21	1.2			good
	11	0.9			
	263	5.2			
	57	2.0			trench
	16	0.9			trench, good
	8	0.4			edge of trench
	3	0.4			rock
L 26 E 11 N	7	1.4			rock, end of cliff

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REMARKS:

Signed: 

% Mo x 1.6683 = % MoS₂

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1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



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 AREA CODE: 604

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Petra Can Expl.

Attention:

Report No: **77 01 012** Page **3** of **3**
 Samples Arrived:
 Report Completed:
 For Project:
 Analyst:

Sample Marking	Cu ppm	Ag ppm			
L 26 E 12 N	7	0.4			rock cliff, side hill
L 28 E 1 N	4	0.8			
2	24	0.6			rocky
3	16	1.6			rocky
4	14	0.8			rocky, clay
5	156	2.6			rock
6	21	0.6			30' from stat., N.
7	57	1.1			rock, soil
8	185	3.4			rock and clay
9	12	0.6			
10	9	0.6			
11	5	0.3			
12	11	0.6			
13	14	0.8			rock
L 28 E 14 N	6	0.4			hill side
L 29 E 14 N	21	1.0			steep hill side rock
L 30 E 1 N	13	3.0			
2	5	0.5			rocky
3	40	1.4			rocky
4	16	0.8			
5	15	0.3			
6	192	5.0			30' N of stat.
7	157	4.1			rock, soil
8	17	1.2			rock
9	14	1.2			
10	10	1.2			
11	2	0.5			
12	5	0.5			rock
13	7	0.6			
14	7	0.6			
L 30 E 15 N	5	0.3		(ROCK)	rock steep hill side cliff

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REMARKS:

Signed: 

% Mo x 1.6683 = % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used



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AREA CODE: 604

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-IN ACCOUNT WITH-

Petra Gems Exploration Ltd.
#200-3540 West 41st Ave,
Vancouver, B.C.

Attention:

Job #77004

Report No: 77 03 001

Page 1 of 1

Samples Arrived: Jan 19, 1977.

Report Completed: Jan 12, 1977.

For Project: -

Analyst: E.T.

Invoice #102

Sample Marking	Cu %	Ag oz/ton	Au oz/ton	Remarks
19876	0.28	1.45	--	Silic Shatter Zone
77	9.30	31.32	0.071	Driftwood High Ex Grade
78	0.26	1.45	trace	Judges Area
79	0.13	1.02	0.003	Barite Zn chip
80	0.01	trace	--	Barite zone
81	0.01	trace	--	
82	0.01	trace	--	
83	0.34	10.73	--	Harveys Hole
19884	0.90	21.46	0.006	Harveys Vein qtz

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REMARKS:

Signed: E. T. Registrar
E. T. Registrar Analyst

% Mo x 1.6683 = % MoS₂

1 Tray oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd - None detected ppm parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

TELEPHONE: ~~888-2172~~
 AREA CODE: 604 - 986-5011

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Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

Petra Gem Exploration Ltd.
 # 200 - 3540 West 41st Ave.
 Vancouver, B.C. V6N 3E6
 Attention: Mr. Barry Price

Report No: 77 01 014 Page 1 of 1
 Samples Arrived: July 4, 1977
 Report Completed: July 5, 1977
 For Project:
 Analyst: E.T.
 Invoice# 4217 Job# 77 078

Sample Marking	Cu %					
Driftwood #1	0.008					
Driftwood #2	0.114					

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REMARKS: copy to Barry Price, General Delivery, Smithers, B.C. V0J 2N0

Signed:

% Mo x 1.6683 = % MoS₂ 1 Troy oz./ton = 34.28 ppm 1 ppm = 0.0001% nd = none detected ppm = parts per million
 All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.



VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.,
NORTH VANCOUVER, B.C.,
CANADA V7P 2S3

986-5211
TELEPHONE: ~~986-5211~~
AREA CODE: 604

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-IN ACCOUNT WITH-

Petra Gem Exploration Ltd.
200 - 3540 West 41st Ave.
Vancouver, B. C. V6N 3E6

Attention: Mr. Barry Price

Report No: 77 72 010 Page 1 of 1
Samples Arrived: Sept. 28, 1977
Report Completed: Sept. 30, 1977
For Project: DRIFTWOOD
Analyst: R.N., S.C.

Invoice# 4382 Job# 77 202

Sample Marking	Cu %	Ag oz/ton	Au oz/ton		
26 - 9 - 77 - 1	0.345	1.102	0.029	Selected Pt 1 L&PTN.	
2	0.057	0.285	0.007	Grab over 5'.	
3	0.078	0.315	0.004	Grab. 2 pits over 10'.	
4	0.280	0.986	0.008	Selected. > 5'.	
5	0.050	0.225	0.006	Chips over 9 m.	
6	0.075	0.330	0.004	Chips over 12 m.	
7	0.700	1.015	trace	Selected > 10'.	
8	1.760	8.410	0.009	#2 trench Selected.	
26 - 9 - 77 - 9	0.082	0.345	trace	Chips over 100' (100m)	
Averages					
	Selected	\bar{x}	Cu	Ag	Au
		SD	0.77	2.88	0.012
			0.68	3.68	0.011
	Chips	\bar{x}	0.07	0.30	0.008
		SD	0.014	0.04	0.006

REMARKS:

Signed:

% Mo x 1.6683 - % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

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986-5211
 TELEPHONE: ~~738-1173~~
 AREA CODE: 604

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-IN ACCOUNT WITH-

Petra Gem Exploration Ltd.

Attention:

Report No: 77 72 005

Page 2 of 4

Samples Arrived:

Report Completed:

For Project:

Analyst:

Invoice 4281 part.

Sample Marking	Cu ppm	Ag ppm				
BL 1000	50	1.0				
1100	50	0.9				
1200E	32	1.0				
1300	700	6.4*	Road			
1400	23	0.8				
BL 1500	15	0.7	Clay Rock			
BL 3300E	35	1.0	"oo" Red			
3400	35	1.3	"oo" L. Brown			
3500	40	1.2	"oo" L. Brown			
3600	8	0.4	"oo" Red			
3700	6	0.7	"oo" Red			
3800	45	1.4	"oo"			
3900	21	0.7	"oo"			
BL 4000E	38	0.8	"oo"			
L3200 + 000E ON	50	1.4	Light Brown Rock Frag.			
L3200E 1N	18	0.7	" " " "			
2	25	1.0	" " " "			
3	20	5.8*	Red Rock Frag.			
4	33	1.2	Fan Rock Frag.			
L3200E 5N	42	2.6	Light Brown Rock Frag.			
L3200E 6N	155	3.5	Light Brown			
7	13	0.7	Light Brown			
8	10	1.0	Reddy Rock Frag.			
9	61	0.7	Black Bron			
10	10	0.7	Reddy			
11	5	0.6	Reddy			
12	5	0.7	Reddy			
13	18	0.6	Brownly Tan			
14	10	0.6	Brownly Grey			
L3200E 15N	15	0.8	Red			
L3400E 1N	38	0.6	Light Brown			
2	15	0.8	Reddy Rock Frag.			
3	25	1.3	Brown			
4	12	0.6	Reddy			
5	21	0.5	Brown			
6	40	0.6				
7	15	0.5	Reddy Brown Rock Frag.			
8	14	0.8	Red			
L3400E 9N	12	0.5	Red			

REMARKS: * Samples have been repeated for analysis and checked O. K.

Signed:

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1 Tray oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used.

MASTER PRINTING LTD



VANGEOCHEM LAB LTD.
1521 PEMBERTON AVE.
NORTH VANCOUVER, B.C.
CANADA V7P 2S3

986-5211
TELEPHONE: ~~604-291-1111~~
AREA CODE: 604

• Specialising in Trace Elements Analyses •

Certificate of Geochemical Analyses

-IN ACCOUNT WITH-

Petra Gem Exploration Ltd.

Attention:

Report No: 77 72 005

Page 3 of 4

Samples Arrived:

Report Completed:

For Project:

Analyst:

Sample Marking	Cu ppm	Ag ppm			
L3400E 10N	8	0.4	Red		
11	61	0.6	Light Brown		
12	48	1.1	" "		
13	13	0.8	Red		
14	17	0.6			
L3400E 15N	14	1.0	Reddy Brown		
L3400E 1S	30	0.8	Red Brown		
2	22	0.6	" "		
3	18	0.5	Red		
4	7	0.2	"		
5	5	0.3	"		
6	20	0.6	Red Brown		
7	15	0.8			
8	28	1.2	Red		
9	8	1.1			
L3400E 10S	20	0.8	Red		
L3600E 1N	45	0.9	Light Brown		
2	18	0.6	Brown Red		
3	26	0.8	Light Brown		
L3600E 4N	29	0.7	Brown		
L3600E 5N	30	0.8	Light Brown		
6	33	1.2	Brown Rock Frag.		
7	20	0.6	Brown Red		
8	47	0.9	Light Brown		
9	20	1.0	Red Brown		
10	104	1.8	Brown		
11	12	0.5	Red Brown		
12	11	0.7	Reddy Brown		
13	12	0.5	Light Brown		
14	16	0.7	Red Brown		
L3600E 15N	12	0.4	Light Brown		
L3600E 1S	15	0.6	Red		
2	19	1.0	"		
3	40	1.0	Brown		
4	32	1.2	Light Brown		
5	30	1.0	Brown		
6	23	0.4	Red		
7	30	0.8	"		
L3600E 8S	26	0.7	Light Brown		

MASTER PRINTING LTD

REMARKS:

Signed: 

% Mo x 1.6683 - % MoS₂

1 Troy oz./ton = 34.28 ppm

1 ppm = 0.0001%

nd = none detected

ppm = parts per million

All values are believed to be correct to the best knowledge of the analyst based on the method and instruments used



VANGEOCHEM LAB LTD.
 1521 PEMBERTON AVE.,
 NORTH VANCOUVER, B.C.,
 CANADA V7P 2S3

986-5211
 TELEPHONE (604) 271-7777
 AREA CODE: 604

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-IN ACCOUNT WITH-

Petra Gem Exploration Ltd.

Report No: 77 72 005

Page 4 of 4

Samples Arrived:

Report Completed:

For Project:

Analyst:

Attention:

Sample Marking	Cu ppm	Ag ppm			
L3600E 9S	18	0.5	Red		
L3600E 10S	20	0.9	"		
L3800E 1N	22	0.7	Light Brown		
2	14	1.2	"		
3	13	0.7	Brown		
4	28	1.6	"		
5	10	0.6	"		
6	93	3.2	"		
7	18	0.8	"		
8	15	0.4	"		
9	30	1.1	Light Brown		
10	154	1.2	Brown		
11	20	0.7	Browny Red		
12	8	0.5	Reddy Clay		
13	25	0.8	Light Brown		
14	10	0.6	Reddy Brown		
L3800E 15N	12	0.8	Brown		
L4000E 1N	41	0.6	Light Brown		
2	35	0.8	"		
L4000E 3N	41	1.0	" " Rock Frag.		
L4000E 4N	111	3.0	Light Brown		
5	70	1.0	Brown Rock Frag.		
6	8	0.4	Reddy		
7	17	0.6	Reddy Rock Frag.		
8	126	2.5	Reddy		
9	65	1.2	Reddy Rock Frag.		
10	39	1.0	Light Brown		
11	45	0.8			
12	15	0.5	Reddy Rock Frag.		
13	15	0.5	Browny Red		
14	6	0.3	Reddy Clay Rock Frag.		
L4000E 15N	28	0.8	Light Brown		

MASTER PRINTING LAB

REMARKS:

Signed:

The Anaconda Company, Anaconda Sampler

RECEIVED FROM **JOE T. HILLHOUSE**
 ADDRESS **BOX 2694**
SMITHERS, BRITISH COLUMBIA
CANADA
 MINE **DRIFWOOD 332**

ANACONDA, MONTANA, 59711 **JANUARY 6, 1969**

SMELTER LOT NO: **B-306 (DECISION a/c)**

CAR NUMBER	WEIGHTS			ASSAYS			TREATMENT CHARGE Dollars	PRICE PER TON Dollars	VALUE Dollars	Draft No.
	Pounds Gross	Per Cent Water	Pounds Dry	Per Cent Copper	Ounces Silver	Ounces Gold				
CP 381195	29,910	2.52	29,138	9.55	50.02	.106	5.25	154.71	2,253.97	
HAP by freight									1,946.00	
									307.97	
SILICA 38.2 ALUMINA 3.6 IRON 15.1 CoO 1.7										
PAYMENT FOR METALS						TREATMENT				
Copper	less .5%	@ 41.715	less 3/16	69.17	BASE					5.25
Silver	100%	@ 173.5439	KIX	86.95	Add - 12¢ for each 1% Iron					
Gold	91%	@ 339.26		3.83	Add - 10% of sum of metal payments in excess of \$15.00					
Silica		@			Deduct - 2.3¢ for each 1% Silica in excess of Alumina					
Date of Quotations				11/23/68	NET TREATMENT					5.25

EOPY

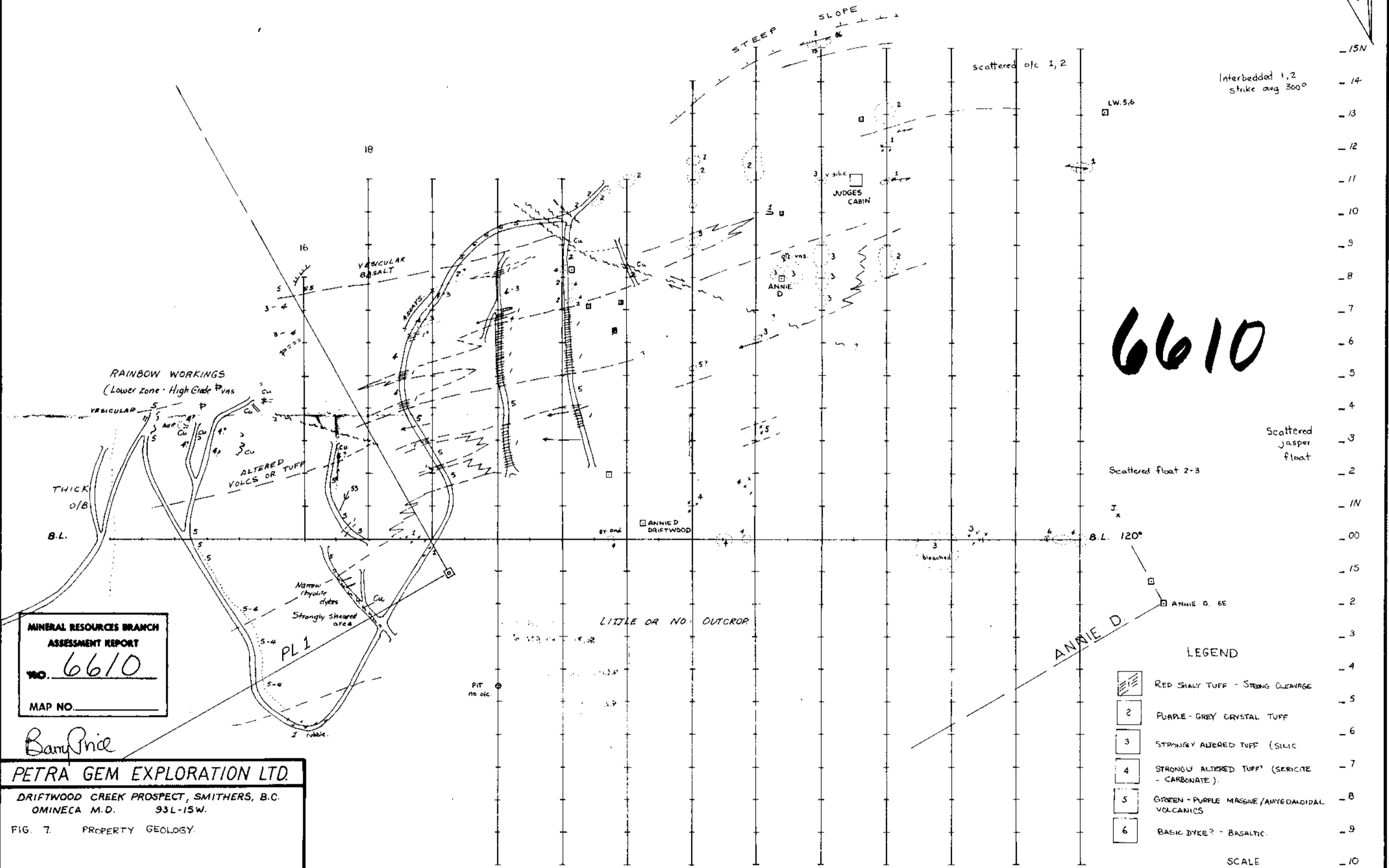
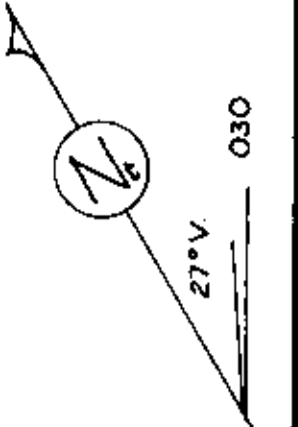
An extra charge of \$50.00 made for sampling all lots under one form

Errors and omissions except

The Anaconda Co., Anaconda Sampler

Rates subject to change without notice

10E 20E 22 24 26 28 30E 32 34 36 38 40E



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. **6610**
MAP NO. _____

Bany Price

PETRA GEM EXPLORATION LTD.

DRIFTWOOD CREEK PROSPECT, SMITHERS, B.C.
OMINECA M.D. 93L-15W.

FIG. 7. PROPERTY GEOLOGY.

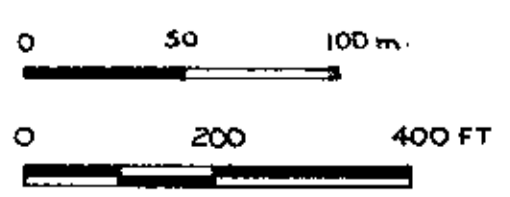
D.C., PL 1, DRIFTWOOD CREEK, ANNIE D. CLAIMS.
Survey: Chain-Compass - slope corrected. B PRICE, M.Sc.
#200-3540 W. 41. AVE VANCOUVER, B.C. DEC. 30, 1977.

TO ACCOMPANY ASSESSMENT REPORT
DATED FEB 17 1978 *Bany Price, M.Sc., F.G.A.C.*

6610

- LEGEND
- RED SHALY TUFF - STEEP CLEAVAGE
 - PURPLE-GREY CRYSTAL TUFF
 - STRONGLY ALTERED TUFF (SILIC)
 - STRONGLY ALTERED TUFF (SERICITE - CARBONATE)
 - GREEN-PURPLE MAFIC / AMYGDALOIDAL VOLCANICS
 - BASIC DYKE? - BASALTIC

SCALE



10E

20E

22

24

26

28

30E

32

34

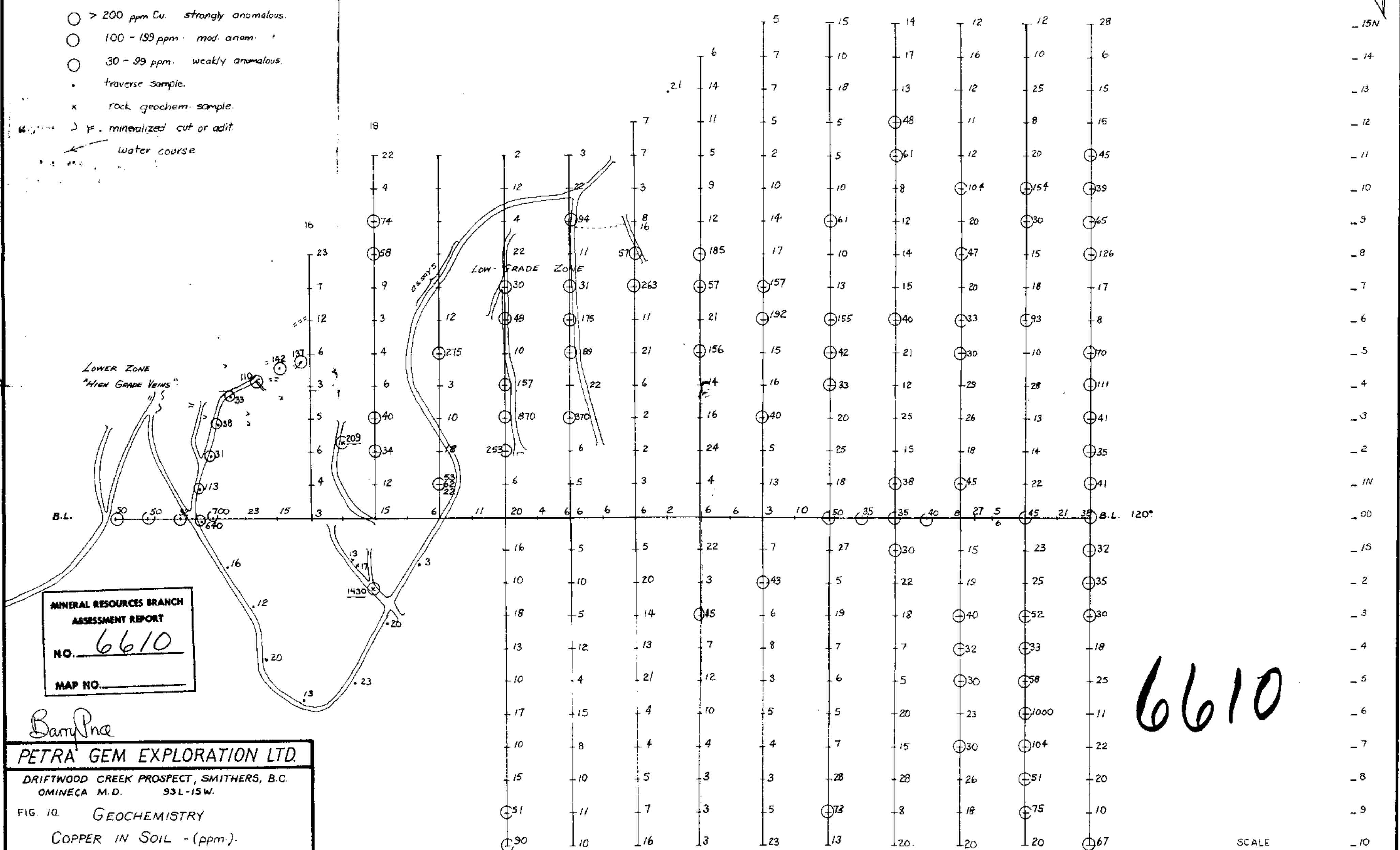
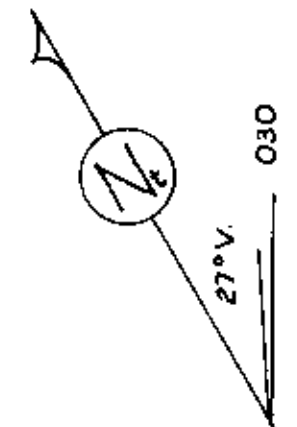
36

38

40E

LEGEND

- > 200 ppm Cu. strongly anomalous.
- 100 - 199 ppm. mod. anom.
- 30 - 99 ppm. weakly anomalous.
- traverse sample.
- x rock geochem. sample.
- mineralized cut or adit.
- ← water course

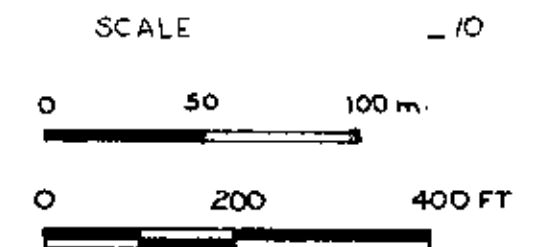


MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6610
MAP NO. _____

Barry Price

PETRA GEM EXPLORATION LTD.
DRIFTWOOD CREEK PROSPECT, SMITHERS, B.C.
OMINECA M.D. 93L-15W.
FIG. 10. GEOCHEMISTRY
COPPER IN SOIL - (ppm.)
D.C., PL 1, DRIFTWOOD CREEK, ANNIE D CLAIMS.
Survey: Chain-Compass - slope corrected. B. PRICE, M.Sc.
#200-3540 W. 41. AVE. VANCOUVER, B.C. DEC. 30, 1977.

TO ACCOMPANY ASSESSMENT REPORT
DATED FEB 17, 1978. Barry Price, M.Sc. FGAC.



10E

20E

22

24

26

28

30E

32

34

36

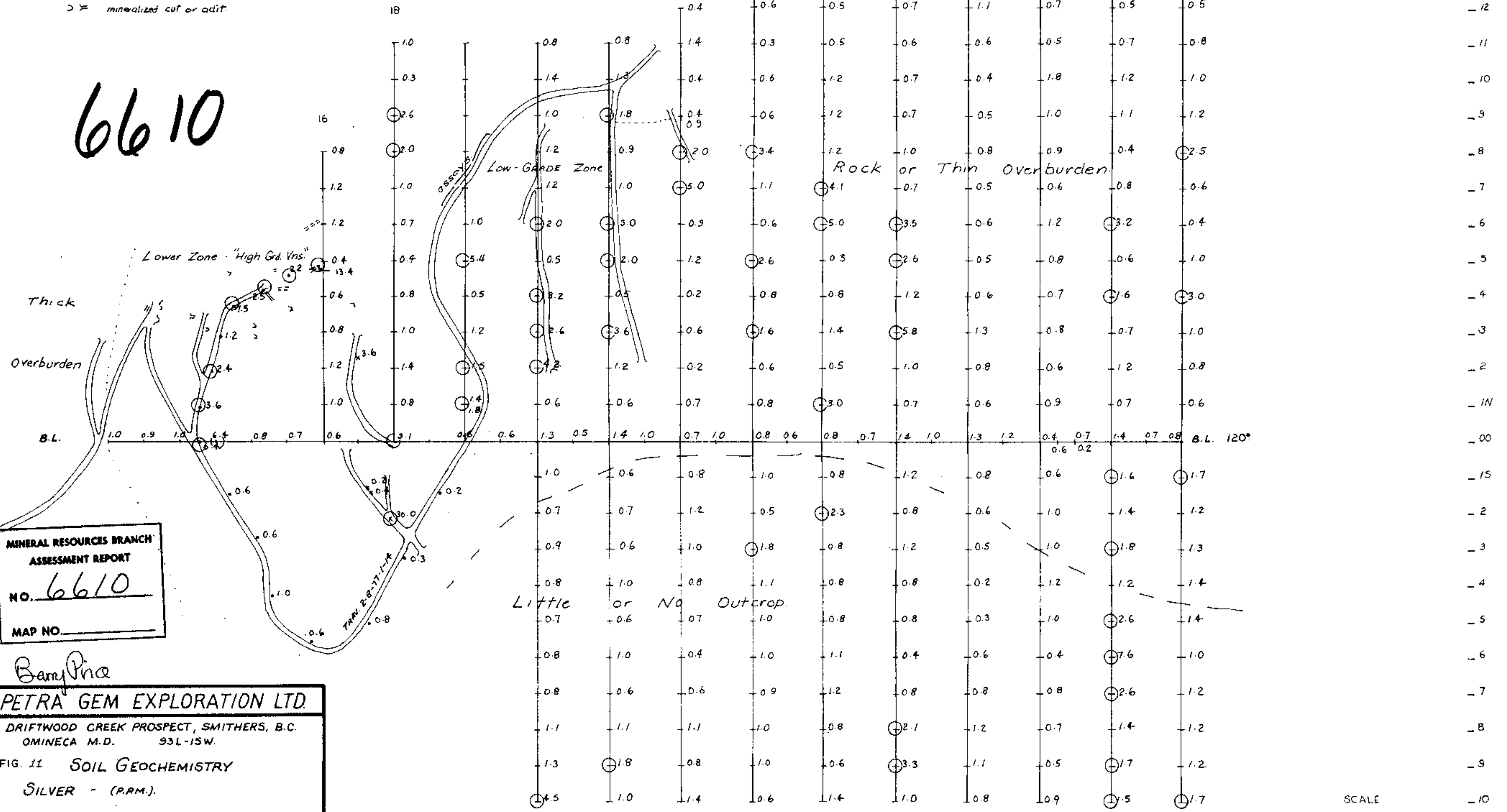
38

40E

LEGEND.

- > 4.0 ppm. - strongly anomalous.
- 2.0 - 4.0 ppm. - mod. anomalous.
- 1.5 - 2.0 ppm. - weakly anomalous.
- traverse sample.
- x rock geochem sample.
- > mineralized cut or adit.

6610



MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 6610
MAP NO. _____

Barry Pina
PETRA GEM EXPLORATION LTD.
DRIFTWOOD CREEK PROSPECT, SMITHERS, B.C.
OMINECA M.D. 93L-15W.
FIG. 11 SOIL GEOCHEMISTRY
SILVER - (P.P.M.)

TO ACCOMPANY ASSESSMENT REPORT
DATED FEB 17, 1978
Barry Pina, H.Sc., F.G.A.C.
D.C., PL1, DRIFTWOOD CREEK, ANNIE D CLAIMS.
Survey: Chain-Compass - slope corrected. B. PRICE, M.Sc.
#200-3540 W. 41. AVE VANCOUVER, B.C. DEC 30, 1977.

