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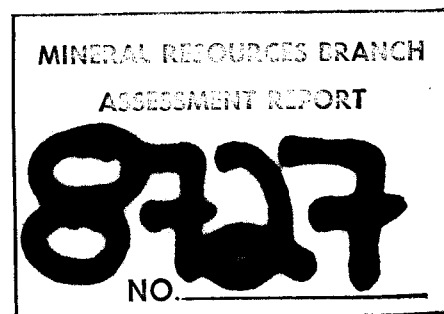
HEDLEY AREA GOLD PROPERTY  
N.N., J.B., K.R., L.F., AND SKIDOO CLAIMS  
SIMILKAMEEN MINING DIVISION, B. C.

924, 8E

PREPARED FOR  
MERCEDES PETROLEUM LTD.

L.B. GOLDSMITH, P. ENG.  
CONSULTING GEOLOGIST  
AND  
G.L. MILL, P. ENG.  
CONSULTING ENGINEER

FEBRUARY, 1980



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### APPENDIX:

- (i) GSC Memoir 2, 1910, p. 207-209 & Map 3A
- (ii) Report of the Minister of Mines, B.C., 1933, P. A172-173
- (iii) " " " " , , 1934, P. D19-20
- (iv) " " " " , 1936, P. D5-10
- (v) George Cross News Letter, January 18, 1980,  
Banbury Gold Mines Ltd.
- (vi) Geochemical Soil Sample Survey Procedure

### MAPS, RECONNAISSANCE SOIL GEOCHEMISTRY


- (1) Gold
- (2) Silver
- (3) Copper

Pocket Inside  
Back Cover

HEDLEY AREA GOLD PROPERTY  
N.N., J.B., K.R., L.F., AND SKIDOO CLAIMS  
SIMILKAMEEN MINING DIVISION, B.C.  
NTS 92H/8E

SUMMARY

Gold mineralization is reported to occur in the vicinity of the claims of Mercedes Petroleum Ltd.. Auriferous structures, if projected southerly from the Banbury Gold Mines property, would cross the western portion of the Mercedes ground. An orientation soil geochemical survey detected relatively high values in the watershed of Henri Creek which lies on the structural projection.

An exploration programme in two stages is recommended for preliminary evaluation. Total cost is estimated to be \$78,700.00. 

## INTRODUCTION

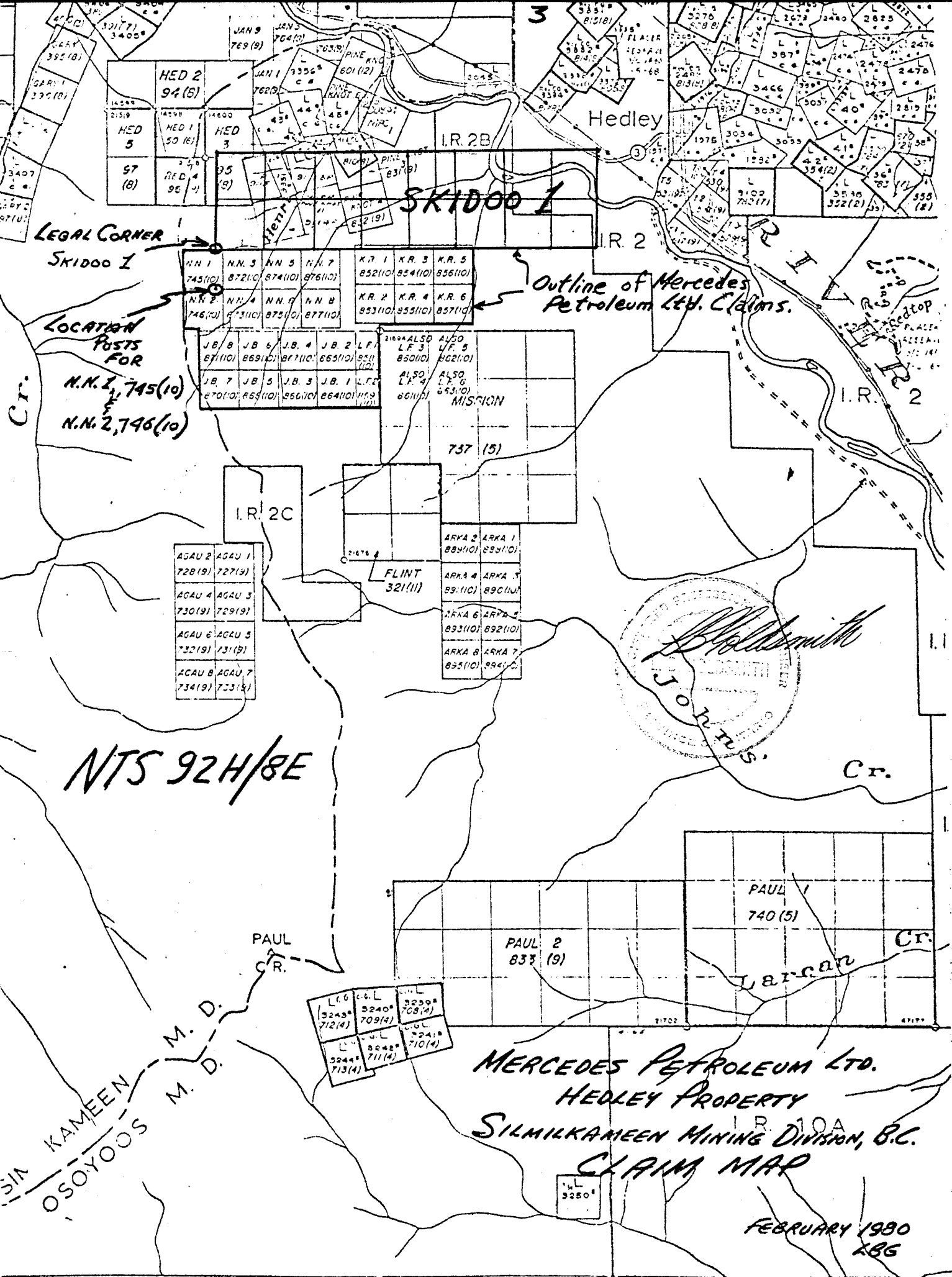
The claims are located between approximately 0.9 to 9.75 km (0.5 to 3.5 miles) at azimuth 240° from Hedley, B.C. on the south slope of the Similkameen River valley. A well maintained logging road departs southerly from Highway 3, 7.2 km (4.5 miles) west of Hedley, and follows the valley of Whistle (Stirling) Creek. At a distance of 4 km (2.5 miles) from the highway the road forks, and the southeasterly branch to the property follows a stream marked on site as Johns Creek (Pettigrew Creek on the 1:50,000 topographic map) for 1.6 km (1 mile) before switching back to a northerly direction to climb on a moderate grade out of the Whistle Creek valley around the shoulder of the mountain into the Henri Creek drainage. The claims are first entered at about 6 km (3.7 miles) from the confluence of Whistle and Pettigrew Creeks, at km 10 of the forestry markings. The latter section of the road was not cleared of snow but would be usable by a 2-wheel drive light truck in dry weather. Elevations within the claim block range from 1067 metres (3500') to 1525 metres (5000').

Slopes are lightly wooded, with open areas at the higher elevations. Timber is available for exploration requirements. Water may be available seasonally in Henri Creek. Electric power and a gas pipeline are available in the Similkameen Valley, approximately 3.2 km (2 miles) distant at elevation 550 metres (1800').

A reconnaissance visit was made on foot to the claims by L.B. Goldsmith on February 4, 1980. All of the claims were snow-covered; no geological observations could be made.

Posts of the N.N. 1 and N.N. 2 claims were observed to be





HED 2 94(8)	HED 1 50(16)	HED 3
97 (8)	HED 4 96(4)	95 (8)

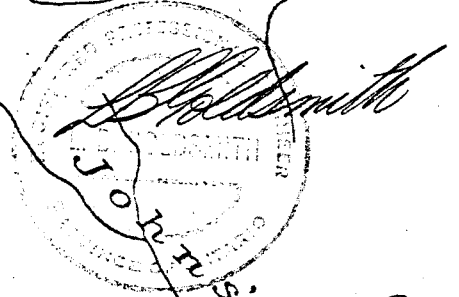
NN 1 745(10)	NN 3 872(10)	NN 5 874(10)	NN 7 876(10)	KR 1 832(10)	KR 3 854(10)	KR 5 856(10)
NN 2 746(10)	NN 4 873(10)	NN 6 875(10)	NN 8 877(10)	KR 2 853(10)	KR 4 855(10)	KR 6 857(10)

JB 8 871(10)	JB 6 869(10)	JB 4 871(10)	JB 2 865(10)	L.F. 3 850(10)	ALSO L.F. 3 862(10)
JB 7 870(10)	JB 5 868(10)	JB 3 866(10)	JB 1 864(10)	ALSO L.F. 4 861(10)	ALSO L.F. 6 863(10)

AGAU 2 728(9)	AGAU 1 727(9)
AGAU 4 730(9)	AGAU 3 729(9)
AGAU 6 732(9)	AGAU 5 731(9)
AGAU 8 734(9)	AGAU 7 733(9)

L.C. 6 3243 712(4)	C.G. L 3240 709(4)	C.G. L 3239 708(4)
L.C. 7 3244 713(4)	C.G. L 3242 711(4)	C.G. L 3241 710(4)

ARKA 2 884(10)	ARKA 1 883(10)
ARKA 4 891(10)	ARKA 3 890(10)
ARKA 6 893(10)	ARKA 5 892(10)
ARKA 8 895(10)	ARKA 7 894(10)



L.C. 8 3250
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situated nearly one claim length east of where they are plotted on the claim map. This discrepancy, if adjusted on the map, would close the gap between the N.N. and K.R. claims. It is believed that the claims outline as depicted on the soil geochemistry maps (pocket inside back cover) is more nearly accurate.

An additional claim of sixteen units, the Skidoo 1, #57287, was staked February 4 by L.B. Goldsmith on behalf of Mercedes Petroleum Ltd. with the object of closing possible gaps between the N.N. and K.R. claims, and the various claims to the north.

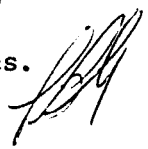
Interest has been aroused by reports of renewed exploration for gold on the adjacent claims to the north.

#### HISTORY

At least two previous periods of exploration circa 1900-1908 and 1933-1936 are documented in the Appendix.

The claims described in Camsell's report as the Pollock Mines, and later in the Annual Reports of the Minister of Mines as the Gold Mountain Mines, are those which lie immediately north of the Mercedes Petroleum group. Banbury Gold Mines Ltd. has recently drilled several holes on this same group and has intersected gold values. (Appendix)

Claims noted in the Annual Reports of the Minister of Mines for 1934 and 1936 (Appendix) as the Hedley Gold Hill Mining Co., Ltd. were probably located in the western portion of the N.N. claims and on the hilltop to the west of the west boundary of the N.N. and Skidoo claims. No work has been noted after 1936 on these mineral occurrences.




## GEOLOGY

Published reports have supplied the following summary. Argillite, limestone, chert, and perhaps volcanics (tuffs?) are cut by diorite bodies. On the claims to the north of the Mercedes group shear zones and quartz veins in fissures which trend  $170^{\circ}$  to  $210^{\circ}$  and dip westerly at  $50^{\circ}$  to  $65^{\circ}$  are irregularly mineralized with arsenopyrite, pyrite, sphalerite, chalcopyrite, galena, and gold. Zones of shearing and brecciation with quartz filling are reported to be up to 30 feet in width but mineralization is discontinuous. An average grade of gold cannot be estimated from the available information because assays are erratic. Projections of the zones on strike to the south would pass into the Mercedes claims approximately 1220 metres (4000') horizontally from the known occurrences. This is too great a distance to expect continuity of individual shears or gold mineralization. However, if the zones of rupture are regional features there is a possibility that ore shoots could occur in a predictable pattern.

To the immediate west of the Mercedes claims where work was performed by the Hedley Gold Hill Mining Co., Ltd., patches and disseminations of pyrite and pyrrhotite with minor arsenopyrite, chalcopyrite, sphalerite, and galena occur in a calcite-filled breccia in argillites and calcareous sediments in close proximity to a diorite body. Grade of gold was low and appears to have been restricted to pockets of heavy sulphides.

Gold mineralization in each of the above prospects is spatially related to diorite, usually contained in fissures or breccias in sediments immediately adjacent to the intrusive. The quantity and grade of mineralization decreases within veins where they pass into diorite. Gold may be mechanically held in arsenopyrite.



It may be that the zones of dilation with associated brecciation and mineralization on northerly-trending shear zones are controlled by folds with east-west anial planes. If this is the case, careful structural mapping may suggest intersections where exploration efforts should be concentrated. Diorite bodies may also be spatially controlled by folding.

Northerly to north-northeasterly-trending drainages may be a surficial expression of fracture zones.

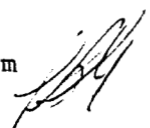
#### SOIL GEOCHEMISTRY

A total of 280 soil samples were collected by employees of Mercedes Petroleum Ltd., chiefly along two roads which cross the property. Method of sample collection is not known to the authors. Analyses were completed for gold, silver, and copper.

Anomalies cannot be outlined by the geochemistry because the traverses are spaced too far apart. The results can be considered to be an orientation survey.

An attempt was made to analyze geochemical results statistically by the use of probability graphs. It was found that for gold and silver too many values fall at or near the lower detection limits to construct curves which would be diagnostic of multiple populations. Copper is only slightly more informative; a second population may be present above 140 ppm.

The highest values in gold were obtained on the western slope of Henri Creek (sample R241, 1.200 ppm), in the drainage of a creek in the eastern part of the survey which is probably on the Mission claim





(sample R114, 0.12 ppm), and on the hill west of Henri Creek in the vicinity of the Hedley Gold Hill mineralization (H6, 0.10 ppm). In the map legend the values are stated to be in ppb; this should read ppm.

The largest number of high silver values occur in the Henri Creek drainage (samples R1, 2, 3, 4, 218, 219, 220, 243, total 8 samples of 1.0 ppm or greater).

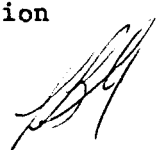
Copper values above 140 ppm occur in the basin of Henri Creek at two locations (R1, 205 ppm, and R 243, 150 ppm. R243 has also the maximum silver value of 2.1 ppm), and at one sample location to the east of Henri Creek on the northern traverse (R163, 160 ppm).

It is evident that the highest geochemical values tend to occur in the vicinity of Henri Creek.

#### CONCLUSIONS

Gold mineralization is present to the north and west of the Mercedes claims. Projection of auriferous fissure - shear trends from the Banbury property to the north would indicate that these zones, if persistent over the intervening  $\pm$  1220 metres (4000'), would enter and traverse the Mercedes property in the vicinity of Henri Creek. An east-west fold may cross the projected shears on the N.N. claims. Thence a locus of structural disruption which could create open spaces for metal deposition may exist near the shear-fold intersection.

The preponderance of the higher metal values from the orientation geochemical survey occur in the Henri Creek drainage, suggestive of a bedrock source nearby.



A preliminary exploration programme is warranted to evaluate all of the property, with emphasis being directed towards the western sector.

#### RECOMMENDATIONS

##### PHASE I

1. A grid with lines spaced 100 metres apart should be established by compass and belt chain to cover all of the property, with a north-south base line and east-west crosslines. Stations should be marked at 50 metre intervals on all lines.
2. Soil samples should be collected at each station. Geochemical analyses should be performed for gold, silver, copper, and arsenic.
3. A magnetometer survey should be completed on the same grid, partly to assist in geological interpretation and partly because pyrrhotite is associated with gold mineralization in the immediate area.
4. A VLF EM survey to trace shear zones should be completed simultaneously.
5. Based on the geochemical and geophysical results some trenching and stripping with a bulldozer might be advisable.

##### PHASE II

A budget should be available for a limited programme of diamond drilling based on the results of Phase I. Approximately 305 metres (1000') of coring is suggested for a preliminary investigation.



## COST ESTIMATE

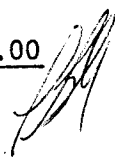
## PHASE I

Grid preparation	\$ 3,500.00	
Soil sampling	6,500.00	
Geochemical analyses, 1000 samples @ \$4.00 each	4,000.00	
Geophysics; Magnetometer survey	6,000.00	
VLF survey	6,000.00	
Bulldozer, 20 hrs @ \$50.00/hr.	1,000.00	
Reporting	1,500.00	
Geophysical equipment rental	500.00	
Vehicle	500.00	
Room, board, gas, supplies	2,500.00	
Supervision	<u>1,000.00</u>	
	\$ 33,000.00	
Contingencies @ 10%	<u>3,300.00</u>	
TOTAL	<u>\$ 36,300.00</u>	\$ 36,300.00


## PHASE II

Diamond drilling, 305 metres (1000') @ \$98.66/metre (\$30.00/ft.)	\$ 30,000.00	
Supervision	5,000.00	
Assaying, 25 @ \$20.00	500.00	
Reporting	1,500.00	
Vehicle	500.00	
Room, board, gas, supplies	<u>1,000.00</u>	
	\$ 38,500.00	

Contingencies @ 10%	<u>3,900.00</u>	
TOTAL	\$ 42,400.00	<u>\$ 42,400.00</u>
TOTAL, PHASES I & II		<u>\$ 78,700.00</u>



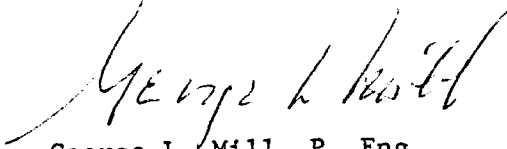
All of which is respectfully submitted,



*Locke B. Goldsmith*

Locke B. Goldsmith, P. Eng.

Consulting Geologist



George L. Mill, P. Eng.

Consulting Engineer

Vancouver, B.C.

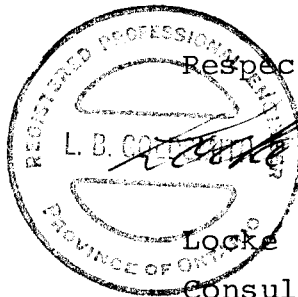
February 23, 1980

## ENGINEER'S CERTIFICATE

Locke B. Goldsmith

1. I, Locke B. Goldsmith, am a Registered Professional Engineer in the Province of Ontario and a Registered Professional Geologist in the State of Oregon. My address is 207-1855 Balsam Street, Vancouver, B.C., V6K 3M3.
2. I have a B.Sc. (Honours) degree in Geology from Michigan Technological University and have done postgraduate study in Geology at Michigan Tech, University of Nevada and the University of British Columbia. I am a graduate of the Haileybury School of Mines and am a Certified Mining Technician. I am a member of the Society of Economic Geologists, the AIME, and the Australasian Institute of Mining and Metallurgy.
3. I have been engaged in mining exploration for the past 21 years.
4. I have written the report entitled "Hedley Area Gold Property, N.N., J.B., K.R., L.F., and Skidoo Claims, Similkameen Mining Division, B.C.," dated February 23, 1980. The report is based upon research and field examination conducted by the author.
5. I have no ownership in the property, nor in the securities of Mercedes Petroleum Ltd.
6. I consent to the use of this report in a prospectus or in a statement of material facts related to the raising of funds.

Respectfully submitted,



*Locke B. Goldsmith*  
 Locke B. Goldsmith, P. Eng.  
 Consulting Geologist

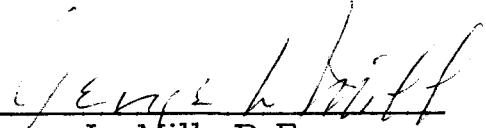
Vancouver, B.C.  
 February 23, 1980

## ENGINEER'S CERTIFICATE

GEORGE L. MILL

I, George L. Mill, hereby certify:

- 1 - That I am a Mining and Metallurgical Engineer residing at 255-5936 Willow Street, Vancouver, B.C. V5Z 3S6.
- 2 - That I am a graduate of Queen's University, B.Sc., and a registered Member of the Corporation of Professional Engineers of the Province of British Columbia.
- 3 - That I have practised my profession for 49 years.
- 4 - That I have no financial interest, direct or indirect, in the subject mineral claims, in the shares of Mercedes Petroleum Ltd., and do not expect to obtain any such interest.
- 5 - That I am familiar with the Hedley area in general having spent over 20 years as Plant Superintendent and later as Manager of the Nickel Plate operations.
- 6 - That the information contained in this report, written by L.B. Goldsmith, Consulting Geologist, was discussed with me in the course of its preparation and that the recommendations contained therein have my full approval.

  
George L. Mill, P.Eng.

To accompany report on  
Hedley area gold property  
by L.B. Goldsmith for  
Mercedes Petroleum Ltd.

February, 1980

## REFERENCES

- Annual Reports of the Minister of Mines, British Columbia: 1933, p. A172-173; 1934, p. D19-20; 1936, D5-10.
- Banbury Gold Mines Ltd., 1980: George Cross News Letter, January 18.
- Billingsley, Paul, & Hume, C.B., 1941: The Ore Deposits of Nickel Plate Mountain, Hedley, B.C.; CIMM Transactions, Vol. XLIV, p. 524-590.
- Camsell, Charles, 1910: Geology and Ore Deposits of Hedley Mining District, B.C.; GSC Memoir 2, p. 207-209, & Map 3A.
- Rice, H.M.A., 1947: Geology and Mineral Deposits of the Princeton Map Area, B.C., GSC Memoir 243, p. 76, & Map 888A.

APPENDIX



THE HENRY CREEK DISTRICT.

*Location.*—Henry creek is a small stream entering the Similkameen river from the south about two miles above the town of Hedley. A group of five claims now owned by the Pollock Mines Company was first staked on this creek in 1900. These are now surveyed and Crown granted, and are called the Martin, Daisy, Maple Leaf, Minchaha, and Pine Knot. They lie on both sides of Henry creek. The lower boundary of the group is at an elevation of 400 feet above the Similkameen river, and the upper limit is 2,000 feet above that stream. Access to the workings, which are 900 feet above the river, is by means of a pack trail. The grade of the Great Northern railway crosses the mouth of Henry creek 300 feet below the lower boundary of the group.

*Geology.*—The country rock of the district consists of black limestones and argillites, and some volcanic tuffs and breccias interbedded together in thin beds not more than 1 foot in thickness. They belong to a somewhat higher horizon than the rocks of the Hedley district, but are apparently conformable with them. They have been subjected to strong orogenic movements, and now dip at very high angles, and strike about north and south. Fissures have been developed in these rocks in a north and south direction, in a most marked degree, while in directions transverse to this they are traversed by numerous minute fractures.

An irregular body of diorite, apparently identical with the Hedley diorite, is intrusive into the sedimentary rocks. This passes through the claims in an east and west direction, attaining its greatest development in the centre of the group, where it has a width of about 1,400 feet. The contact with the sedimentary rocks is very irregular, and apophyses of the diorite project out into the sedimentary rocks, cutting across the strike of the beds.

Both the diorite and the sedimentary rocks are cut by soft greenish dikes of an andesitic character, which strike north and south about parallel to the strike of the sedimentary rocks. Other dikes somewhat similar in appearance, but of a more siliceous nature, also cut the sedimentary rocks, and probably also the diorite.

*Character of the Deposits.*—The deposits of the Henry Creek district are fissure veins lying in the sedimentary rocks in the neigh-

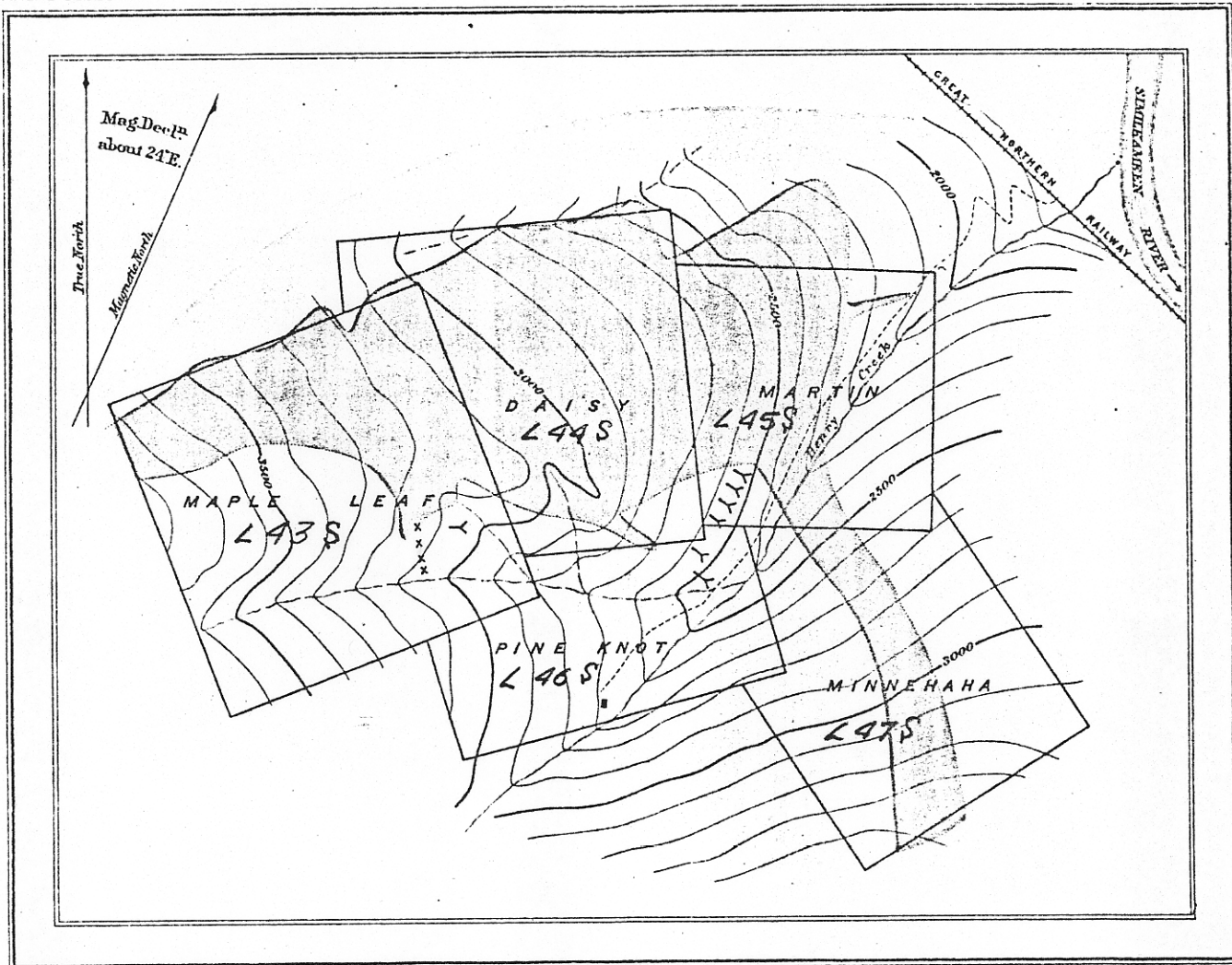
of the diorite contact. The sedimentary rocks are everywhere traversed by minute fractures which contain some pyrite and arsenopyrite, and which have no definite trend. The fissures, however, on which the work has been done, are strong and well-defined, and have in general a north and south strike.

The main workings of the group lie at an elevation of 900 feet above the Similkameen river, and are located on a well-defined fissure, which has been traced for at least 500 feet. The width of this is not constant, but varies from 2 feet up to 12 or 14 feet, with an average of about 5 feet. The gangue which contains the ore minerals is both quartz and calcite, and these cement together fragments of the country rock with which the fissure is full. The ore minerals are largely arsenopyrite with some pyrite, which are found in the quartz and calcite, as well as in the small fracture planes in the country rock. The values here are chiefly in gold, and in the decomposed outcrop of the vein free gold was easily obtained by panning.

The upper workings of this group lie at an elevation of 1,400 feet above the Similkameen river. These also are located on quartz veins, which, however, cut the diorite as well as the sedimentary rocks. The most persistent of these veins has been traced on the surface for a distance of 500 feet in a north and south direction, and it has a dip of about  $45^{\circ}$  to the west. Another vein lies almost flat, but is only a few inches wide. The gangue is a white quartz, which carries as ore minerals, arsenopyrite, pyrite, and some galena. The values here are also chiefly in gold, with some silver. In places they were found to be high, but were not uniform. The best results were obtained in the lower workings.

*General Development.*—Considerable work has been done on this group of claims at different times, but this has now been discontinued. On the upper quartz veins, the work consists largely of a series of open-cut and shallow pits. A tunnel, also, has been run in on the flat lying lead for a distance of over 100 feet.

On the lower workings, there are two inclined shafts at the north end near the diorite contact. One dips  $60^{\circ}$  to the west, and is down 60 feet, with a cross-cut at the bottom of 30 feet; the other dips  $50^{\circ}$  to the west, and is down 55 feet. There are also five tunnels running westward into the side of the mountain. The longest of these is 148 feet in length, and at the time of examination had two drifts along the vein to the north and south, the one 30 feet in length, and the other 64 feet. Another tunnel above the longer one is 60 feet in length. Besides these there are three shorter tunnels, all cutting the main lead at different points.



C. O. Senechal, Geographer and Chief Draughtsman.  
O. E. Prud'homme, Draughtsman.

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MAP 3A

MINERAL CLAIMS ON HENRY CREEK

Near HEDLEY B. C.

Scale:  $\frac{1}{50000}$



800 FEET TO 1 INCH


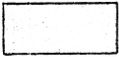
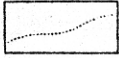
Henry Creek about 2 miles  
west of Hedley B. C.

**GEOLOGY**  
(Subject to revision)  
C. CAMSELL 1908

**TOPOGRAPHY**  
C. CAMSELL 1908  
L. REINECKE 1908

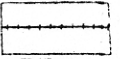
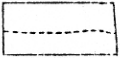
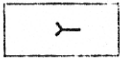
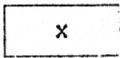
**LEGEND**

**PALAEOZOIC MESOZOIC**

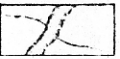
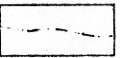
-  Hedley diorite
-  Sediments and tuffs  
*(limestones and argillites with inter-  
bedded black tuffs considered to be  
of Carboniferous age)*
- Symbols**
-  Geological boundary

GSC Memoir 2, 1910,  
C. CAMSELL

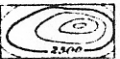
**Culture**

-  Railways
-  Trails
-  Tunnels
-  Prospects

**Water**

-  Rivers and creeks
-  Intermittent stream

**Relief**

-  Contours  
*(Showing land forms and  
elevations above sea level)  
Interval 100 feet*

bands of arsenopyrite has been uncovered. Values up to an ounce in gold have been obtained. At the headwaters of Bradshaw creek, on the old *Yuninan*, similar mineralization and high values in gold have been found. The old workings on these properties have by no means delimited the ore possibilities. The *Nelson* group may be reached in summer by a branch road from the *Nickel Plate* road, which ends about half a mile from the workings. The *Star of Hope* group is situated at the summit, about 6 miles by trail up Cedar creek. A trail 5½ miles long from Bradshaw's ranch leads to the *Yuninan* group.

#### COAL.

(See Annual Reports for 1920 to 1923, 1926, 1927, and 1931.) Tony Ambrosi, Joe Plate, and associates, of Penticton, sunk a 90-foot winze on a 50° dip from the old 550-foot tunnel on this property, situated at White lake, and a 4-foot seam of much cleaner coal was found on the way down. A considerable amount of this product is being sold in the Okanagan Valley with satisfactory results.

#### White Lake Collieries.

#### SIMILKAMEEN MINING DIVISION.

(See Annual Reports, under *Pollock*, for 1909, 1910, and 1913. This company, with headquarters at 1104 Standard Bank Building, Vancouver, has a capitalization of 1,000,000 shares, par value \$1. The directorate is Lieut.-Colonel J. P. Fell, president; W. E. Burns, K.C., W. W. Southam, G. A. Birks, E. F. Riddle, of Vancouver, and C. E. Wilson, of Victoria. Arthur Lakes is consulting engineer. The following claims are held under option: *Daisy No. 2*, *Daisy No. 4-S*, *Maple Leaf No. 43-S*, *Maple Leaf No. 2*, *Martin No. 45-S*, and *Pine Knot No. 46-S* from Victor Locke and Herbert Guernsey, of Penticton. The *Gold Mountain*, *Gold Mountain No. 2*, *Gold Mountain No. 3*, *Gold Mountain Fraction*, *Maple Leaf No. 3*, *Maple Leaf No. 4*, and *Dullemore Fraction* have been acquired by purchase. The *Mimchaha* is held under lease from the Crown.

On the *Maple Leaf*, where practically all development was done during 1933, a crosscut tunnel was driven 151 feet in an easterly direction; then 75 feet in a southerly direction, with an offset 45 feet to the west. Both the latter crosscuts intersected ore and a drift 75 feet long has been driven on a north-westerly and south-easterly strike connecting them. Indications of ore were found in a 15-foot winze, 55 feet in from the mouth of the main crosscut on the diorite-argillite contact, and 4-foot samples assayed: Gold 0.15 oz. per ton and 0.14 oz. per ton. Beyond this, stringers of quartz calcite, pyrite, and arsenopyrite were found in the diorite striking east and dipping 40° south. After turning the crosscut to the south, much oxidized gangue-matter over drift-widths containing bands of arsenopyrite was encountered. Samples taken by A. Lakes over 3- and 4-foot widths assayed: Gold 0.28 oz., 0.08 oz., and 0.16 oz. per ton. Drifting for 70 feet on the shear-zone in diorite produced assays varying from 0.04 to 1.12 oz. gold per ton over widths from 1 to 5 feet, giving an average of slightly over 0.40 oz. gold per ton over 4-foot widths. On the surface, about 75 feet above and to the north of the tunnel, the shear-zone, varying from 2 to 12 feet wide, has been traced by open-cutting for about 700 feet. Future exploration is to consist of diamond-drilling beyond the north drift-face, also vertically above and below the main crosscut and beyond the south drift-face to ascertain continuity, widths, and values. The shear-zone drifts underground are to be extended north-west and south-east on the strike. Advice from the management states that the ore in the north-west face is in the form of a wedge, being 3 feet wide at the top of the drift and 5 feet or more at the bottom, indicating the possibility of a lens widening with depth.

On the *Pine Knot*, *Daisy*, and *Martin*, work done formerly consists of crosscuts, tunnels, and shafts on a quartz vein in the argillites striking south-west, dipping about 70° north-west, and approximately 1,200 feet to the east of the *Maple Leaf* workings and 550 feet lower. This vein, varying from 8 inches to 9 feet in width, has been traced on the strike for a distance of 600 feet, and it appears to be associated structurally with a greenish andesitic dyke. Occasional samples taken over 1-foot widths in the south tunnel varied from 0.12 to 1.20 oz. gold per ton.

The strong shear-zone which has been developed on the *Maple Leaf*, containing sections of pay-ore over minable widths, warrants further exploration. If the upper *Maple Leaf* workings show promise of continuity a crosscut will be driven from below and to the south. A narrow steep road was built from the Great Northern Railway up to the proposed site of the crosscut.

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A log camp was constructed near the old cabins close of Henry creek and a portable gas-compressor and all equipment for extended development is on the ground.

(See Annual Reports, under *Patsy*, for 1927, 1928, and 1931.) Developments Hedley-Sterling on this company's holdings, which includes the *Patsy* group on Sterling creek, Gold Mines, Ltd. owned by Dan McKinnon, of Hedley, were financed by the Canada Lode Gold Mines, Limited, Victoria. The upper crosscut was driven a total distance of 120 feet, 50 feet below the old cut. About 2 feet of oxidized vein-matter was struck 95 feet from the portal. This carries low values in gold. From 111 feet in to the face a 9-foot shear-zone containing bands of arsenopyrite, and probably the downward extension of the ore in the upper cut, was intersected. Samples taken by the management assayed about 0.45 oz. gold per ton. About 75 feet below, an old crosscut tunnel 15 feet long opened up 3½ feet of mineralized shear-zone matter. Another old crosscut about 30 feet lower developed 9 feet of oxidized material containing quartz and bands of arsenopyrite. About 75 feet lower, near the creek, the new crosscut was driven about 196 feet. At 80 feet from the portal a shear-zone 9 feet wide was found containing bands of pyrite, arsenopyrite, and chalcopyrite in a gangue of cherty greenstone and quartz. Four samples taken in 2- and 2½-foot sections across 9 feet on the south side of the tunnel carried only traces in gold and silver. A picked sample of pyrite and arsenopyrite 4 inches wide from the roof of the tunnel assayed: Gold, 0.30 oz. per ton; silver, 0.10 oz. per ton. The manager, Dan McKinnon, stated that much heavier mineralization occurred at the bottom of the drift. The shear-zone strikes north (mag.) and dips 63° east.

Unless some unforeseen faulting occurs, there are four shear-zones dipping from 40° to 70° to the east into the hill and towards the diorite-contact and striking northerly. Possibly the two shear-zones between the upper and lower tunnels may be offshoots from the upper one, and the lower crosscut will not intersect them until it reaches the main body. Development in the Gold Mountain Mines, Limited, property, about 2 miles east, has shown that the shear-zones occur not only in the sedimentary and volcanic rocks, but also in the diorite, and are stronger in the latter, so that on Sterling creek exploration may have to be extended into the diorite. Values are generally erratic in these shear-zones, and when drifting on the strike careful sampling every few feet should be resorted to. A small Diesel engine and compressor were installed on the property below and across Sterling creek from the lowest crosscut. An extension of the road was built for about a mile beyond the camp to the mine.

This group, comprising ten claims recorded as *Newton No. 1* to *No. 10*, owned **Newton Creek**, by W. R. James and associates, of New Westminster, is situated on Granite and Newton creeks, about 4½ miles up-stream from Granite creek. The claims start at Cameron's cabin, including the *Vera No. 1* claim, once held by the Coalmont Gold Mines, Limited (Annual Report, 1929), and thence in a south-westerly direction towards Newton creek. Exploration consisted of open-cutting an oxidized shear-zone for a distance of 3,000 feet, in which some low values in gold were found. The zone appears persistent enough to warrant diamond-drilling, and this is to be undertaken by the owners in 1934. On one of the claims on Newton creek, owned by E. T. Salmon, 2564 Oxford Street, Vancouver, some coarse gold associated with quartz was found in the creek-bed. This is surmised to have come from an 8-foot quartz vein in the vicinity. Diamond-drilling will also be done on this in 1934. The *Dora* (Annual Report for 1929), once operated by the Coalmont Gold Mines, Limited (now defunct), lies to the south-east of the *Vera No. 1*, on which a considerable amount of work was done on a strong quartz vein. Some high, though erratic, gold values were found. Exploration will continue under the management of E. T. Salmon.

The rocks in which these veins occur are correlated as Triassic and include andesite, breccia, limestone, and argillite. The latter sediment appears to be more favourable and contains high-grade, though narrow, gold-quartz veins in some localities. Granite creek produced about \$100,000 a mile in placer gold which was generally well worn and possibly transported into the narrow canyons by glacial agencies. The source of this gold, possibly still in place and not entirely eroded, has never been found.

(See Annual Reports for 1901, 1905, and 1908.) This group of nine claims, **Cousin Jack**, about 2 miles directly west of Manning, on the Kettle Valley Railway, on the Elliott Creek slope of Spearing mountain, includes the *Cousin Jack*, *Yankee Girl*, *Ottawa*, *Homestead*, *Canadian Girl*, *Florence*, and *Wisconsin*. It has been acquired by Jack Osborne and associates, of Tulameen and Blakeburn. Development-work was done on

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the 77-foot working. Besides several open-cuts, some diamond-drilling was done in former years which indicated a continuance of the mineralized beds to the north and east. On the *Cyclone* claim, which covers part of the north-east slope, the upper adit was extended about 30 feet, with workings to the contact of the sediments and diorite. A new adit was started 100 feet north-west and 50 feet lower to determine the attitude of the beds in that direction. About 800 feet north-east and 300 feet lower a 15-foot open-cut was put in on an outcrop of pyrrhotite and arsenopyrite.

In the workings on the *Whirlwind* numerous narrow tongues of diorite and also one gabbro dyke have intruded the sediments in the vicinity of the mineralized beds. Up to the present the mineralized widths have varied considerably between 6 inches and 6 feet and are made up of bands of quartz containing arsenopyrite and pyrite with interbanded oxidized gangue-matter. In the winze, near the north-west face, the management states that about 14 feet of highly garnetized limestone has been found impregnated with arsenopyrite. Near the mouth of the *Cyclone* adit some high-grade ore has been found in the limestone remnants close to the diorite-contact. Some picked samples from the open-cuts in the pyrrhotite assayed well in gold, according to the management.

The property has been systematically sampled by the management, Dan McKinnon, and Victor Delmage, consulting geologist, and the results have shown a considerable variance in gold values. All work done so far has been of an exploratory nature in an attempt to prove the future possibilities of the area.

The highway between Hedley and Princeton, the high-power electric line, and the Similkameen river all pass within 2 miles of the property.

## GENERAL

All that section of the country north of the Similkameen river, lying within a radius of 10 miles of Hedley, from due north to east and south-east, is potential prospecting-ground, especially along the summits and headwaters of Hedley (20-Mile), Shatford, Texas, Keremeos, Cedar and its branches, Olalla, Shoemaker, and Winters (16-Mile) creeks.

Within this belt there are many large altered and well-mineralized remnants of Mesozoic sediments and volcanics associated with the diorite-gabbro rocks and accompanied by pyrite-arsenopyrite mineralization containing, in places, high gold values. Some work has been done in several of these localities, including: The *Golden Zone* (see Annual Report for 1930-31) north of Hedley and owned by Dunc. Woods, Hedley, from which some high values in gold were found across good widths; the *Apex* and *Nelson* groups (see Annual Reports, 1919, 1922, 1924, 1926 to 1928, 1930, 1931 to 1933); *Star of Hope* group at the headwaters of Cedar creek (see Annual Reports, 1904, 1906, 1933); the *Yuniman* group (see Annual Reports, 1929, 1933).

## SIMILKAMEEN MINING DIVISION.

(See Annual Reports for 1933 and under *Pollock*, 1909, 1910, and 1913.) This year five diamond-drill holes were bored to a maximum depth of 25 feet below the upper workings and the shear-zone continuity established to that depth, and one flat hole north 65 degrees west to explore the ground in that direction. After this work was done a crosscut adit, 237 feet lower and 410 feet south 20 degrees east of the upper adit, was driven 946 feet north 65 degrees west, with a branch north 20 degrees west 300 feet long. The old *Pine Knot* adit below was cleaned out and a winze commenced on the lead.

The lower crosscut was driven through dark-coloured highly altered banded sediments occasionally intruded by tongues of diorite, diabase dykes, and gabbro. Numerous narrow shear-zones, filled with quartz, calcite, and lesser amounts of pyrite, arsenopyrite, and containing low values in gold and silver, were intersected. The north-west drift coincided with the downward extension of the ore-body found above; hence the reason for deeper exploration.

Seven men are working under the supervision of Frank Dollemore.

This company, with headquarters at 417 Metropolitan Building, Vancouver, Hedley Gold Hill and a capitalization of 2,000,000 shares, has acquired eight located claims, the *Gold Hill Mining Co., Ltd.* *Gold Hill Nos. 1* to 8, adjoining the Gold Mountain Mines on the south-west and to the west of Henri creek, which flows into the Similkameen river from the south about 2 miles north-west of Hedley. The claims are reached by following the Gold

Mountain Mines road up the west side of Henri creek from the Great Northern Railway, and thence by a steep "zigzag" trail to a tent-camp near the workings on the *Gold Hill No. 1*.

The claims are located within an area of well-rounded glaciated summits between 4,000 and 5,000 feet in elevation, cut by numerous well-timbered ravines and short creek branches which flow into Henri creek on the east and Sterling creek on the west.

The geology of the claims is typical of that found elsewhere in this section and is composed of remnants of Mesozoic sediments, including limestone and volcanic rocks underlain and intruded by diorite and quartz porphyry. The mineralized area upon which most of the work has been done covers, roughly, an area 200 feet square on a dome-shaped hill covered by flat-lying sedimentary beds which are cut off on the south, west, and north by either diorite or andesite, but dip and continue at a low angle to the east towards Henri creek. Mineralization observed consists of pyrite, arsenopyrite, with lesser amounts of sphalerite, galena, and chalcopyrite in quartz in alternating frozen bands in the limestone-beds, from a fraction of an inch to 6 inches in width, in a shear-zone about 6 feet wide.

Work done consists of trenching 100 feet and open-cutting 106 feet across the mineralized zone, and a 25-foot adit and 8-foot winze sunk from it.

The whole occurrence is complex both in mineralization and its mode of deposition. The mineral-bearing bands are generally lenticular, superimposed, and much disturbed, with a pyritized siliceous carbonate gangue between. In some instances the limestone is finely crystalline and contains isolated segregations of arsenopyrite, and in others remnants of diorite.

(See Annual Reports, 1933, and under *Patsy*, 1927, 1928, and 1931.) This Hedley Sterling company, with headquarters at 318 Pemberton Building, Victoria, and capital Gold Mines, Ltd. ized for 1,000,000 shares, was formed to take over the property of the Canada Lode Gold Mines, situated on the east side of Sterling creek, about 2 miles above its junction with the Similkameen river. The claims are located along the east side of the creek where the ground rises abruptly from 2,000 to 4,500 feet elevation within 2 miles. A narrow road leads from the Hedley-Penticton highway up the creek-valley to the lower workings.

The geology of the area consists of Mesozoic sediments and volcanic rocks, striking west of north and dipping steeply to the east. A fine-grained dark-grey dyke-rock containing a considerable amount of calcite occurs along the east contact and has intruded the sediments at the end of the lower adit. This rock is possibly andesite and related to an underlying diorite or gabbro.

Mineralization occurs in four definite, nearly parallel shears with free walls within a distance of 600 feet striking west of north and conforming to the bedding of the sediments. The shears are generally lenticular in shape, both on the strike and dip, and vary from a few inches to 8 feet in width. Within the shears, bands and segregations of pyrite and arsenopyrite from 1 inch to 3 feet in width occur associated with a quartz gangue.

Surface development consists of several open-cuts along the strike of some of the shears within a radius of 200 feet in the vicinity of the main workings. Underground, the No. 3 (elevation 2,599 feet) or upper crosscut adit has been driven about 90 feet; No. 2 crosscut (elevation 2,827 feet), about 20 feet; No. 1 (elevation 2,783 feet), 40 feet, with a winze at the mouth 25 feet deep; No. 0 crosscut (elevation 2,700 feet), 650 feet long, with drifts northerly 130 feet and southerly 34 feet on a shear 75 feet in from the portal. All these crosscut adits have been driven in an easterly direction. No. 3 lies farthest north. No. 2, 80 feet south and 70 feet west of it; No. 1, 15 feet south and 50 feet west of No. 2; and No. 0, in line and 90 feet west of No. 1. Five diamond-drill holes have been bored from a point 150 feet in from the portal of No. 0 adit, as follows: No. 1, 98 feet long, 50 degrees down to the west from the level, passed through the shear at about 70 feet, but due to caving ground the width and values were uncertain. No. 2, 73 feet long, and down 50 degrees to the north-west, cut mineralization containing low values in gold between 28 and 48 feet, followed by 1 foot of arsenopyrite and quartz assaying 0.30 oz. gold per ton. The end of the hole caved before reaching the main shear. No. 3, depth unknown, up 50 degrees to the east, passed through sections of oxidized low-grade ore. No. 4, 78 feet long, up 55 degrees to the north-east, cut 2 feet of ore assaying 0.11 oz. gold per ton between 5 and 7 feet and quartz and pyrite between 49 and 59 feet. The end of the hole caved. No. 5, depth unknown, up 55 degrees to the south-east, cut ore between 4 and 7 feet assaying 0.35 oz. gold per ton and between 18 and 20 feet assaying 0.91 oz. gold per ton and

0.50 oz. silver per ton (Dan McKinnon).

In the No. 0 sediments, occurring at intervals, a dyke, probably andesite, probably andesite. The face of the dyke is

In the drifts 4 to 10 feet and country-rock. A sample of ore from the south drift, 10 feet deep, assaying 0.50 oz. gold per ton across a sample taken from

Future work is raising on the inestimable widths of the swell both on the

The gabbro is up to the present

#### Cousin Jack.

Manning, on the *Morning*, No. 265 Wisconsin, Florence

The claims are on a mountain. A shears frequent occurrence of recent-growth

The rocks are of the series mentioned in a northerly and the strike and dip from 2 inches to

On the surface adits, 75 and 100 adjoining claims has been uncovered except the shaft drifting on the

A general sample 0.20 oz. per ton; of vein-matter at 0.50 oz. per ton;

The general Boulder granite appears to war

A considerable group, owned by the Similkameen adit have been of feldspar gangue to the south-east

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of the earlier fissures are now healed and only very rarely carry gouge, they are hard to detect; often, particularly on Stemwinder Mountain, they are closely associated with steeper systems of apparently the same age. When mineralized, the two or more sets may form together a sort of box-work of patchy mineralization, with local extensions guided by intensity of alteration, by igneous contacts, and by sedimentary structure. Flat fissures are to be found also in outlying parts of the camp, some of which contain quartz veinlets, so it does not appear as though the early fracturing along flatly-dipping planes was restricted solely to Nickel Plate Mountain, but that the basic fracture-pattern is rather widespread. In the *Nickel Plate*, however, these fractures follow more or less closely both bedding and sedimentary-diorite contacts.

Quartz veins are rare but not absent in the central part of the camp. In the darker argillaceous sediments mineralization is almost wholly restricted to quartz veins, although rare bands of silicate rock may contain disseminated sulphides. In the argillites the zones of metamorphism are of different character and extent; alteration is not so intense, and mineralization, in the form of quartz veins, occurs in frequently irregular shear-zones. Mineralization has been encountered within granodiorite on the *Mission* and *Marathon* groups of claims, and may well be early Tertiary in age. The age-relation between this mineralization and that found beyond the borders of the granodiorite batholiths is not known.

The Hedley Chief Mines, Limited, holds nineteen claims that extend across the property of Hedley Amalgamated from the gravel benches immediately west of Hedley to the summit of Stemwinder Mountain. The lower part of the ground rises steeply from the gravel benches to precipitous bluffs which are composed of well-exposed and locally contorted calcareous sediments. The upper section of the property to Stemwinder Summit is one of steep grassy slopes underlain predominantly by calcareous and argillaceous sediments, but including some diorite.

Surficial work has been done at several widely-separated points which, due to scarcity of outcrops, cannot be correlated. One open-cut, 3,500 feet south of the summit at an elevation of 3,900 feet, shows a flat, rather weak shearing in diorite carrying a little scattered arsenopyrite and pyrite. Fifty feet north-west is a cut in fine-grained banded silicate rocks, nearly vertical, cut by fine calcite stringers and with traces of mineral; between these cuts is a feldspar-porphry dyke 15 feet wide. Above, near the central gully, elevation 4,275 feet, is a 20-foot cut on a porphyry dyke. The sediments here strike about north 15 degrees east and are vertical, and cross-fractures trend north 60 degrees west and dip 70 degrees south-west; stripping near by shows some pyrite-pyrrhotite mineralization, including traces of chalcopyrite and arsenopyrite, in green silicate rocks, some of which is related to the fissuring. Nearer the gully at the same elevation is a 25-foot adit driven east into crushed sediments.

Just below the summit of the mountain on the *Skyline* claim is an old shaft about 15 feet deep in silicified diorite, part of the same body that forms a rib on the upper part of the ridge and connects apparently with larger bodies on the 20-Mile slope; alteration, and some pyrrhotite and pyrite, is parallel to a north-westerly-trending andesite dyke 4 feet wide. On the summit of Stemwinder Mountain is a diorite porphyry that appears to be related to the younger granodiorite, a large body of which lies to the north-west.

See Annual Reports, 1933 and 1934. This company is capitalized at 2,000,000 shares of 50 cents par value, of which 1,810,000 are outstanding. The office of the company is at 626 Pender Street West, Vancouver; G. Arnold Birks is president and J. C. Oswald is secretary-treasurer. The property, comprising fourteen claims and fractions, lies on the south side of Similkameen River, 2 miles west of Hedley. The workings are between 2,000 and 3,000 feet south of the river, at an elevation between 2,500 and 3,250 feet, on the west bank of Henri Creek. Henri Creek flows in a small narrow valley, on a bench of which the camp is situated; the ground slopes at angles of 20 to 40 degrees to the western valley-rim, which is just above the uppermost working. Timber is abundant and water is sufficient for mine and camp use. An extensive flat on the river-bank provides a site for the mill and attendant camp.

An excessively steep switchback wagon-road, 1½ miles in length, leads from the river-flat to the mine. The mill-site is reached by a road 2¼ miles in length from a bridge across the river at Sterling Creek.



*Geology.*—The property is underlain by a thick series of sediments that strike in general north-easterly and dip steeply to the south-east. The whole series is locally contorted, although the general attitude in the vicinity of the workings is quite uniform. These dark-coloured rocks with blocky fracture are predominantly argillites, but calcareous and, less commonly, cherty members are encountered; local bands of sedimentary breccia appear to follow the bedding. Southerly from the workings about 1,000 feet, talus-slopes and rare outcrops are of thin-bedded slaty argillite. Metamorphism is in no place extreme, and garnetite and silicate rock are not produced.

Intrusive into the sediments is an irregular body of diorite, variable in character, but similar to the diorites near Hedley. This is a stock-like mass with a westerly and a southerly prolongation, in the angle between which lies the vein system.

The mineralization occurs as quartz-filled shear-zones in the sedimentary rocks. The dip is 50 to 75 degrees westerly to north-westerly, across the bedding of the formation. These shear-zones pass into the diorite body, but in that rock are not mineralized except near the contact. A nearly flat subsidiary fracture system is mineralized with quartz stringers which are unimportant; these flat stringers in many cases roll into or are connected with steep stringers of the same age.

The quartz is as a rule watery and occurs as veins or, just as frequently, breccia-filling or a system of veinlets and lenses in rock. Mineralization includes arsenopyrite, pyrite, sphalerite, and, rarely, chalcopyrite and galena. The mode of occurrence in the quartz is very irregular, as scattered grains, lenses, or segregations, and also as seams parallel to the vein-walls. Sphalerite is not abundant and is apparently not necessarily indicative of value. Considerable of the gold is free (upon advice from Mr. Asselstine) and in an exceedingly fine state, but free gold is rarely seen in hand specimens. One exceptionally rich pocket encountered on No. 4 level consisted of massive arsenopyrite studded with free gold. There is some alteration of the walls of the shear-zone, but this is not always a prominent feature.

The property includes the old *Pollock* group, on which work was done, principally on the *Pine Knot* vein, prior to 1913. A slight amount of work was again done in 1927 and 1931 and the group was taken over in 1933 by the present company, which, after some exploratory work, bonded the property in 1935 to the Consolidated Mining and Smelting Company of Canada, Limited. This company, after doing 750 feet of diamond-drilling, relinquished the option late in 1935. Since that time Gold Mountain Mines, Limited, has further developed the property and has built a 60-ton mill that commenced operation early in January, 1937.

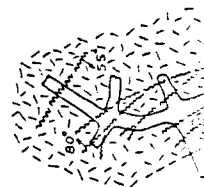
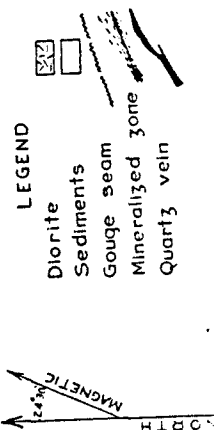
Four veins are known on the property; only one of which, the *Maple Leaf*, has received much attention.

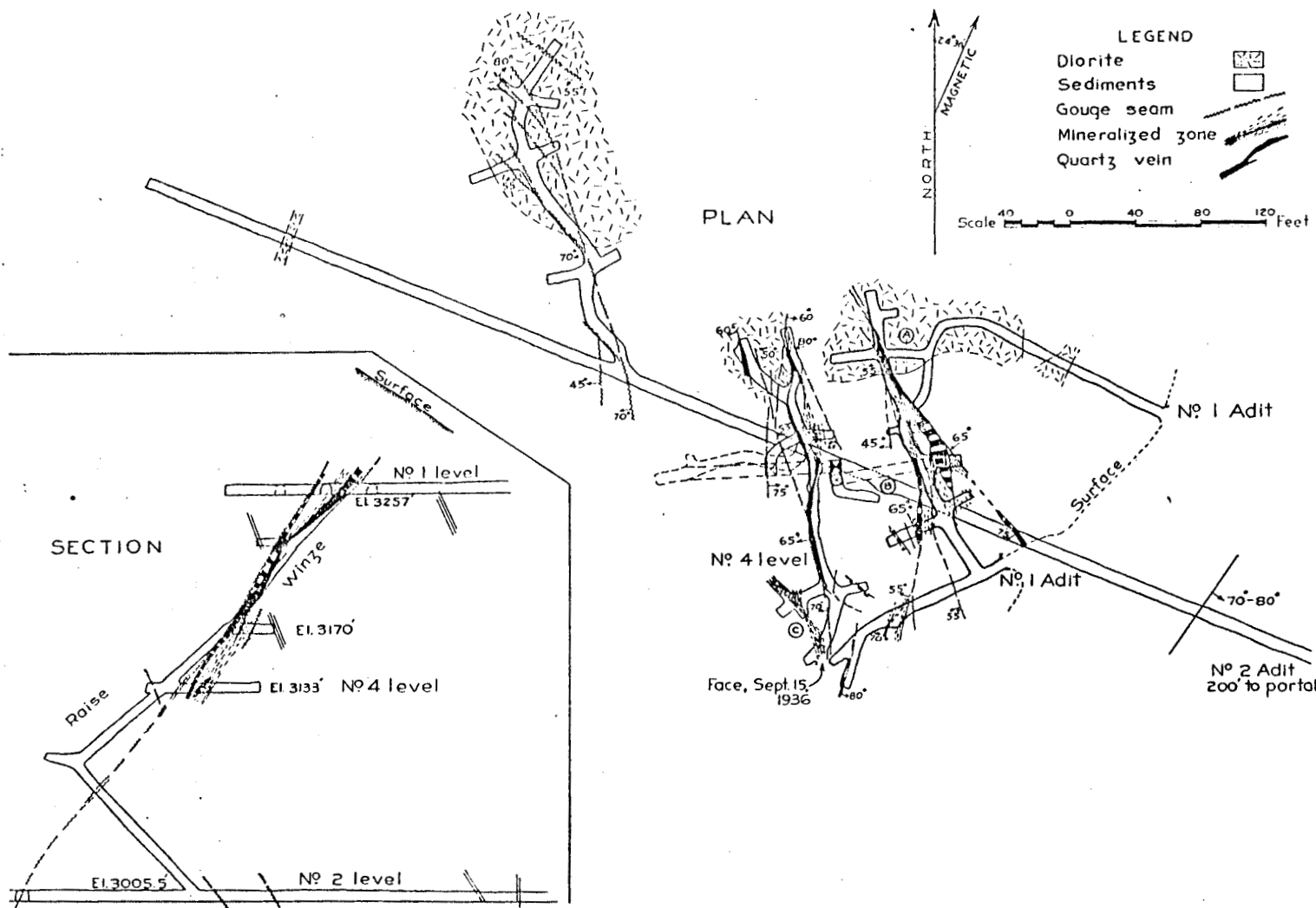
The *Pine Knot* vein, which strikes north 25 to 30 degrees east and dips north-westerly at 50 to 65 degrees, is exposed by old workings which include an adit with 120 feet of drift, and by cuts, shafts, and short adits over a length of 600 feet, most of which are in sediments. On the north-east end, in diorite, the vein pinches. It varies from a foot or so to 12 feet in width, the greater width when following an andesite dyke; mineralization of the quartz is not heavy. The only work done in recent years, by the present company in 1936, is a 50-foot winze sunk from a 30-foot adit. Channel samples in a short crosscut in the bottom of this winze returned:—

- (1.) Sixty inches, horizontal, on hanging-wall of vein, quartz and bleached rock and gouge: Gold, 0.02 oz. per ton; silver, 0.2 oz. per ton.
- (2.) Forty-five inches, succeeding, to horse of waste: Gold, 0.03 oz. per ton; silver, 0.2 oz. per ton.
- (3.) Thirty inches, horizontal, on foot-wall below 58-inch horse of waste: Gold, trace; silver, trace.

Two small and unimportant veins lie between the *Pine Knot* and *Maple Leaf*. These occurrences are similar to the others, but widths rarely attain 1½ feet.

*Maple Leaf Vein.*—This is an irregular, branching shear-zone striking about north-south and dipping 60 degrees to the west. Numerous gouge-seams occur in the zone and pass into the walls. Much of the mineralization is, properly speaking, quartz-filled breccia. The accompanying map, from transit surveys by the company, shows the nature and extent of the mineralized sections of the zone better than a purely verbal description. The zone itself varies in width up to about 30 feet and strongly mineralized portions of the zone (i.e., referring





Gold Mountain Mines, Ltd. Plan and Section of Workings on Maple Leaf Vein, based on Company's Surveys.

particularly to quartz) attain single widths as great as 12 feet. In the greater part of the zone mineralization is associated with quartz only, alteration is not intense, and quartz and wall-rock are sharply distinguished. In one section of No. 4 level at (C) on the accompanying map there is strong alteration and some mineralization within the rock gangue. There appears to have been a considerable amount of replacement in this section. Exploration has been close to the contact with diorite and it is in the general vicinity of this contact that the strongest mineralization has been encountered. Mineralization is not, however, continuous on the dip of the vein in this section.

The workings include two adits. No. 1 adit, elevation 3,255 feet, explores the shear-zone over a length of some 200 feet, but does not give a continuous section for that distance. From this adit-level a winze is sunk 110 feet on the most promising section. No. 2 adit, elevation 2,999 feet, 970 feet in length, passes through the barren shear-zone which is explored by drift across the diorite-contact for 200 feet. A raise later was driven to connect with the bottom of the winze from No. 1, and a sub-level, known as No. 4 level, elevation 3,133 feet, was 205 feet long at September 15th, 1936. Since that date, besides further drifting south on No. 4 level, another sub-level, some 40 feet lower, was driven to tap the shear-zone; at a still later date a crosscut is reported to have encountered mineralization on No. 2 level some 100 feet south of the original crosscut.

Several short diamond-drill holes were put down by the company at an early stage of development from a station at (A). Four holes were drilled from (B) by the Consolidated Mining and Smelting Company to cut the shear-zone south of the crosscut, both level with and above No. 2 level; a fourth hole was drilled on line from the face of the crosscut. The results of all of this drilling are not known. The shear-zone is now, on No. 4 level, explored farther south and higher than where cut by the southernmost drill-hole from the drill-station at (B).

Distribution of quartz in the various parts of the shear-zone is irregular and gold values are erratic. Channel samples taken by the writer illustrate this latter fact:—

(1.) Bottom of winze, south side, 42 inches horizontal on hanging-wall of zone: Gold, 0.82 oz. per ton; silver, 0.4 oz. per ton.

(2.) Succeeding 50 inches horizontal: Gold, 0.09 oz. per ton; silver, 0.6 oz. per ton.

(3.) Succeeding 85 inches horizontal: Gold, 0.05 oz. per ton; silver, 0.2 oz. per ton.

(4.) Succeeding 16 inches horizontal on extreme foot-wall: Gold, 0.015 oz. per ton; silver, 0.2 oz. per ton.

(5.) Seam of heavy sulphides, 1½ to 3 inches wide, in hanging-wall section: Gold, 4.84 oz. per ton; silver, 1.6 oz. per ton.

(6.) No. 4 level, where zone was first encountered, 48 inches cut normal to a flatly-dipping strand of quartz 6 feet from hanging-wall: Gold, 0.005 oz. per ton; silver, 0.2 oz. per ton.

(7.) Same location, 52 inches horizontal on hanging-wall section of zone: Gold, 0.03 oz. per ton; silver, 0.2 oz. per ton.

(8.) No. 4 level, 40 feet south of last point, 22 inches: Gold, 0.80 oz. per ton; silver, 0.5 oz. per ton.

(9.) Fifteen feet south of (8), 34 inches: Gold, 0.30 oz. per ton; silver, 2.3 oz. per ton.

(10.) No. 4 level, face of small drift north of (C), 60 inches: Gold, 0.02 oz. per ton; silver, 0.1 oz. per ton; zinc, 0.7 per cent.

It is not a simple task to determine average values over more than limited sections of the shear-zone. Very careful, close-interval sampling would be necessary to obtain general figures, and development has not exposed the zone sufficiently to make this possible. Occasional very high assays are reported, and proper weighting of these in averages is a problem. Physical difficulties in mining branching ore-bodies in sheared ground cannot at the present time be assessed, but it is safe to say that mining will not always be easy. The writer consequently is not able to state any definite figures regarding tonnage of proven commercial ore.

No. 4 level is, at the north end, near the bottom of mineralization in this section of the mine. Mineralization on this level is not quite as strong as on No. 1 level, and, except for a central, rather narrow, vein-line section 120 feet long, is very irregular. Development here is at a somewhat critical stage, because continuation of minable ore southward and downward from the south end of No. 4 level is important.

It is not known whether the shear-zone continues to the south. Mr. Dollemore at one time did some ground-sluicing about 1,000 feet south of No. 1 adit, which disclosed some heavy

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Hedley Gold Hill  
Mining Co., Ltd. D

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Mines, Limited, w  
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quartz, apparently nearly in place, and roughly on the line of strike of the *Maple Leaf* vein. Further work here would be justified, in spite of the difficulty of working on an excessively steep side-hill, at least to the point of proving the origin of this quartz. Further drifting southward on No. 1 level is not feasible because of the nearness to grass-roots, and it is evident that exploratory work is best carried out on No. 2 level.

A crew of some thirty men is employed at the mine under the superintendence of Frank Dollemore. Late in the year a concentration plant near the river was designed by and built under the direction of W. J. Asselstine, a tram-line was installed, and power was brought in by a short branch line from that of the West Kootenay Power and Light Company. At the mine a 580-cubic-foot Holman compressor is driven by a 100-horse-power 2,200-volt motor. A 2-bucket jig-back gravity-tram with 1,000-lb. buckets has a cable distance of 2,900 feet between terminals over a vertical rise of 1,200 feet. Ore from an 85-ton coarse-ore bin is crushed to  $\frac{3}{4}$  inch by jaw-crusher and is elevated to a 200-ton fine-ore bin, and from there it goes to a 6-foot by 36-inch Hardinge ball-mill with screen. Undersize is fed to a Denver unit cell and oversize and unit-cell tailings go to a Hardinge classifier, the overflow from which goes to a 5-foot Denver conditioner. Flotation is in six Denver cells, concentrates from which go to a 12-foot Denver thickener and 3-foot Oliver filter; flotation tails flow over blanket-tables. Concentrates are sacked and hauled by truck to Hedley, whence they are shipped by rail to Tacoma. The mill is operating at about 65 tons per twenty-four hours.

This company is capitalized at 2,000,000 shares, of which 950,000 are out-Hedley Gold Hill standing. John W. Gallagher, of Hedley, is president of the company and Mining Co., Ltd. McAlpine and Elliott, of Vancouver, are the fiscal agents. The property consists of eight claims, the *Gold Hill Nos. 1 to 8*, situated on the south side of Similkameen River,  $1\frac{3}{4}$  miles from the river and  $3\frac{1}{2}$  miles south-west of the town of Hedley. Access is by pack-trail  $2\frac{1}{2}$  miles in length from Sterling Creek over lightly-wooded, grass-covered slopes; another, steep trail  $1\frac{1}{2}$  miles in length, leads from the camp of Gold Mountain Mines, Limited, whose property adjoins on the north. The showings are on the summit of a low rounded hill at an elevation of about 4,700 feet in an open grass-covered country with few outcrops. The hillsides are not steep, but small bluff slopes create an irregular, hilly topography. A tent-camp is located in a small draw below the workings and water is obtained from a spring.

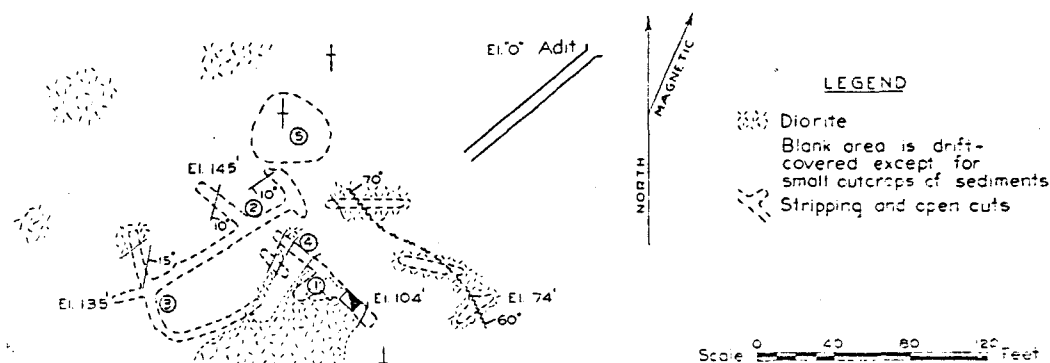
The most abundant rocks are members of a thick sedimentary series comprising chiefly argillites and rare calcareous beds. The strike in general is north-south and the dip vertical, but there is marked local contortion. Intrusive into the sediments is a medium to fine-grained diorite that forms irregular bodies several tens to hundreds of feet in extent. The accompanying sketch-map does not clearly show relationship of diorite and sediments, but it appears that there is one body of diorite to the south of the principal cuts and one body, with a northerly extension, on the north-west. Three hundred and fifty feet north-west of the principal showings are three cuts in sediments, some 60 feet north of which is more diorite.

The impression is at first gathered that this is an area of sedimentary remnants existing as the roof of a large intrusive mass. The writer does not, however, believe that this is so. The region as a whole contains many dykes and stock-like bodies as well as some flat sheets of diorite, and it is his opinion that here, in an area of structural disturbance, there is a complex of interconnecting intrusive bodies rather than one large mass.

*Workings.*—A number of shallow cuts and strippings have been made, some in diorite and some in sediments. A cut (1) from which a 12-foot shaft has been sunk discloses a large mass of practically solid calcite which forms a rhombic outline about 20 feet on a side and, except for the north-west corner, is entirely in diorite; the margins of this mass are not perfectly regular and the extension in depth is not known. The calcite carries practically no sulphides where exposed in the open-cut, but in a small chamber at the bottom of the shaft there are lumps of pyrite and pyrrhotite up to fist size or larger. There is some shearing of the wall-rocks, and a strong sericitization which produces white clayey granular material in which the original dioritic texture can just be recognized. This complex of sericite, kaolin, feldspar, and quartz contains no calcite. There is little evidence of mineralization in the diorite except at the contact with massive calcite, although some sheared diorite is now oxidized to a reddish to yellowish earthy material. The occurrence of this large rhomb of calcite is abnormal, and it is not known whether it is a cavity-filling or a replacement.

North-west of the shaft in a long cut, at (2) and (3), argillites and some calcareous rocks have been brecciated and filled with calcite. The sediments which elsewhere dip vertically are here flexed into an east-west fold that plunges westerly, the southern limb of which is nearly flat. In this flat section calcite fills between the bedding-planes and also in transverse breaks to form a coarse-textured, calcite-filled breccia. Mineralization is erratic and consists of pyrite in small seams and lumps to fist size, small amounts of pyrrhotite, and traces of arsenopyrite, chalcopyrite, sphalerite, and galena. At (4) there is similar breccia with less calcite. South of (3) the mineralization, together with calcite-filling, decreases and in the cuts north of (3) and (2) it also becomes less. At (4) there are fine, vuggy quartz stringers which contain some fine chalcopyrite, galena, pyrite, and arsenopyrite. At (5) a bench has been stripped that shows the flexure of north-south sediments into an east-west anticlinal axis; there is a little pyrite here. In the three small cuts to the east, on the flank of the hill, there is exposed a shear-zone in diorite. This zone is a foot or so wide in partly altered diorite and contains a little pyrite. In the cuts aforementioned, 350 feet to the north-west, there is a little mineralization in sediments, chiefly as rusty streaks.

An adit 100 feet below the small shaft has been driven from a draw at the base of the hill through dense, grey calcareous rocks which contain thin bands of diorite and are speckled with a little pyrite and occasional very fine pyrrhotite, particularly along thin seams of alteration. This adit was 85 feet long at the time of the writer's visit. It was later extended to a point immediately below the open-cut at (1). It is reported that no diorite was encountered,



Hedley Gold Hill Mining Co., Ltd. Sketch-plan of Principal Workings.

but that there is some contortion in the sediments and some mineralization similar to that on the surface. It appears from this that the diorite is not steeply dipping and must extend downwards to the west.

Four samples returned the following: No. 1, selected sample from (3), taken to include as much arsenopyrite as possible (about 20 per cent. pyrite with small amounts of pyrrhotite, arsenopyrite, chalcopyrite, sphalerite): Gold, 0.04 oz. per ton; silver, 0.2 oz. per ton. No. 2, taken from shaft, selected sample of heavy red oxidized material in diorite: Gold, 0.19 oz. per ton; silver, 0.8 oz. per ton. No. 3, selected sample from shaft of pyrrhotite and pyrite, taken to favour pyrrhotite, from within and at the margin of heavy calcite: Gold, 0.035 oz. per ton. No. 4, from same locality, selected sample of practically pure pyrite taken from solid calcite: Gold, 0.08 oz. per ton.

Occasional samples have been reported from this ground that carry higher values than those taken by the writer. These have all been, however, selected samples. Total percentage of sulphides is not great and the calcite does not appear particularly favourable. It is noticed that when there is a slight amount of quartz the mineralization is more diversified and more promising than when in calcite alone. This leads one to believe that should any quantity of quartz be found mineralization would prove more interesting.

Half-way between the workings and Gold Mountain mine, an east-west fold is observed in thin-bedded argillites, and it seems likely that this is the same line of crumpling as that at Gold Hill. Although it may be that the presence of diorite is a necessary factor to mineralization, this structural axis might be worth prospecting.

The Mission. Wa sid.

The showings are at Creek, the first stream distance back from the and timber cover was covered slope, separated

A foot-bridge crosses valley-wall to an elevated Jameson Creek, in view

The showings are on outcrops both north and diorite, brownish-grey as inclusions of roof. One such mass lies dykes are intrusive geological age of the within the granodiorite.

Scale 0 200 0

Granodiorite

Summit of Gully

(see sketch-map). has been the result known as the Barn been sunk; other on the accompanying

There is a strong material in which white mica, a little as bands and masses abundant. The diorite oxidation which includes pyrite, fine and chalcopyrite, cent. of a zone several a 12-foot shaft has 250 feet, disclosing feet. The zone is are not readily developed a 20-foot shaft to show on the west several of the tr

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\$225.00 Per Year

NO.13(1980)  
 JANUARY 18,1980

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 JANUARY 18,1980

## WESTERN CANADIAN INVESTMENTS

### TERRA MINING AND EXPLORATION LIMITED

Nine Months Ended Sept.20,	1979	1978
Met Concentrate Revenue	\$5,188,735	\$4,250,317
Production Costs	3,241,638	2,499,902
Administration Expenses	371,675	391,867
Interest Expenses	618,184	455,793
Depreciation & Depletion	1,254,182	1,038,081
Share of Joint Vent. Income	129,239	1,398,281
Deferred Income Tax(Recovery)	(70,000)	517,000
Net Income(loss)	\$ (97,705)	745,955
Earnings (loss)Per Share	(2¢)	20¢
Working CapitalDeficit	\$ 1,141,982	\$1,749,675

In a report dated Jan.2,1980, from Alvin Harter, president of Terra Mining and Exploration Limited, covering the nine month operation of the company's silver mine on Camsell River, 350 miles north of Yellowknife, N.W.T., it is stated that during the quarter ended Sept.30, 1979, mining operations continued to concentrate on the low-grade 201 silver-copper stope, in order to provide mill-feed while exploration and development proceeded on the previously reported high grade 15 vein intersection at

the Silver Bear Mine and the Smallwood Lake vein system at the Terra-Norex joint venture property. Third quarter production of 102,926 ounces of silver and 266,386 pounds of copper resulted in a marginal profit and reduced the previously reported loss of \$233,746 at June 30, to \$97,705 or 2¢ per share.

Unforeseen delays in bringing the Smallwood Lake property into production have resulted in an abnormally low production year. It is anticipated a return to normal production levels in the area of 1,500,000 oz. silver for the 1980 fiscal year will be achieved. At current silver prices this would represent a gross production value of \$65,000,000. New silver prices are also resulting in re-assessment of mining the various high tonnage copper-silver sulphide zones at the mine. These zones also carry significant concentrations of recoverable cobalt.

In December the company started drilling on one of the silver-gold concessions in the Minas Nuevas group near Alamos, Mexico. The first hole was completed to 1,000 feet and assays are expected shortly. The company is also continuing to assess the possibility of further exploration of the 50% owned Bullmoose Lake gold properties operated through a joint venture agreement with Duke Mining Ltd.

### BANBURY GOLD MINES LTD.

#### NO.4 Drill Hole Assay Results

Depth	Width	Oz. Gold/t	Oz. Silver/t
43'-48'	5 ft.	0.048	Trace
48 -53	5 ft.	0.036	Trace
53 -58	5 ft.	0.064	Trace
71 -79	8 ft.	1.849	0.57

hole No.7, failed to encounter commercial mineralization when drilling was halted at 400 feet. This site is the most northerly one drilled on the Martin vein to date. Classification of hole No.4 by Mr. Jones did however, produce some interesting results which were previously undetected and unreported. (See table above)

Hole No.9 has been driven to 263 feet with an objective of being continued to 400 ft. Some commercial mineralization has been detected. (No assay results for this hole have been reported to date)

Douglas A. Dewar, president of Banbury Gold Mines Ltd has reported that Harold Jones, P. Eng., of G.A. Noel and Associates Inc., was recently employed to catalogue core produced from the property located along Henri Creek, 4 km west of Hedley, B.C. Hole No. 8 which was driven vertically from the same site as

MERCEDES GROUP - HEADLEY AREA - SIMILKAMEEN/OSOYOOS  
MINING DIVISION, BRITISH COLUMBIA

SOIL SAMPLE SURVEY

A reconnaissance soil geochemistry survey was carried out over the Mercedes Claim Group during the period October 4 to October 12, 1979. The purpose of the survey was to locate zones of gold, silver and copper. The claim group is located south of Headley, British Columbia.

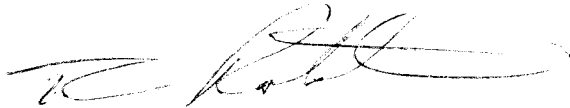
The survey was carried out along the existing roads which traverse through the property. On the survey, the B horizon was sampled approximately 10 meters off of the high side of the roads at 100 meter intervals. All survey stations were flagged and marked with the appropriate survey grid co-ordinate. In addition, with helicopter support, soil samples were taken throughout the property at locations accessible to the helicopter. Due to the remaining time in the 1979 exploration season, this was the most expedient method to collect useful data to plan an exploration program for the next exploration season.

A total of 240 soil samples were collected. The samples were placed in brown, wet-strength paper bags with the grid co-ordinates marked thereon. The samples were analyzed for Au, Ag, Cu, using the hot acid extraction method.

All samples were tested by Acme Analytical Laboratories of Burnaby, B.C. The sample is first thoroughly dried and then sifted through an -20 mesh screen. A measured

amount of the sifted material is then put into a test tube with subsequent measured additions of hot aqua regia. This mixture is next diluted with water. The parts per million (ppm) copper, gold and silver was then measured by atomic absorption. The results were plotted on a map scale of 1:10000 topography map.

The survey was conducted by a two man crew of Columbia Geophysical Services Ltd. under the direct supervision of T. Rolston, Project Manager.

A handwritten signature in black ink, appearing to read 'T. Rolston', with a stylized flourish at the end.

T. Rolston, Project Manager



# Columbia geophysical supplies Ltd.

7050 HALLIGAN STREET, BURNABY, B.C. V5E 1R6

Phone: (604) 526-1732  
or (604) 687-6671

## CERTIFICATE OF QUALIFICATIONS

I, Tom Rolston, of 7050 Halligan Street, Burnaby, B.C. have actively been engaged in my profession since 1953 and state as follows:

1. 11 years with the R.C.A.F. as Instrument and Electronic Technician with crew supervisory capacity in various electronic and instrumentation systems.
2. Two years with Kerr-Addison Mines Ltd. as Electronic Technician servicing, repairing and maintaining various type of geophysical instruments, with two seasons as Field Supervisor and Geophysical Instrument Operator in mining exploration, including airborne and ground geophysical surveys, geochemical surveys, geophysical and geochemical drafting and mapping.
3. 10 years with Geotronics Surveys Ltd. as Field Supervisor of geophysical and geochemical surveys and Instrument Operator of various geophysical instruments such as airborne and ground systems magnetometer, electromagnetic, gravity meter, self-potential meter, scintillometer and induced polarization.
4. The past 15 years contracting geophysical survey in close association with mining engineers for various mining companies.
5. President and Manager of Columbia Geophysical Services Ltd.

DATED at Burnaby, British Columbia this *1* day of *FEB* 19*80*.



Tom Rolston, Geophysical Operator and Project Geophysicist  
For: Columbia Geophysical Services Ltd.



To: Mercedes Petroleum Ltd.,  
c/o Tom Rolston  
7050 Halligan St.,  
S. Burnaby, B.C.

File No. 0596

Type of Samples Soil

Disposition

### GEOCHEMICAL ASSAY CERTIFICATE

All soil samples pulverized to -20 mesh.

SAMPLE No.	Cu	Ag	Au										
R 1	205	1.6	.020										1
2	132	1.2	.020										2
3	92	1.0	.020										3
4	126	1.3	.030										4
5	84	.8	.010										5
6	84	.5	.005										6
7	82	.5	.010										7
8	74	.1	.005										8
9	15	.1	.005										9
10	23	.1	.005										10
11	28	.1	.005										11
12	25	.1	.005										12
13	12	.1	.010										13
14	14	.1	.005										14
15	13	.1	.005										15
16	31	.1	.005										16
17	58	.7	.010										17
18	94	1.0	.005										18
19	106	.9	.040										19
20	74	.1	.030										20
21	82	.2	.005										21
22	74	.2	.005										22
23	76	.2	.005										23
24	78	.3	.005										24
25	74	.2	.005										25
26	82	.2	.040										26
27	8	.1	.005										27
28	43	.1	.010										28
29	94	1.3	.005										29
30	92	.4	.020										30
31	106	.5	.035										31
32	42	.3	.005										32
33	74	.3	.005										33
34	68	.3	.005										34
35	76	.5	.020										35
36	70	.4	.005										36
R 37	86	2.5	.005										37
													38
													39
													40

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All results are in PPM.

DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED Oct. 15, 1979

DATE REPORTS MAILED Oct. 22, 1979

ASSAYER Dean Toye

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER



To: Mercedes Petroleum Ltd.,

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6

phone:253 - 3158

File No. 0596

Type of Samples Soil

Disposition

GEOCHEMICAL ASSAY CERTIFICATE

2

SAMPLE No.	Cu	Ag	Au																	
R 38	56	.1	.005																	1
39	90	.3	.020																	2
40	23	.3	.005																	3
41	21	.3	.005																	4
42	25	.4	.005																	5
43	42	.3	.005																	6
44	23	.7	.005																	7
45	13	.2	.010																	8
46	10	.2	.005																	9
47	34	.4	.005																	10
48	23	.1	.005																	11
49	31	.3	.020																	12
50	15	.1	.010																	13
51	22	.4	.010																	14
52	64	.3	.020																	15
53	50	.2	.005																	16
54	74	.8	.005																	17
55	17	.2	.005																	18
56	18	.2	.005																	19
57	35	.4	.005																	20
58	15	.5	.005																	21
59	20	.2	.005																	22
60	25	.3	.005																	23
61	64	.8	.050																	24
62	33	.2	.020																	25
63	34	.1	.005																	26
64	37	.2	.005																	27
65	58	.3	.020																	28
66	56	.3	.005																	29
67	54	.2	.005																	30
68	66	.3	.010																	31
69	22	.3	.010																	32
70	48	.3	.005																	33
71	37	.4	.005																	34
72	60	.6	.005																	35
73	50	.4	.005																	36
R 74	52	.5	.005																	37
																				38
																				39
																				40

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DIGESTION:.....

DETERMINATION:.....

DATE SAMPLES RECEIVED Oct. 15, 1979

DATE REPORTS MAILED Oct. 22, 1979

ASSAYER *[Signature]*

DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER



To: Mercedes Petroleum Ltd.,

File No. 0596

Type of Samples \_\_\_\_\_

### GEOCHEMICAL ASSAY CERTIFICATE

Disposition \_\_\_\_\_

3

SAMPLE No.	Cu	Ag	Au										
R 75	50	.5	.005										1
76	58	.2	.005										2
77	50	.1	.005										3
78	56	.4	.005										4
79	4	.1	.005										5
80	72	.6	.010										6
81	50	.4	.005										7
82	64	.7	.005										8
83	62	.3	.005										9
84	54	.7	.005										10
84A	94	.9	.005										11
85	43	.3	.005										12
86	82	.6	.005										13
87	47	.5	.005										14
88	46	.3	.020										15
89	62	.6	.005										16
90	47	.4	.005										17
91	67	.8	.005										18
92	25	.3	.005										19
93	20	.1	.005										20
94	52	.4	.040										21
95	26	.2	.005										22
96	33	.3	.005										23
97	23	.2	.005										24
98	12	.1	.005										25
99	50	.5	.010										26
100	32	.5	.005										27
101	11	.4	.005										28
102	45	.3	.005										29
103	42	.4	.005										30
104	20	.1	.010										31
105	17	.1	.005										32
106	23	.1	.005										33
107	20	.1	.005										34
108	47	.5	.010										35
109	38	.1	.005										36
R 110	35	.2	.005										37
													38
													39
													40

All reports are the confidential property of clients  
 All results are in PPM.  
 DIGESTION:.....  
 DETERMINATION:.....

DATE SAMPLES RECEIVED Oct. 15, 1979  
 DATE REPORTS MAILED Oct. 22, 1979  
 ASSAYER Dean Toyé

DEAN TOYE, B.Sc.  
 CHIEF CHEMIST  
 CERTIFIED B.C. ASSAYER



To: Mercedes Petroleum Ltd.

ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B. C. V6A 1R6

phone: 253 - 3158

File No. 0596

Type of Samples Soils

Disposition

### GEOCHEMICAL ASSAY CERTIFICATE

SAMPLE No.	Cu	Ag	Au								
R 111	58	1.0	.005								1
112	42	.4	.005								2
113	48	.4	.005								3
114	48	.4	.120								4
115	41	.3	.010								5
116	29	.3	.005								6
117	64	.3	.005								7
118	36	.4	.020								8
119	56	.5	.020								9
120	49	.4	.005								10
121	43	.2	.010								11
122	56	.3	.005								12
123	47	.3	.005								13
124	49	.3	.020								14
125	41	.3	.005								15
126	52	.4	.020								16
127	45	.5	.005								17
128	43	.5	.010								18
129	48	.5	.010								19
130	52	.5	.020								20
131	48	.5	.005								21
132	50	.5	.030								22
133	60	.8	.010								23
134	52	.6	.010								24
135	45	.5	.010								25
136	66	.7	.020								26
137	58	.4	.005								27
138	60	.5	.020								28
139	52	.2	.005								29
140	54	.4	.005								30
141	56	.3	.005								31
142	48	.5	.005								32
143	72	.5	.005								33
144	48	.5	.005								34
145	90	1.1	.005								35
146	58	.5	.005								36
R 147	47	.4	.005								37
											38
											39
											40

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GEOCHEMICAL ASSAY CERTIFICATE

Disposition

5

SAMPLE No.	Cu	Ag	Au								
R 148	70	.5	.005								1
149	29	.3	.005								2
150	62	.5	.005								3
151	70	.6	.005								4
152	68	.4	.020								5
153	46	.4	.005								6
154	72	.5	.005								7
155	Missing										8
156	43	.5	.005								9
157	50	.6	.005								10
158	80	.8	.005								11
159	98	.9	.010								12
160	62	.8	.005								13
161	60	.6	.005								14
162	44	.4	.040								15
163	160	1.0	.005								16
164	68	.6	.005								17
165	76	.2	.005								18
166	90	.7	.005								19
167	100	1.0	.010								20
168	80	.8	.010								21
169	62	.5	.010								22
170	66	.4	.005								23
171	50	.5	.005								24
173	60	.5	.005								25
174	54	.6	.005								26
175	47	.5	.005								27
176	70	.7	.005								28
177	56	.5	.005								29
178	47	.6	.005								30
179	62	.6	.005								31
180	54	.5	.005								32
181	36	.4	.010								33
182	62	.5	.020								34
183	33	.4	.005								35
184	82	.9	.040								36
185	70	.3	.030								37
R 186	74	.5	.020								38
											39
											40

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Type of Samples Soils

Disposition \_\_\_\_\_

### GEOCHEMICAL ASSAY CERTIFICATE

6

SAMPLE No.	Cu	Ag	Au									
R 187	62	.4	.005									1
188	110	.4	.060									2
189	90	.7	.020									3
190	82	.8	.005									4
191	90	.5	.005									5
192	58	.2	.005									6
193	66	.4	.005									7
194	58	.5	.005									8
195	54	.4	.005									9
196	72	.7	.005									10
197	33	.3	.020									11
198	62	.4	.030									12
199	64	.3	.030									13
200	62	.6	.005									14
201	60	.3	.020									15
202	60	.3	.005									16
203	62	.5	.010									17
204	64	.3	.020									18
205	37	.3	.005									19
206	58	.3	.005									20
207	60	.5	.010									21
208	40	.2	.010									22
209	56	.4	.020									23
210	60	.6	.040									24
211	70	.5	.010									25
212	60	.5	.020									26
213	72	.7	.030									27
214	64	.4	.010									28
215	90	.6	.030									29
216	19	.2	.005									30
217	60	.7	.010									31
218	68	1.0	.005									32
219	102	1.7	.010									33
220	88	2.5	.005									34
221	64	.3	.010									35
222	62	.4	.020									36
R 223	74	.3	.010									37
												38
												39
												40

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To: Mercedes Petroleum Ltd.

File No. 0596

Type of Samples Soils

Disposition \_\_\_\_\_

### GEOCHEMICAL ASSAY CERTIFICATE

SAMPLE No.	Cu	Ag	Au									
R 224	80	.6	.010									1
225	72	.4	.010									2
226	70	.3	.005									3
227	78	.5	.005									4
228	66	.3	.005									5
229	64	.6	.005									6
230	62	.9	.005									7
231	60	.4	.005									8
232	58	.5	.005									9
233	74	.5	.005									10
234	52	.5	.100									11
235	56	.4	.020									12
236	70	.3	.005									13
237	68	.3	.005									14
238	62	.5	.005									15
239	68	.5	.005									16
240	84	.6	.005									17
241	66	.5	1.200									18
242	62	.5	.020									19
243	150	2.1	.060									20
244	62	.4	.010									21
245	64	.4	.005									22
246	64	.4	.005									23
247	62	.3	.020									24
248	62	.3	.005									25
249	54	.3	.005									26
250	68	.5	.020									27
251	60	.4	.005									28
252	62	.5	.005									29
253	60	.8	.005									30
254	70	1.1	.010									31
255	114	.7	.040									32
256	66	.3	.040									33
257	34	.2	.005									34
258	42	.2	.005									35
259	45	.3	.005									36
R 260	74	.4	.005									37
												38
												39
												40

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 ASSAYER *Dean Toye*  
 DEAN TOYE, B.Sc.  
 CHIEF CHEMIST  
 CERTIFIED B.C. ASSAYER





To: Mercedes Petroleum Ltd.

File No. 0596

Type of Samples Soils

Disposition \_\_\_\_\_

### GEOCHEMICAL ASSAY CERTIFICATE

8

SAMPLE No.		Cu	Ag	Au														
H - 1		110	1.7	.005														1
2		46	.2	.005														2
3		42	.1	.005														3
4		31	.1	.005														4
5		43	.1	.005														5
6		39	.1	.100														6
7		23	.2	.005														7
8		46	.5	.005														8
9		56	.5	.005														9
10		46	.2	.010														10
11		30	.1	.005														11
12		46	.3	.005														12
13		37	.1	.005														13
14		42	.1	.005														14
15		41	.1	.005														15
16		40	.2	.005														16
17		52	.6	.005														17
18		28	.3	.005														18
H - 19		60	.5	.005														19
																		20
11-9 + 100S	R	82	1.3	.005														21
																		22
																		23
																		24
																		25
																		26
																		27
																		28
																		29
																		30
																		31
																		32
																		33
																		34
																		35
																		36
																		37
																		38
																		39
																		40

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ASSAYER Dean Toy

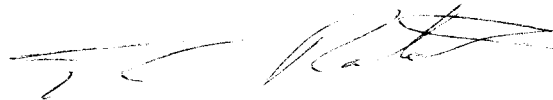
DEAN TOYE, B.Sc.  
CHIEF CHEMIST  
CERTIFIED B.C. ASSAYER

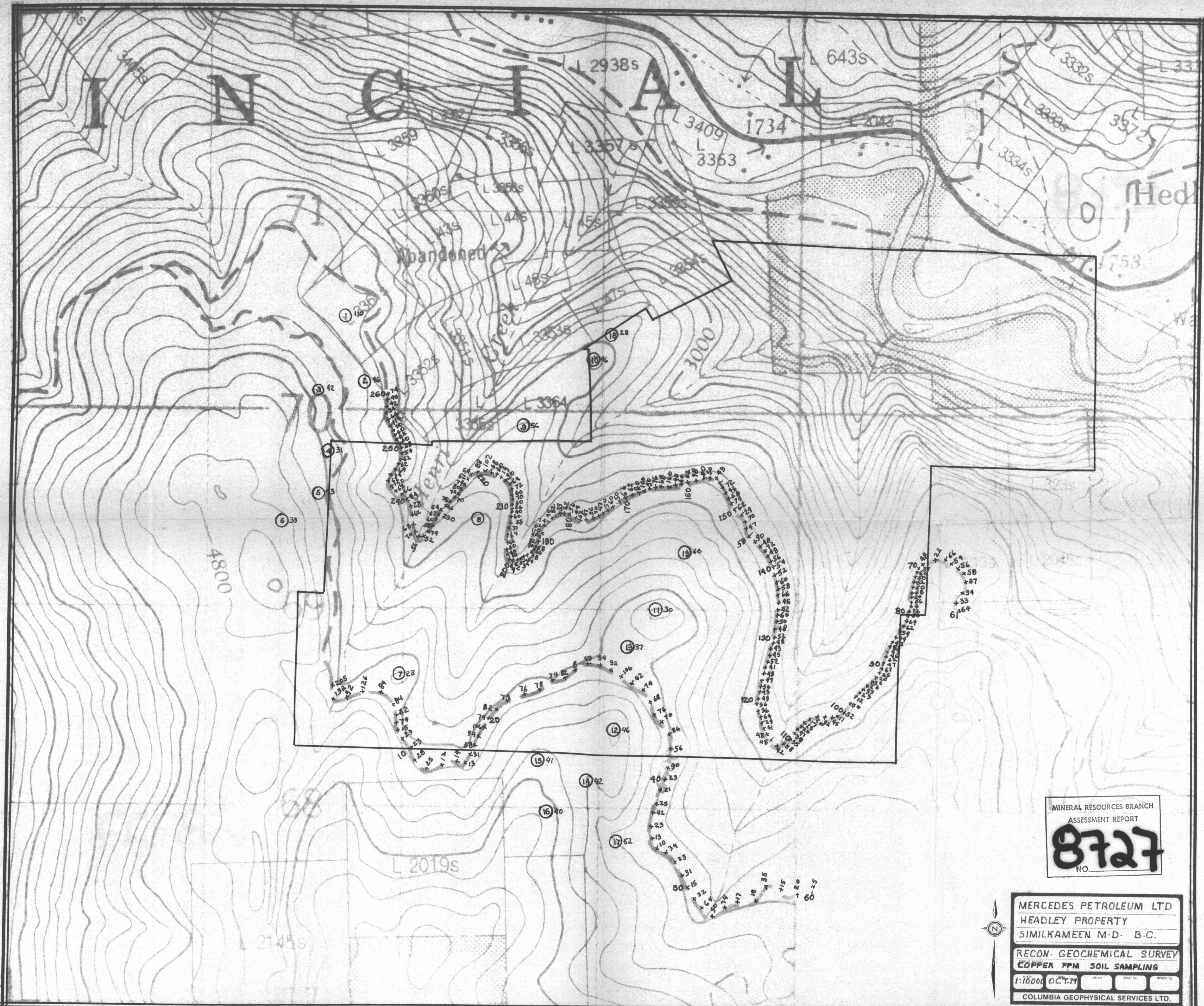
COST BREAKDOWN

MERCEDES GROUP

October 4 to 12, 1979

4 x 4 rental, 7 days @ \$50.00/day	\$ 350.00
Survey materials and 240 soil sample assays	1,200.00
Two-man crew, 7 days @ \$150.00/day	1,050.00
Supervision, T. Rolston, 10 days @ \$250.00/day	2,500.00
Helicopter support, 4 hours @ \$400.00/hour	1,600.00
Plotting and mapping	1,000.00
Geological investigation and report; February 4 to 7, 1980	<u>3,000.00</u>
Total	<u><u>\$ 10,700.00</u></u>





MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

**8727**  
NO.

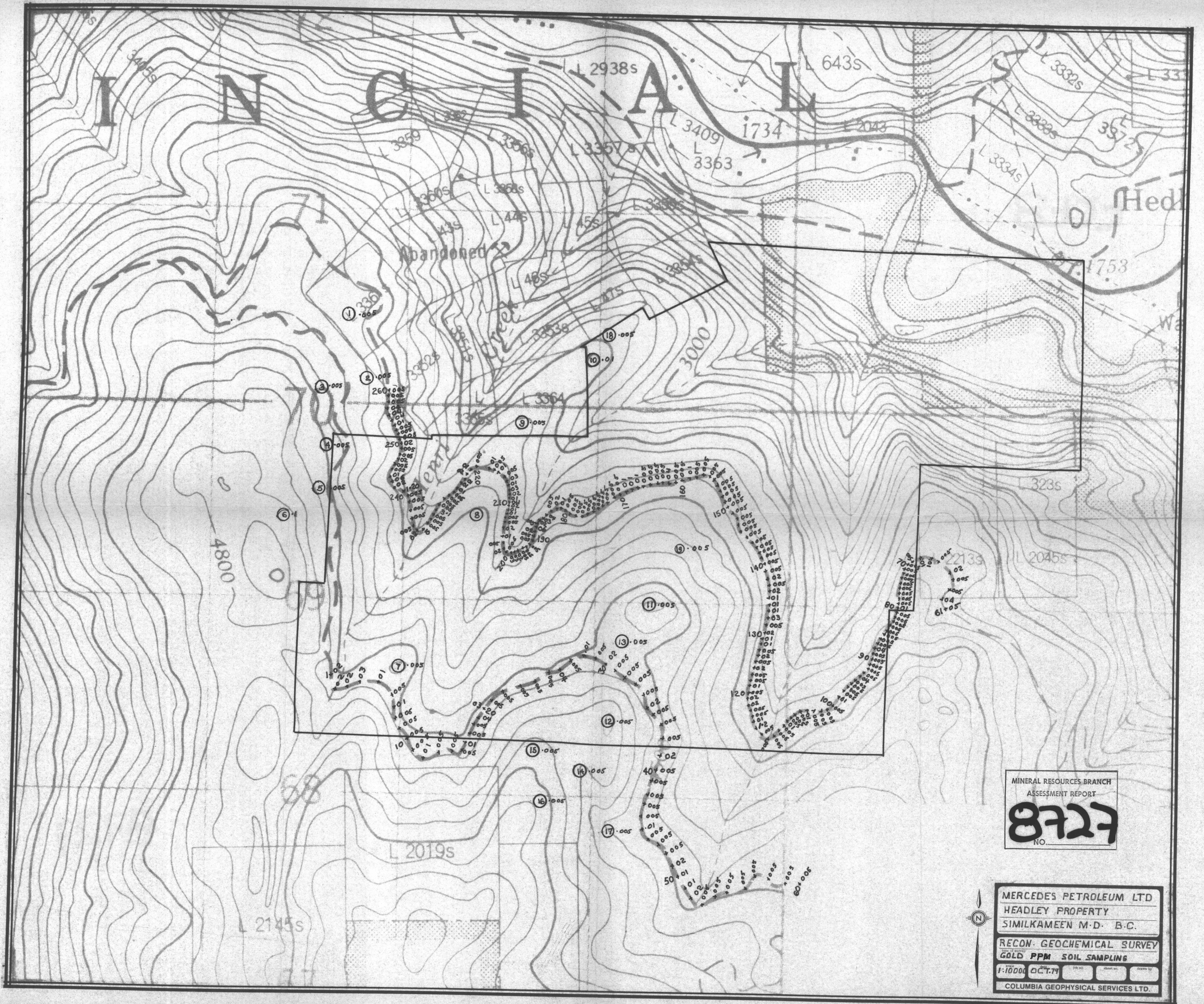


MERCEDES PETROLEUM LTD  
HEADLEY PROPERTY  
SIMILKAMEEN M-D. B.C.

RECON. GEOCHEMICAL SURVEY  
COPPER PPM SOIL SAMPLING

1-10000 OCT. 77

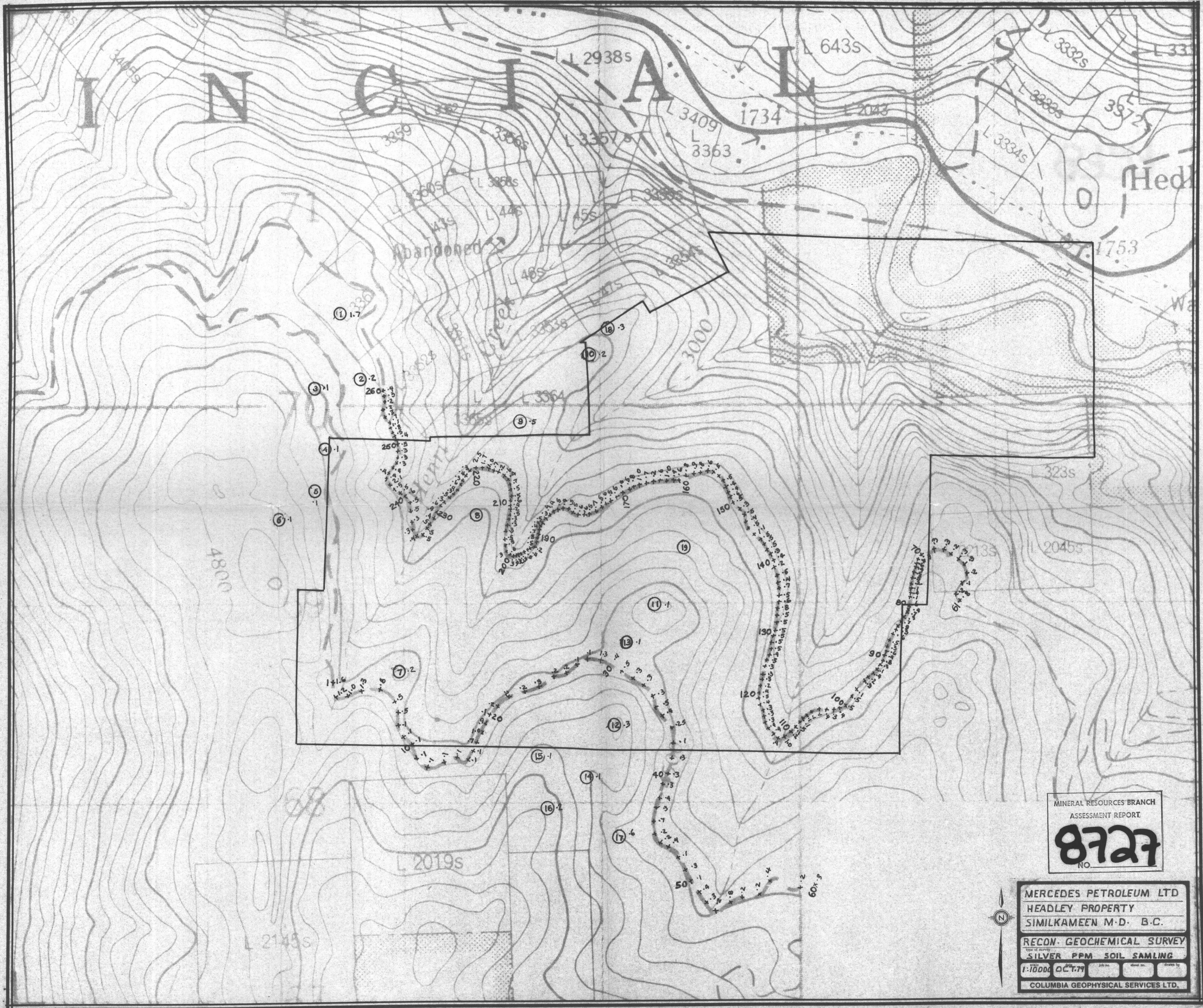
COLUMBIA GEOPHYSICAL SERVICES LTD.



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT  
**8727**  
NO.



MERCEDES PETROLEUM LTD  
HEADLEY PROPERTY  
SIMILKAMEEN M-D. B.C.  
RECON. GEOCHEMICAL SURVEY  
GOLD PPM SOIL SAMPLING  
1:10000 OCT. 79  
COLUMBIA GEOPHYSICAL SERVICES LTD.



MINERAL RESOURCES BRANCH  
ASSESSMENT REPORT

**8727**  
NO.



MERCEDES PETROLEUM LTD  
HEADLEY PROPERTY  
SIMILKAMEEN M-D. B.C.

RECON. GEOCHEMICAL SURVEY  
SILVER PPM SOIL SAMLING

1:10000 OCT. 77

COLUMBIA GEOPHYSICAL SERVICES LTD.