

5811

CANADIAN OCCIDENTAL PETROLEUM LTD.  
MINERALS DIVISION

REPORT ON  
DIAMOND DRILLING AND FOLLOW-UP GEOCHEMISTRY  
ON THE  
LODESTAR OPTION AND THE COL CLAIM  
GROUP

Claim Sheet No. 82E/12W(M)  
Lat.: 49°37'N  
Long: 119°59'W

Claims:

John 1,2,3,8	- Record Number	30
Arnie 4,5,6,7	- Record Number	31
Col 1-30	- Record Numbers	31162-91
Col 35-98	- Record Numbers	31321-31384
Col 31F and 32F	- Record Numbers	31412-31413

Osoyoos Mining Division  
British Columbia

by:  
Colin C. Macdonald, B.Sc.

Department of  
Mines and Petroleum Resources

Covering Work Completed During the Period  
October 20 to December 18, 1975

ASSESSMENT REPORT

NO. 5811 MAP X

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# 7) Section Through Holes Lod 74-1, 75-3	)	
<del>3) Section Through Holes Lod 74-1, 75-2</del>	)	
# 8) Section Through Holes Lod 74-3, 74-1, 75-2, 74-4)	)	in back pocket
# 9 Location map of D014 75-1, 75-2, 75-3		

SUMMARY

The Lodestar Property lies about 12 miles (19.3 Km.) west of Summerland, British Columbia, and is in the Osoyoos Mining Division. The original Lodestar property was obtained through an option agreement, and an additional 94 Col claims were staked around this option.

An induced polarization survey in October, 1974, led to the completion of four diamond drill holes, one of which was weakly mineralized. In June, 1975, a geological and geochemical survey outlined a major area of interest around a granodiorite stock. This was the target for the drilling described in this report. Three holes were drilled vertically in the zone in which previous holes had intersected mineralization. Of these holes, two (75.2, 75.3) intersected the granodiorite stock, and erratic, non-economic copper mineralization was observed throughout this unit. The other hole (75.1) intersected unmineralized diorite.

D.d.h.75-1 averaged 22 ppm Cu, with the highest value being 53 ppm Cu over 5 feet at 160-165 feet.

D.d.h.75-2 averaged 352 ppm Cu, with the highest values being 0.72% Cu over 5 feet from 25-30 feet or 0.37% over 15 feet from 20-30 feet; and 0.54% Cu over 5 feet from 160-165 feet or 0.3% Cu over 10 feet from 160-170 feet or 0.16% Cu over 25 feet from 160-185 feet.

D.d.h.75-3 averaged 61 ppm Cu, with the highest value being 848 ppm over 5 feet from 50-56 feet.

INTRODUCTION

In the fall of 1974 Canadian Occidental Petroleum Ltd., Minerals Division, optioned the original Lodestar property, consisting of eight mineral claims,; John 1,2,3, and 8 (record Numbers 26607-09 and 28288) and Arnie 4-7 (Record Numbers 30032-35) from Cro-Mur Mining and Exploration Ltd. As part of the original agreement, Canadian Occidental Petroleum Ltd. staked an additional 30 minerals claim, Col 1-30 (Record Numbers 31162-91) and two fractional claims, Col 31F and 32F (Record Numbers 31412, 31413) to ensure continuity of the two claim groups. After the initial diamond drill hole, the block was expanded by staking a double row of claims around the existing claim blocks. A total of 64 new claims were staked, Col 35-98 (Record Numbers 31321-31384).

In October, 1974, an induced polarization survey was completed on a grid covering the central part of the claims, by Peter E. Walcott and Associates Ltd., which outlined several weak anomalies. Four of these anomalies were drilled by Interior Diamond Drilling Ltd. in November and December, 1974, with one hole showing abundant disseminated chalcopyrite over 150 feet (44.5 m.).

A geological and geochemical survey was completed over the entire claim group in June, 1975, by employees of Canadian Occidental Petroleum Ltd. This outlined a major area of interest related to a mineralized granodiorite stock, which also contained the only mineralized drill-holes, one of Canadian Occidental's and an older hole by a previous owner.

Hence, to determine the lateral extent of this low-grade mineralization, three more holes were completed between November 19 and December 18, 1975, by Interior Diamond Drilling Ltd. This report will describe the results of this diamond drilling.

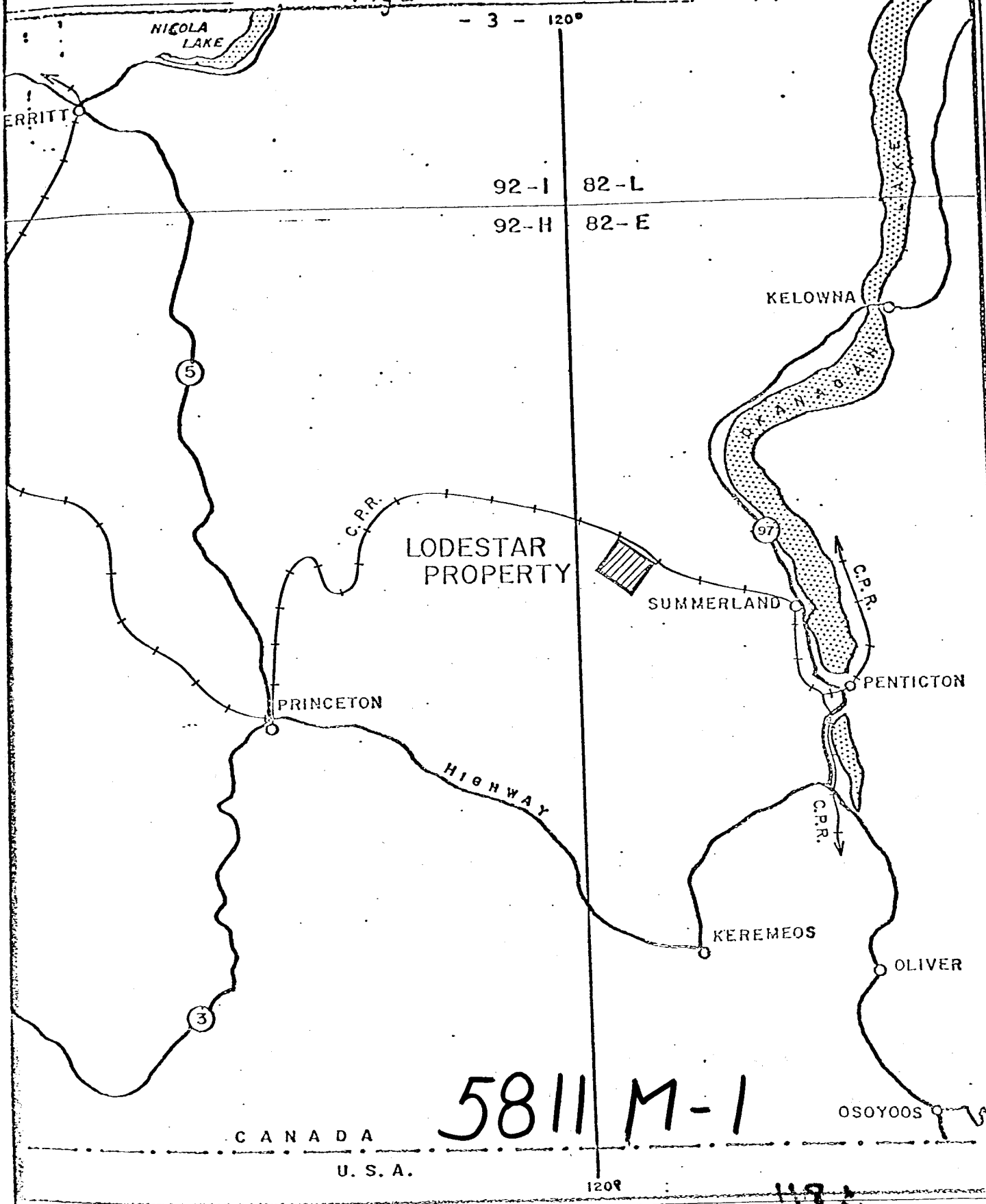
#### LOCATION AND ACCESS

The Lodestar option and Col claim group is recorded on claim map 82-E/12W in the Osoyoos Mining Division, British Columbia. The property is located 12 air miles (19.3 km.) west of Summerland on British Columbia Provincial Highway 97, and one air mile (1.6 km.) southwest of Kirton on the Canadian Pacific Railway line (Figure 1). The property is accessible by a poorly maintained secondary road from Summerland via the Teepee Lake gravel road, a distance of 16 miles (25.7 km.), and from there by logging road to the property, a distance of 4.9 miles (7.9 km.) from the Canadian Pacific Railway Crossing below Kirton.

#### WORK COMPLETED

##### Bulldozing

All drill sites, water ponds and roads to drill sites from the existing road were constructed by Bob Freels of Peachland Transfer, Peachland, British Columbia, using a Caterpillar D-7.



CANADIAN OCCIDENTAL PETROLEUM LTD  
MINERALS DIVISION.

LOCATION OF LODESTAR PROPERTY

Figure 2

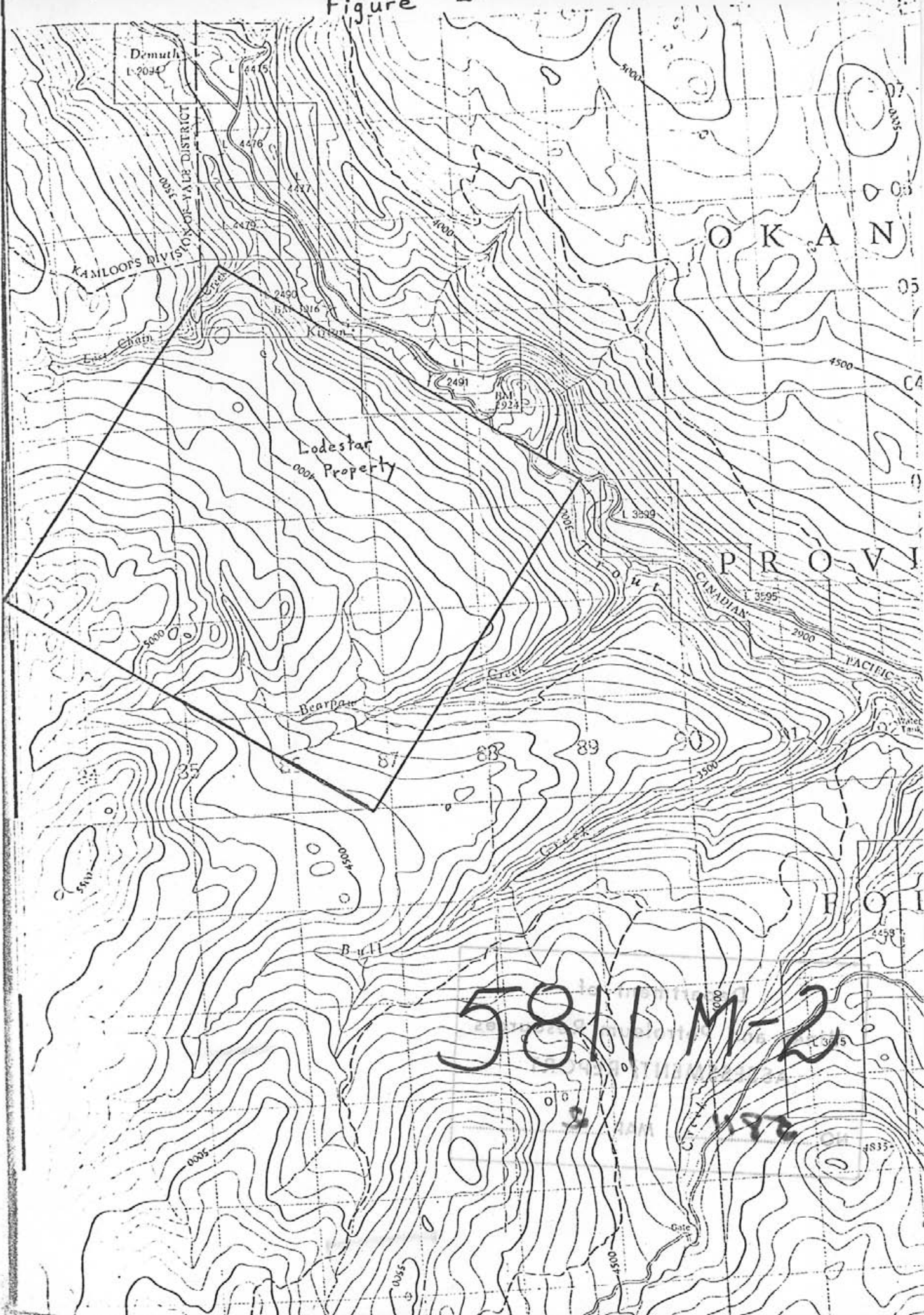


Figure 3

COL 6  
31167

COL 7  
31168

COL 5  
31166

ARNIE  
30033

ARNIE  
30035

ARNIE 6  
30034

COL FRACTION  
31412

COL 4  
31165

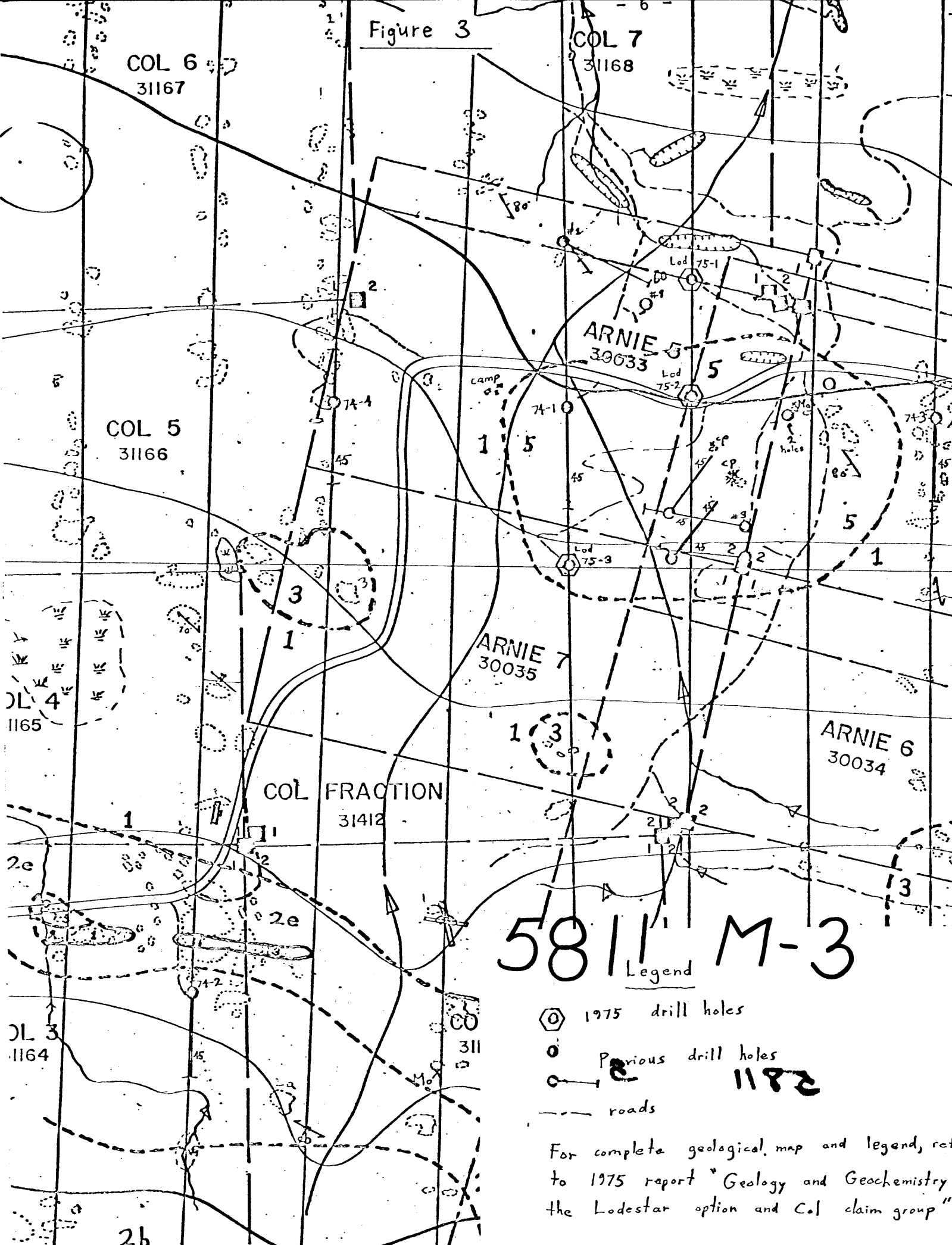
COL 3  
31164

5811 M-3

- Legend
- ⊙ 1975 drill holes
  - Previous drill holes
  - roads

For complete geological map and legend, refer to 1975 report "Geology and Geochemistry the Lodestar option and Col claim group"

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### Diamond Drilling

Between November 19 and December 18, 1975, 926 feet (282 m.) of wireline BQ diamond drilling was completed by Interior Diamond Drilling Ltd. The equipment used was a truck-mounted B.B.S.-2 with a hydraulic head, powered by a Ford 17A diesel. Geological supervision was by C.C. Macdonald of Canadian Occidental Petroleum Ltd. Water was unavailable in the drilling area at this time of year, so it was hauled by truck from Trout Creek, and stored in plastic-lined water ponds beside the drill rig. Water was recirculated as much as possible to keep hauls to a minimum. However, problems with water pumps, freezing, and inclement weather caused delays in the program. Average footage per drilling day was 30.8 feet (9.24 m.)

### Logging and Sampling

The core was logged and sampled by C.C. Macdonald using the facilities at Canadian Occidental Petroleum's warehouse at 171 Estabrook Avenue, Penticton, British Columbia. Button samples were taken, about ten for each five-foot (1.5 m.) section sampled. However, the mineralized sections were split and sampled by using one half of the split core, to give a more accurate representation of grade. The samples were sent by Greyhound express to Chemex Labs Ltd. in Vancouver for analysis for copper.

### Geochemical Analysis

The rock samples are crushed and pulverized to -200 mesh. 0.5 grams of this fraction is digested in 5 ml. of a 3:2 mixture of 70%  $\text{HClO}_4$  and concentrated  $\text{HNO}_3$ , for

2.5 hours at 200°C. The final volume is adjusted to 25 ml. with demineralized water. This solution is then analysed for Cu using a Tectron Mk. V-VI atomic absorption spectrometer.

#### REGIONAL GEOLOGY

The property is underlain by Nelson Plutonic rocks of Jurassic age as shown by Little (1961)<sup>1</sup> on G.S.C. map 15-1961. These intrusives are part of a large composite batholith called the Similkameen Batholith, the petrochemistry of which has been described by Petro (1973)<sup>2</sup>.

More detailed mapping of this property, at 1"=400', was carried out in June, 1975, by C.C. Macdonald, J.C. Harrison, and R.H. Wallis, as part of the survey completed by Canadian Occidental Petroleum Ltd. This showed that the property contains two major rock units; one a diorite showing erratic changes in mafic content, foliation, and grain size, and the other a younger zoned granodiorite intrusive containing pink K-feldspar porphyroblasts. The latter has been sub-divided into five sub-units on the basis of texture and grain size. A contact metamorphic zone of hornblende porphyry exists along much of the contact, as well as in isolated patches in the diorite. The most mineralized unit is a small granodiorite stock probably originating as an early differentiate of the large zoned granodiorite. Though it has little outcrop area, this stock has by far the richest showings of chalcopyrite.

<sup>1</sup>G.S.C. map 15-1961, Kettle River (west half), Little, H.W., 1961

<sup>2</sup>Peto, P., 1973, Petrochemical Study of the Similkameen Batholith, British Columbia, G.S.A. Bull, v.84, pp.3977-3984.

This was confirmed by the fact that the only mineralized hole during the 1974 drilling fell within this unit.

#### DRILLING RESULTS

A brief summary of the results of each drill hole is given in the following section.

Hole Lod 75-1. This was drilled vertically to 308 feet (94 m.) at Line 28S/10E, on claim Arnie (Unit 5) in order to investigate the major soil anomaly and to test for the major northward extension of mineralization. The core consisted entirely of diorite, cut by occasional aplite dykes and frequent K-feldspar-epidote fractures, a few of these with pyrite. No copper mineralization was seen, with the only sign of economic minerals being a few specks of molybdenite at the very end of the hole. The acid test at the end showed a dip of  $84^{\circ}$ . The geochemical analysis confirmed the total lack of copper, with the highest value being being 53 ppm Cu (Plan 1). The average copper value was 22 ppm, with higher-than-average footages obtained as follows: 75-80 (27 ppm), 100-105 (26 ppm), 125-130 (27 ppm), 160-165 (53 ppm), 175-180 (28 ppm), 260-265 (40 ppm), 270-275 (28 ppm).

Hole Lod 75-2. This hole was drilled vertically to 302 feet (92 m.) at Line 28S/6E, on claim Arnie (Unit 5) in order to evaluate lateral continuity of mineralization from hole 74-1 and the older mineralized hole at Line 28S/2E. The hole encountered 20 feet (6.6 m) of overburden, then went through a medium-grained granodiorite from 20 to 184 feet. (6.6-55.2 m).

This granodiorite was erratically mineralized, with concentrations of chalcopyrite from 20-35 feet (6.6-10.5 m.), 45-55 feet (13.5-16.5 m.), and 160-170 feet (48-51 m.). These concentrations also showed as geochemical highs, with two sections exceeding the 4000 ppm Cu maximum detection value (Plan 1). These sections, from 25-30 and 160-165 feet, assayed to .72% and .54% Cu respectively. The mineralization usually occurred as anhedral disseminations in the granodiorite unit, but at 160.8 feet (48.3 m.), a rich but small concentration of chalcopyrite is associated with an elongate leucocratic quartz-rich xenolith. Other xenoliths, usually mafic, are fairly common, but do not seem to be related to mineralization. Aplite dykes and K-feldspar-epidote fractures are also common. However, at 184 feet (55 m.), the rock changed to the diorite unit found in hole 75-1. This unit is barren of any visible mineralization, which the geochemistry confirms, and continues to the end of the hole. The average copper value was 352 ppm. with above-average footages obtained as follows: 20-35 (3675 ppm), 90-95 (620 ppm), 160-170 (2985 ppm), 175-180 (1440 ppm). The acid test at the end of the hole showed a dip of 86°.

Hole Lod 75-3. This hole was drilled vertically to 316 feet (96 m.) at Line 24S/B.L., on Claim Arnie (Unit 7) in order to evaluate the lateral continuity of mineralization from hole 74-1 to the south. 25 feet (7.5 m.) of overburden was encountered, followed by the same medium-grained granodiorite stock intersected in hole 75-2, to a depth of 316 feet (76 m.), the end of the hole. The hole is erratically mineralized with

chalcopyrite throughout its length, with the chalcopyrite often being concentrated in fine-grained flow-shear zones. Mafic xenoliths, again unmineralized, are fairly common, as are dykes of aplite, granite, and pegmatite. The highest geochemical value was 848 ppm Cu, from 50-55 feet (15-16 m.). These higher values were rare, however, and separated by many feet of unmineralized rock. The average copper value was 61 ppm and above-average footages were obtained at: 50-60 (522 ppm), 85-90 (148 ppm) , 150-165 (175 ppm.), 230-255 (249 ppm.). The acid test at the end of the hole showed a dip of 88°.

#### CONCLUSIONS

In order to determine the lateral extent of low-grade copper mineralization intersected in two previous drill-holes, and to test the geochemical anomaly, three new holes were drilled. One hole, 75-1, did not intersect the mineralized granodiorite stock, but completely barren diorite. The final two holes both intersected the stock, though hole 75-2 went through this unit and into diorite at 184 feet (55 m.) Within all granodiorite intersections, chalcopyrite was found as very erratic disseminations, with a few sections being very rich but of little extent, (the best intersection being 0.72% over 5 feet), with a rapid transition to barren rock. Hence, no economic-grade intersections were made in any of the three holes. The mineralization is now almost certainly genetically related to the granodiorite stock.

Geologically, the previously inferred shape of the granodiorite stock must be modified slightly (Figure 3), to

extend at least south to Line 24S/Baseline. Since hole 75-2 intersects only a thin slice of the granodiorite before intersecting diorite, this contact can be inferred to dip moderately to the south. The absolute maximum surface area of the stock is now about 1500 x 1500 feet (450 x 450 m.), and a more likely area is 1200 x 1000 feet (360 x 300 m.).

A follow-up geochemical survey was also carried out in October, 1975, on selected high points as defined by the summer, 1975, survey. The results of the C-horizon samples taken (see Appendix 1) show a slight increase in metal values in the C-horizon for most sample areas, especially around the major anomaly at L44/T.L.55W. None of the increases, however, warrant further work, since the anomaly is relatively less intense than the main anomaly which was drilled and proven uneconomic.

RECOMMENDATIONS

It is recommended that no further work be done on the property, and that the new Lodestar option and Col claim group be returned to Cro-Mur Mining & Exploration Ltd.

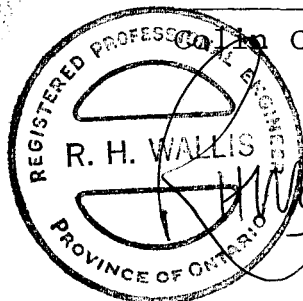
Respectfully submitted,

*Colin C. Macdonald*

Colin C. Macdonald, B.Sc.

TORONTO

February 2, 1976



APPENDIX 1

Geochemical Follow-up

During the period October 20 to November 2, 1975, C-samples were taken over geochemical anomalies detected during the June, 1975, survey (Figures 4 and 5). Where available, rock chip samples were also taken. As shown in Figures 4 and 5, the C samples are generally higher than the corresponding B samples taken in the same spot. This increase seems to be most apparent in the large anomaly at Line 44S/T.L.55W, where the highest value of 1400 ppm Cu was obtained. All rock chip samples showed only average values, certainly not high enough to account for the anomalies. However, none of the anomalies have enough extent or intensity to warrant further work, especially since they are in geologically unfavourable environments, and are less prominent geochemically than the major anomaly which was drilled and proven uneconomic.

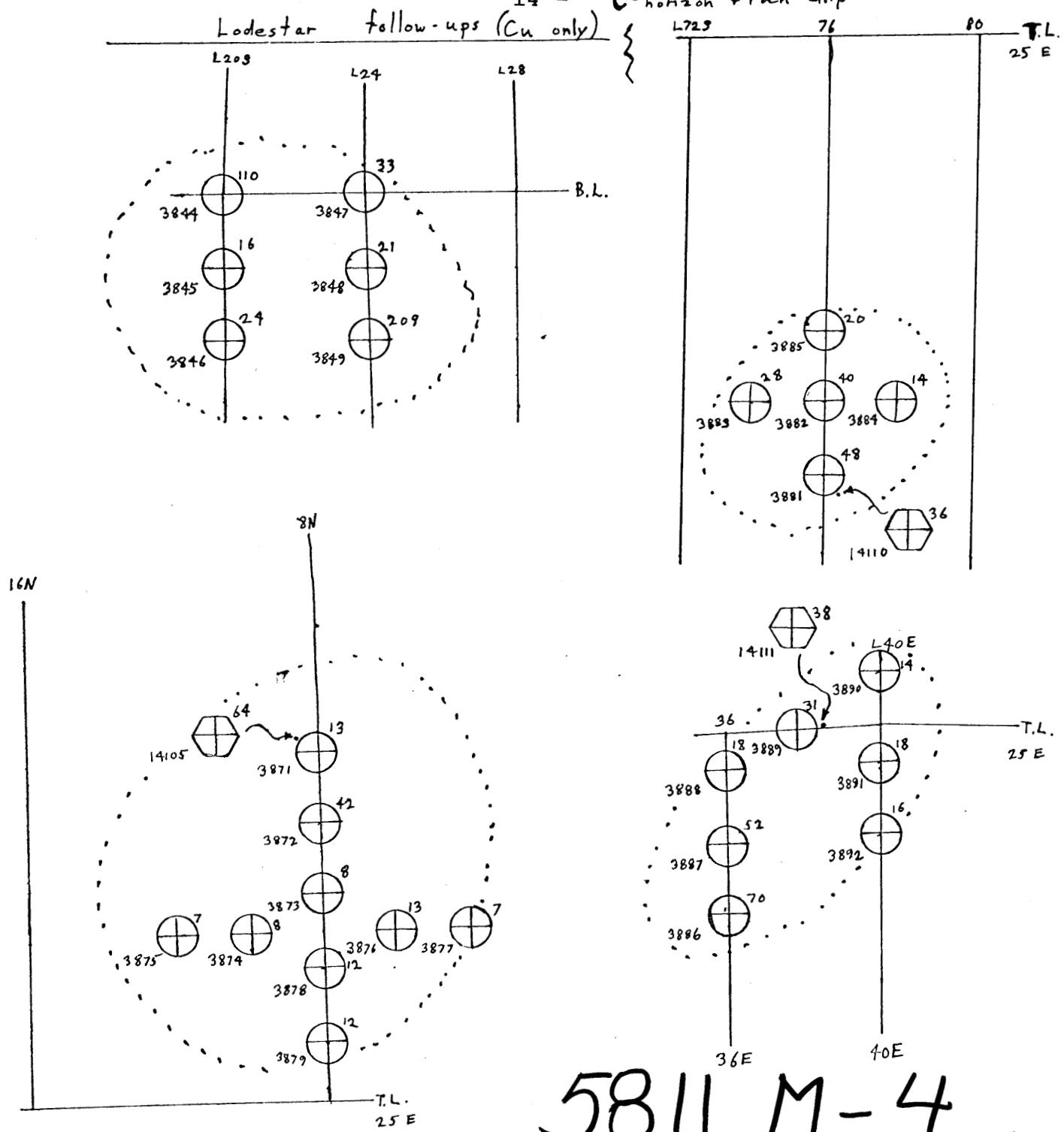


Figure 4

⊕<sup>Cu</sup> - C-horizon soil samples  
 ⬡<sup>Cu</sup> - rock chip samples

✕ 1182



Lodestar follow-up - Anomaly B

C - horizon samples & rock chip samples

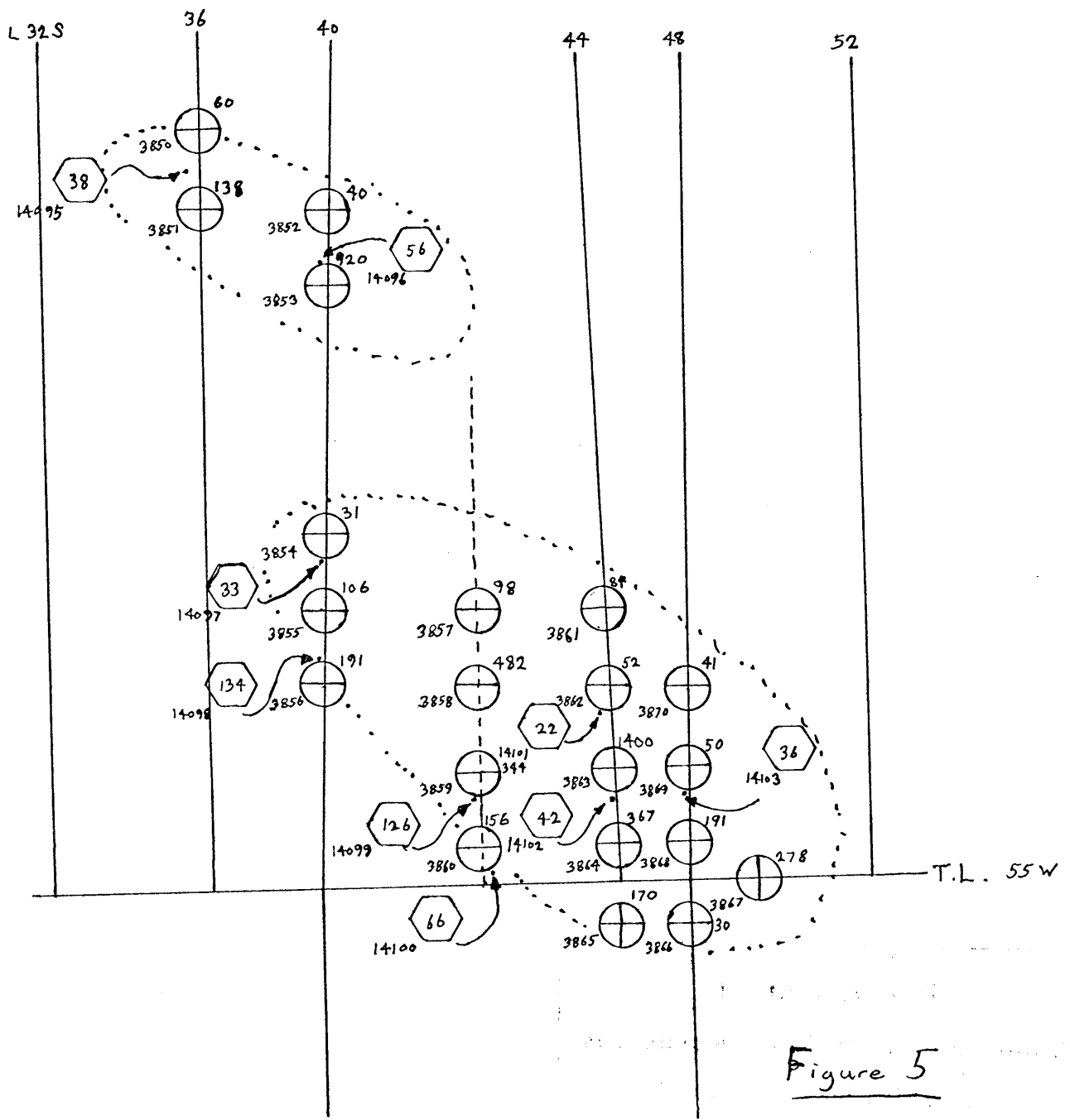


Figure 5

2 1182

5811 M-5

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**CANADIAN OCCIDENTAL PETROLEUM LTD.**  
 MINERALS DIVISION      APPENDIX II  
DIAMOND DRILL RECORD

LOCATION L28S/10E      DIRECTION -      DIP 90°      HOLE No. 75-1  
 LOGGED BY C.C. Macdonald      CASING 0-70'      SHEET No. 1  
 STARTED Nov. 27, 1975      CORE SIZE BQ      CORRECTED TESTS Acid test=84°  
 FINISHED Dec. 8, 1975  
 PROPERTY Lodestar (100% recovery)

FROM	TO	Samp. Intv.	ppm. Cu	DESCRIPTION
0	70'			Case Overburden
70	80	70-75	19	Fine-grained diorite, with 65% plagioclase, 10% K-feldspar, 20% biotite and 5% hornblende.
		75-80	27	Biotite shows random and variable foliation, and very fine K-feldspar-epidote fractures are common, a few with pyrite.
80	84.0	80-85	8	Fine-grained grey aplite.
84.0	87.0			Diorite as above.
87.0	90.3	85-90	17	Pinkish grey aplite, cut by a vertical K-spar-epidote fracture.
90.3	93.5			Diorite as above.
93.5	94.3	90-95	14	Pinkish grey aplite
94.3	108.0	95-100	16	Diorite as above
		100-105	26	
		105-110	20	
		110-115	20	153.3 - Narrow friable shear zone with a slightly chloritized alteration
		115-120	22	envelope to 3 cm. on each side
		120-125	19	
		125-130	27	
		130-135	19	
		135-140	21	158.0 - shear zone at 30° LCA., with
		140-145	19	clay-rich gouge
		145-150	17	
		150-155	16	
		155-160	19	
		160-165	53	163-173' - Diorite as above but cut by
		165-170	20	frequent hairline
		170-175	24	unfilled fractures, with associated
		175-180	28	3-6 cm alteration envelopes of
		180-185	22	cloudy looking chloritized diorite.
		185-190	22	
		190-195	22	
		195-200	22	
		205-210	20	

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DIAMOND DRILL RECORD

LOCATION \_\_\_\_\_ DIRECTION \_\_\_\_\_ DIP \_\_\_\_\_ HOLE No. 75-1  
 LOGGED BY \_\_\_\_\_ CASING \_\_\_\_\_ SHEET No. 2  
 STARTED \_\_\_\_\_ CORE SIZE \_\_\_\_\_ CORRECTED TESTS \_\_\_\_\_  
 FINISHED \_\_\_\_\_

PROPERTY LODESTAR

FROM	TO	Samp. Intv.	Cu	DESCRIPTION
		210-215	22	214.5-216.3 - Pink Aplite
		215-220	16	
		220-225	21	
		225-230		231.5- 12 cm. aplite dyke with pegmatitic borders
		235-240	22	
		240-245	24	246-256.5 Diorite as above but cut by many K-spar-epidote veins, with corresponding chlorite alteration envelopes.
		245-250	14	
		250-255	14	
		255-260	21	
		260-265	40	
		265-270	20	
		270-275	28	267.0 -269.0 - Pink aplite dyke
		275-280	18	
		280-285	8	283.2-288 - Pink aplite, with pegmatitic segregations
		285-290	14	
		290-295	22	
		295-300	18	305.7 - One 1 cm amphibolite, xenolith with py cubes scattered through it, and a few flakes of Mo.
		300-305	38	
		305-308	40	
		230-235	21	

END OF HOLE - 308.0'

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CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

DIAMOND DRILL RECORD

LOCATION L28S/6+00E DIRECTION - DIP 90° HOLE No. 75-2  
 LOGGED BY C.C.Macdonald CASING 0-20' SHEET No. 3  
 STARTED Dec. 14, 1975 CORE SIZE BQ CORRECTED TESTS Acid Test = 86°  
 FINISHED Dec. 18, 1975  
 PROPERTY LODESTAR (100% recovery)

FROM	TO	sampled interval	ppm Cu	DESCRIPTION
20	32.1			Granodiorite, composed of about 35% K-feldspar, 35% plagioclase, 20% quartz and 10% biotite, with minor sphene.
		20-25'	2880	
		25-30	>4000 7200	23-32.1 - this section contains disseminated Cp and PY, usually <1% Cp, but reaching about 3% Cp over the section 26-27' Py:Cp ≈ 1:4 Within this mineralized section, core from 20-28.6' is also rich in limonitic alteration of the sulphides.
32.1	40.5	30-35	945	This section is a much more mafic variety of granodiorite, with about 50% biotite, It itself is cut by an aplite dyke from 35.1-38.4', and is likely partially assimilated xenolithic material. This section has no mineralization, but is cut by a Cp-Py fracture at 38.5'.
		35-40	190	
40.5	56.5	40-45	52	Granodiorite as above
		45-50	116	46.2, 48.3, 49.2, 49.8, 50.1, 50.4, 51.2, 51.5,
		50-55	180	52.3, 56.3, 59.8, 60.4 - occurrences of Cp, usually disseminated randomly in the granodiorite, but sometimes also in the fine-grained, flow-shear zones
56.5	58.7	55-60	42	Pink aplite dyke
		60-65	33	
		65-70	63	
		70-75	82	
58.7	96.2	75-80	52	Granodiorite as above 70.7, 71.7, 83.4, 92.9 - minor Cp in Granodiorite 80.0-81.2 and 84.8-85.8 - fine-grained amphibolite xenoliths, not mineralized
		80-85	66	
		85-90	60	
		90-95	620	
96.2	106.2	95-100	30	Grey-pink aplite dyke
		100-105	12	
		105-110	7	

## DIAMOND DRILL RECORD

LOCATION \_\_\_\_\_ DIRECTION \_\_\_\_\_ DIP \_\_\_\_\_ HOLE No. 75-2  
 LOGGED BY \_\_\_\_\_ CASING \_\_\_\_\_ SHEET No. 4  
 STARTED \_\_\_\_\_ CORE SIZE \_\_\_\_\_ CORRECTED TESTS \_\_\_\_\_  
 FINISHED \_\_\_\_\_

## PROPERTY \_\_\_\_\_

FROM	TO	sampled interval	ppm Cu	DESCRIPTION
106.2	129.5	110-115	8	Granodiorite as above
		115-120	68	
129.5	135.0	120-125	31	pink aplite dyke
		125-130	30	
135.0	184.0	130-135	10	Granodiorite as above
		135-140	126	
		140-145	30	
		145-150	7	138.0-139.7 - this section moderately sheared and altered, with biotite completely chloritized
		150-155	22	
		155-160	70	160.8-165.5 - erratically disseminated Cp, with one very rich area at 163.0, where Cp comprises ~30% of a 2 cm-wide elongate xenolith of a leucocratic, quartz-rich rock.
		160-165	4000	
			5400	
		165-170	570	
		170-175	152	
		175-180	1440	
		180-185	440	
		185-190	63	
		190-195	68	
		195-200	72	
		200-205	102	172.8, 180.7, 192.1, 205.2 - minor sulphides, with Py:Cp ≈ 6:1
		205-210	70	
210-215	50			
215-220	44			
220-225	24			
184.0	302	225-230	21	Diorite, finer-grained and showing more foliation than the granodiorite, with about 65% plagioclase, 20% biotite, 10% K-feldspar and 5% quartz, though the quartz content is variable. This diorite contains no visible Cp mineralization, and Py usually only in epidote-K-feldspar veins.
		230-235	22	
		235-240	26	
		240-245	22	
		245-250	36	
		250-255	26	
		255-260	31	
		260-265	24	
		265-270	26	
		270-275	26	
		275-280	46	
280-285	33			
285-290	31			
	290-302	40	END OF HOLE - 302.0'	

## CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

## DIAMOND DRILL RECORD

LOCATION L24S/0+00 DIRECTION - DIP 90° HOLE No. 75-3  
 LOGGED BY C.C. Macdonald CASING 0-25' SHEET No. 5  
 STARTED Dec. 10, 1975 CORE SIZE BZ CORRECTED TESTS Acid Test = 88  
 FINISHED Dec. 13, 1975

PROPERTY LODESTAR (94.9% recovery)

FROM	TO	sampled interval	ppm Cu	DESCRIPTION
0	25'			Cased overburden
25	115.0	25-30'	7	Granodiorite (Unit 5), composed of plagioclase (45%), K-feldspar (25%), quartz (20%) and biotite (10%), all grains from 1-3 m.m. Some sections show a swirly flow texture, with these parts being finer-grained.
		30-35	6	
		35-40	4	
		40-45	40	
				41.8-42.4 - Pink granite dyke, with medium-grained K-feldspar and quartz, white plagioclase phenocrysts, and a few flecks of biotite.
				43.8 - two tiny specks of Cp in the granodiorite
		45-50	12	50.4-51.4 - about 1% Cp in this section concentrated in flow-shear zones.
		50-55	848	
				55.8-59.0 - very minor disseminated Cp about one fleck per 6" core.
		55-60	197	60.7, 65.7 - minor Cp as above
		60-65	26	
		65-70	21	87.1, 88.9 - minor disseminated sulphides, very fine-grained, and largely Py
		70-75	8	
		75-80	12	107.8, 109.6, 110.3, 111.1, 114.8 - Cp disseminated in the granodiorite, usually localized in the fine-grained flow-shear zone
		80-85	26	
		85-90	148	Large mafic xenolith, also present as smaller xenoliths at 110.2, 114.5. Composed of 75% amphibole, strongly foliated in a chloritic matrix.
		90-95	24	
		95-100	7	Coarse-grained pegmatite
		100-105	7	
		105-110	28	
		110-115	68	
115.0	117.0			
117.0	118.4	115-120	6	
		120-125	1	

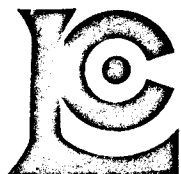
## CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

## DIAMOND DRILL RECORD

LOCATION \_\_\_\_\_ DIRECTION \_\_\_\_\_ DIP \_\_\_\_\_ HOLE No. 75-3  
 LOGGED BY \_\_\_\_\_ CASING \_\_\_\_\_ SHEET No. 6  
 STARTED \_\_\_\_\_ CORE SIZE \_\_\_\_\_ CORRECTED TESTS \_\_\_\_\_  
 FINISHED \_\_\_\_\_  
 PROPERTY \_\_\_\_\_

FROM	TO	sampled interval	ppm Cu	DESCRIPTION	
118.4	142.0	125-130	7	Granodiorite as above	
		130-135	7		
		135-140	24		
142.0	145.8	140-145	7	Granite Dyke as at 41.8	
145.8	208.7	145-150	28	Granodiorite as above	
		150-155	175		
		155-160	90		150.2, 151.8, 152.2, 155.4, 155.7, 155.9 - minor sulphides as tiny stringers, often associated with small epidote patches - sulphides have Cp colour, but some show cubic forms, hence Py present also. 180.8-small fleck of Mo in quartz vein
		160-165	6		
		165-170	6		
		170-175	7		
		175-180	13		
		180-185	30		
		185-190	12		
		190-195	4		
		195-200	3		
		200-205	18		
		205-210	46		
		210-215	7		
215-220	16				
208.7	211.4	220-225	26	Very heterogeneous pink aplite dyke, with gradational contacts to the surrounding granodiorite.	
		225-230	64		
		230-235	205		
		235-240	230		
211.4	280.4	240-245	220	Granodiorite as above	
		245-250	160		
		250-255	430		
		255-260	50		214.9, 231.5, 233.6 - disseminated sulphides, but with Py:Cp = 5:1
		260-265	7		
		265-270	16		
		270-275	18		252.4, 260.2 - minor Cp and Py associated with patchy epidote stringers.
275-280	18				
280.4	283.0	280-285	8	Light pink aplite dyke	
		285-290	48		
283.0	316.0	290-295	24	Granodiorite as above	
		295-300	7		
		300-305	8		297.6 - a few specks of Cp in granodiorite
		305-310	13		
		310-316	7		END OF HOLE - 316.0'



APPENDIX III

# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 985-0648  
AREA CODE: 604

RECEIVED  
DEC 22 1975

• ANALYTICAL CHEMISTS    • GEOCHEMISTS    • REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

J. J. B.

TO: Canadian Occidental Petroleum Ltd.,  
Minerals Division  
801 - 161 Eglinton Ave, East  
Toronto, Ont.

CERTIFICATE NO. 36494

INVOICE NO. 15929

RECEIVED Dec. 15/75

ATTN: Proj. - Lodestar

ANALYSED Dec. 17/75

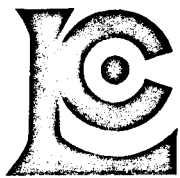
SAMPLE NO. :	PPM Copper	Rock Geochem
38086	19	
38087	27	
38088	8	
38089	17	
38090	14	
38091	16	
38092	26	
38093	20	
38094	20	
38095	22	
38096	19	
38097	27	
38098	19	
38099	21	
38100	19	
38101	17	
38102	16	
38103	19	
38104	53	
38105	20	
38106	24	
38107	28	
38108	22	
38109	22	
38110	22	
38111	22	
38112	20	



MEMBER  
CANADIAN TESTING  
ASSOCIATION

CERTIFIED BY: *[Signature]*





# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 985-0648  
AREA CODE: 604

RECEIVED

DEC 29 1975

J. J. B.

- ANALYTICAL CHEMISTS
- GEOCHEMISTS
- REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 36495  
 INVOICE NO. 15940  
 RECEIVED Dec. 18/75  
 ANALYSED Dec. 22/75

TO: Canadian Occidental Petroleum Ltd.,  
 Minerals Division  
 801 - 161 Eglinton Ave. East  
 Toronto, Ont.

ATTN: Project Lodestar

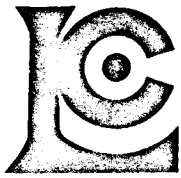
SAMPLE NO. :	PPM Copper	Rock Geochem
38113	20	
38114	22	
38115	16	
38116	21	
38117	21	
38118	22	
38119	24	
38120	22	
38121	14	
38122	14	
38123	21	
38124	40	
38125	20	
38126	28	
38127	18	
38128	8	
38129	14	
38130	22	
38131	18	
38132	38	
38133	40	
38134	7	
38135	6	
38136	4	
38137	40	
38138	12	
38139	848	
38140	197	
38141	26	
38142	21	
38143	8	
38144	12	
38145	26	
38146	148	
38147	24	
38148	7	
38149	7	
38150	28	
38151	68	
38152	6	



MEMBER  
 CANADIAN TESTING  
 ASSOCIATION

CERTIFIED BY: *[Signature]*





# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C. RECEIVED  
CANADA V7J 2C1  
TELEPHONE: 985-0648 JAN 5 1976  
AREA CODE: 604

J. J. B.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

TO: Canadian Occidental Petroleum Ltd.,  
Minerals Division  
801 - 161 Eglinton Ave. East  
Toronto, Ont.

ATTN: "Lodestar"

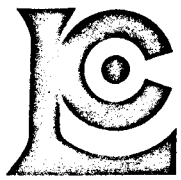
CERTIFICATE NO. 36550  
INVOICE NO. 15977  
RECEIVED Dec. 29/75  
ANALYSED Dec. 31/75

SAMPLE NO. :	PPM Copper	Rock Geochem
38154	7	
38155	7	
38156	24	
38157	7	
38158	78	
38159	175	
38160	90	
38161	6	
38162	6	
38163	7	
38164	13	
38165	30	
38166	12	
38167	4	
38168	3	
38169	18	
38170	46	
38171	7	
38172	16	
38173	26	
38174	64	
38175	205	
38176	230	
38177	220	
38178	160	
38179	430	
38180	50	
38181	7	
38182	16	
38183	18	
38184	18	
38185	8	
38186	48	
38187	24	
38188	7	
38189	8	
38190	13	
38191	7	
38192	2880	
38193	> 4000	
Std,	74	



MEMBER  
CANADIAN TESTING  
ASSOCIATION

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# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 985-0648  
AREA CODE: 604

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

TO: Canadian Occidental Petroleum Ltd.,  
Minerals Division  
801 - 161 Eglinton Ave. East  
Toronto, Ont.

ATTN: "Lodestar"

CERTIFICATE NO. 36551  
INVOICE NO. 15977  
RECEIVED Dec, 29/75  
ANALYSED Dec. 31/75

SAMPLE NO. :	PPM Copper	Rock Geochem
38194	945	
38195	190	
38196	52	
38197	116	
38198	180	
38199	42	
38200	33	
38201	63	
38202	82	
38203	52	
38204	66	
38205	60	
38206	620	
38207	30	
38208	12	
38209	7	
38210	8	
38211	68	
38212	31	
38213	30	
38214	10	
38215	126	
38216	30	
38217	7	
38218	22	
38219	70	
38220	> 4000	
38221	570	
38222	152	
38223	1440	
38224	440	
38225	63	
38226	68	
38227	72	
38228	102	
38229	70	
38230	50	
38231	44	
38232	24	
38233	21	
Std.	70	



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CERTIFIED BY: *J.P. Ship*









# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 985-0648  
AREA CODE: 604  
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 36455  
INVOICE NO. 15766  
RECEIVED Nov. 10/75  
ANALYSED Nov. 13/75

TO: Canadian Occidental Petroleum Ltd.,  
Minerals Division "Project  
801 - 161 Eglinton Ave. East Lodestar"  
Toronto, Ont.  
ATTN: M4P 1J5 Mr. P.E. Nichols cc: C. MacDonald - Penticton

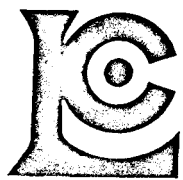
SAMPLE NO. :	PPM
	Copper
3844	110
3845	16
3846	24
3847	33
3848	21
3849	209
3850	60
3851	138
3852	40
3853	920
3854	31
3855	106
3856	191
3857	98
3858	482
3859	344
3860	156
3861	84
3862	52
3863	1400
3864	367
3865	170
3866	30
3867	278
3868	191
3869	50
3870	41
3871	13
3872	42
3873	8
3874	8
3875	7
3876	13
3877	7
3878	12
3879	12
3881	48
3882	40
3883	28
3884	14
Std,	72



MEMBER  
CANADIAN TESTING  
ASSOCIATION

CERTIFIED BY: *AP Lopez*





# CHEMEX LABS LTD.

212 BROOKSBANK AVE.  
NORTH VANCOUVER, B.C.  
CANADA V7J 2C1  
TELEPHONE: 985-0648  
AREA CODE: 604  
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

## CERTIFICATE OF ASSAY

CERTIFICATE NO. 30873

TO: Canadian Occidental Petroleum Ltd.,  
Minerals Division  
801 - 161 Eglinton Ave. East

INVOICE NO. 16021

ATTN: Toronto, Ont.

RECEIVED

ANALYSED

cc: Mr. McDonald

SAMPLE NO. :	% Copper	% WO <sub>3</sub>
38193	0.72	
38220	0.54	
8986		0.23
8656		0.59



MEMBER  
CANADIAN TESTING  
ASSOCIATION

*B. Swales*

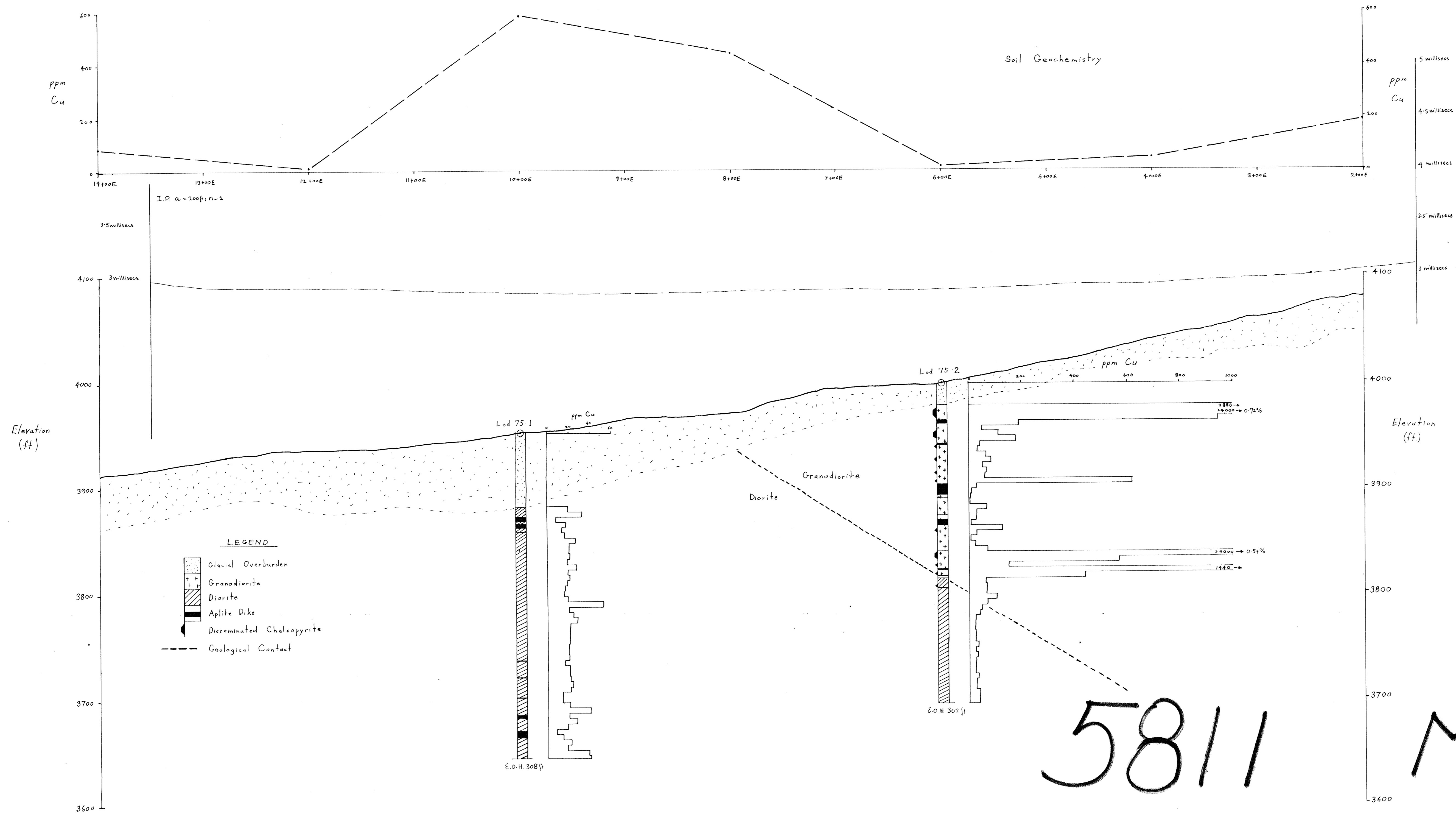
REGISTERED ASSAYER, PROVINCE OF BRITISH COLUMBIA

APPENDIX IV

Statement of Expenditures

Lodestar Claims - 82-E-4W  
Arnie 4-7, John 1,2,3,8.

1) Salaries (Dec.1-Jan.11)	\$ 1,272.50
C.C. Macdonald	
Average cost per may day - \$30.30	
2) Food & Accommodation	242.52
3) Transportation	
International Scout	203.29
4) Geochemistry - 224 samples, 224 elements	428.65
5) Diamond Drilling	14,688.00
6) Other costs	
Road building	737.25
Communications	<u>29.30</u>
Total -	<u>\$17,601.51</u>



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
MAP 6  
NO. 5811

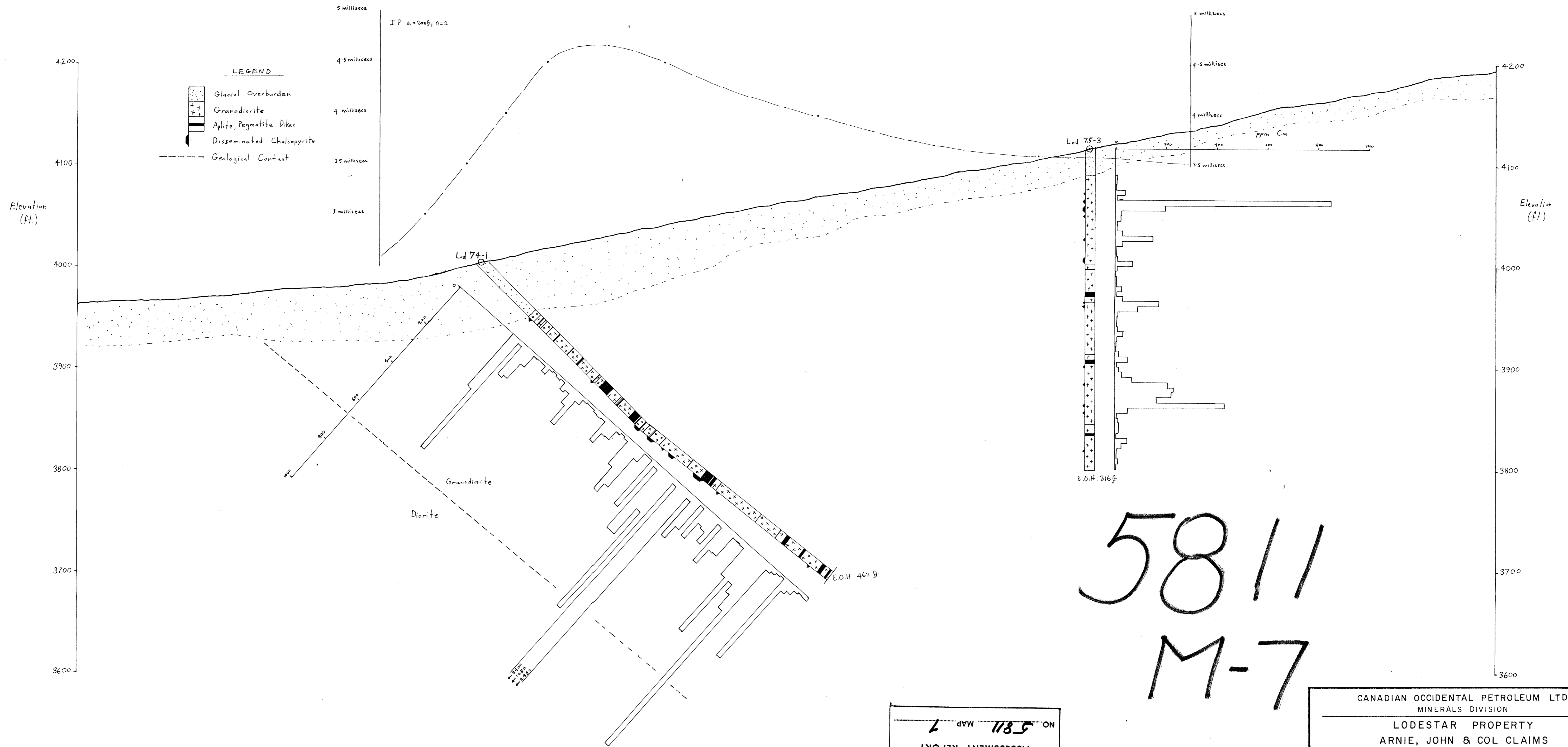
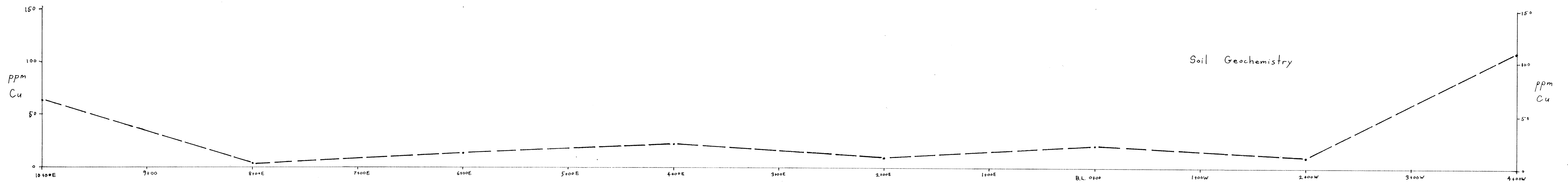
CANADIAN OCCIDENTAL PETROLEUM LTD.  
MINERALS DIVISION

LODESTAR PROPERTY  
ARNIE, JOHN & COL CLAIMS  
OSOYOOS MINING DIVISION, BRITISH COLUMBIA - 82-E-12/W

**RESULTS, DDH LOD 75-1, 75-2**  
(SECTION TAKEN ALONG LINE 28S, LOOKING SE.)  
Scale - 1" = 50'

PLAN 1

#6

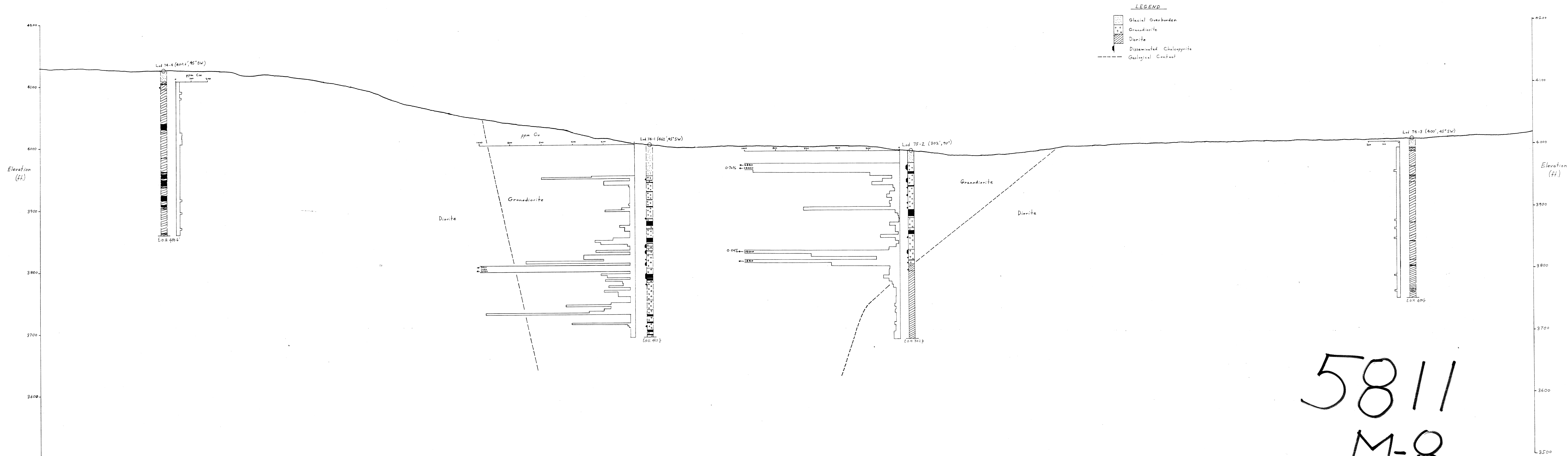
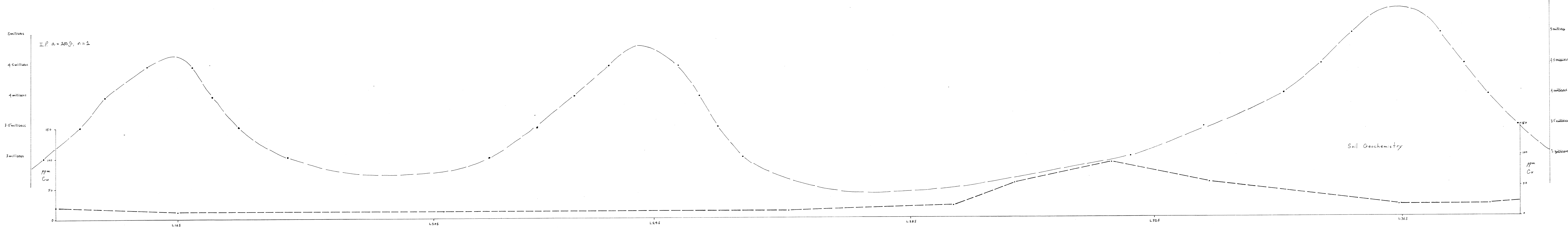


5811  
M-7

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5811 MAP 7

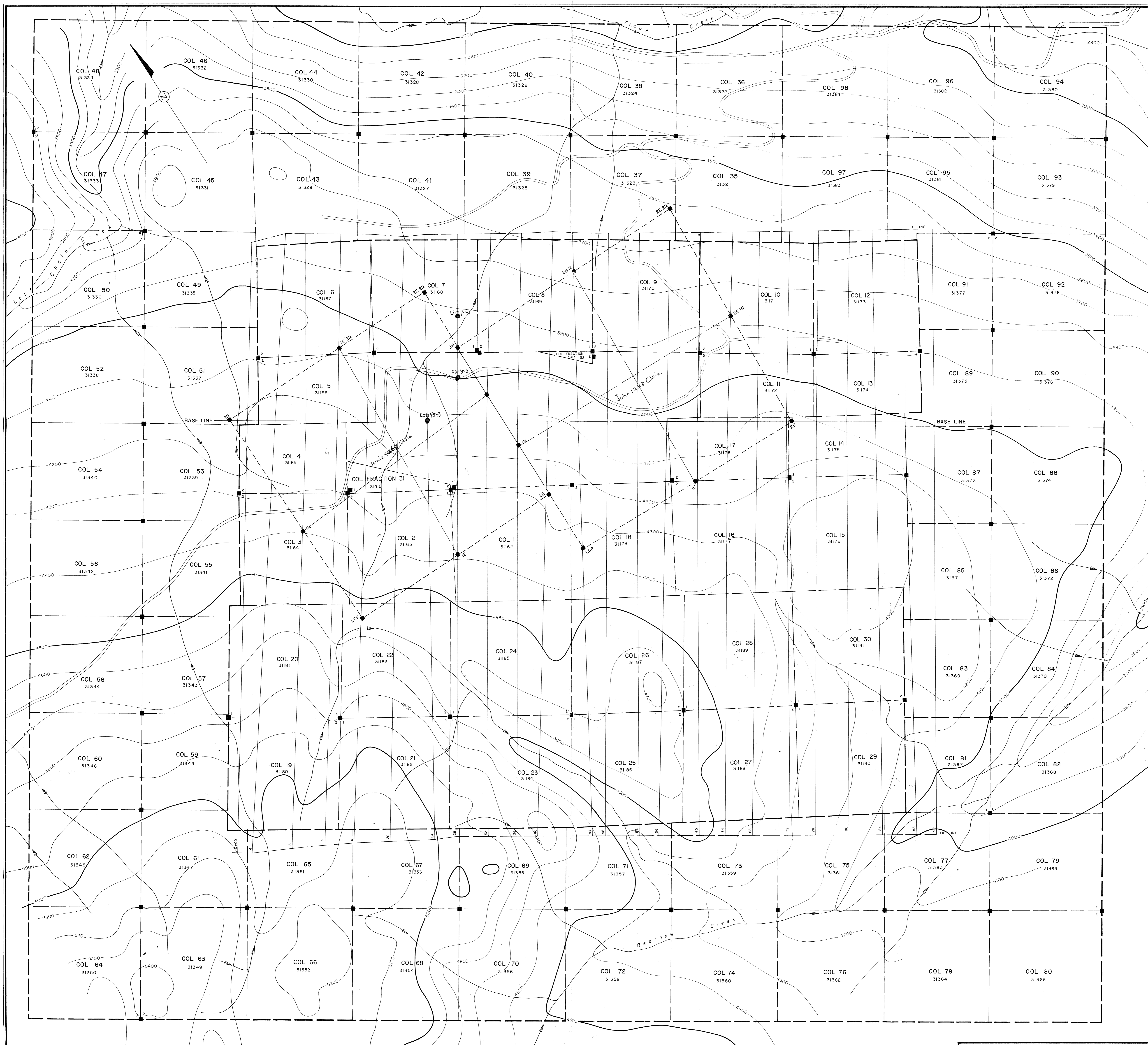
CANADIAN OCCIDENTAL PETROLEUM LTD.  
MINERALS DIVISION  
LODESTAR PROPERTY  
ARNIE, JOHN & COL CLAIMS  
OSOYOOS MINING DIVISION, BRITISH COLUMBIA - 82-E-12/W  
RESULTS, DDH LOD 74-1, 75-3  
LINE 24 LOOKING EAST  
Scale — 1" = 50'

#7  
PLAN 2



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5811  
MAP 8

CANADIAN OCCIDENTAL PETROLEUM LTD.  
MINERALS DIVISION  
LODESTAR CLAIMS  
RESULTS, DDH LOD 74-4,74-1,74-3,75-2  
NW-SE SECTION (GRID N-S) LOOKING NE.  
Scale — 1" = 50'



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5711 MAP 9

CANADIAN OCCIDENTAL PETROLEUM LTD  
MINERALS DIVISION  
**LODESTAR PROPERTY**  
OSOYOOS MINING DIVISION, BRITISH COLUMBIA, 82-E-12/W  
Location of drill holes 75-1, 75-2, 75-3  
400 0 400 800 1200  
SCALE IN FEET

Corrected Base Plan Oct. 29/ 1975