

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

DIAMOND DRILLING OF THE
MUN CLAIMS

MINERAL REVENUE BRANCH

ASSESSMENT REPORT

NO.

6558

Claim Sheet No. 82E/12W
Lat. : 49° 44' N
Long : 119° 58' W

Claims:

MUN 4-21 Record No.'s 31015 - 31032
MUN 28-30 Record No.'s 31039 - 31041

BY:

Colin C. Macdonald , B. Sc. (Eng.)

Covering Work Completed During the Period
October 7 to October 20, 1977.

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1. Location of Diamond Drill Holes)

2. Section, showing geochemical values) in back pocket

SUMMARY

The MUN claim group is located 18 miles (29 km.) northwest of Summerland, British Columbia. The property was staked in 1973 to follow up reconnaissance stream geochemical work. Geological, geochemical and magnetometer surveys carried out in 1974 outlined several Cu-Mo-Zn anomalies, three of which were drilled in the fall of 1974.

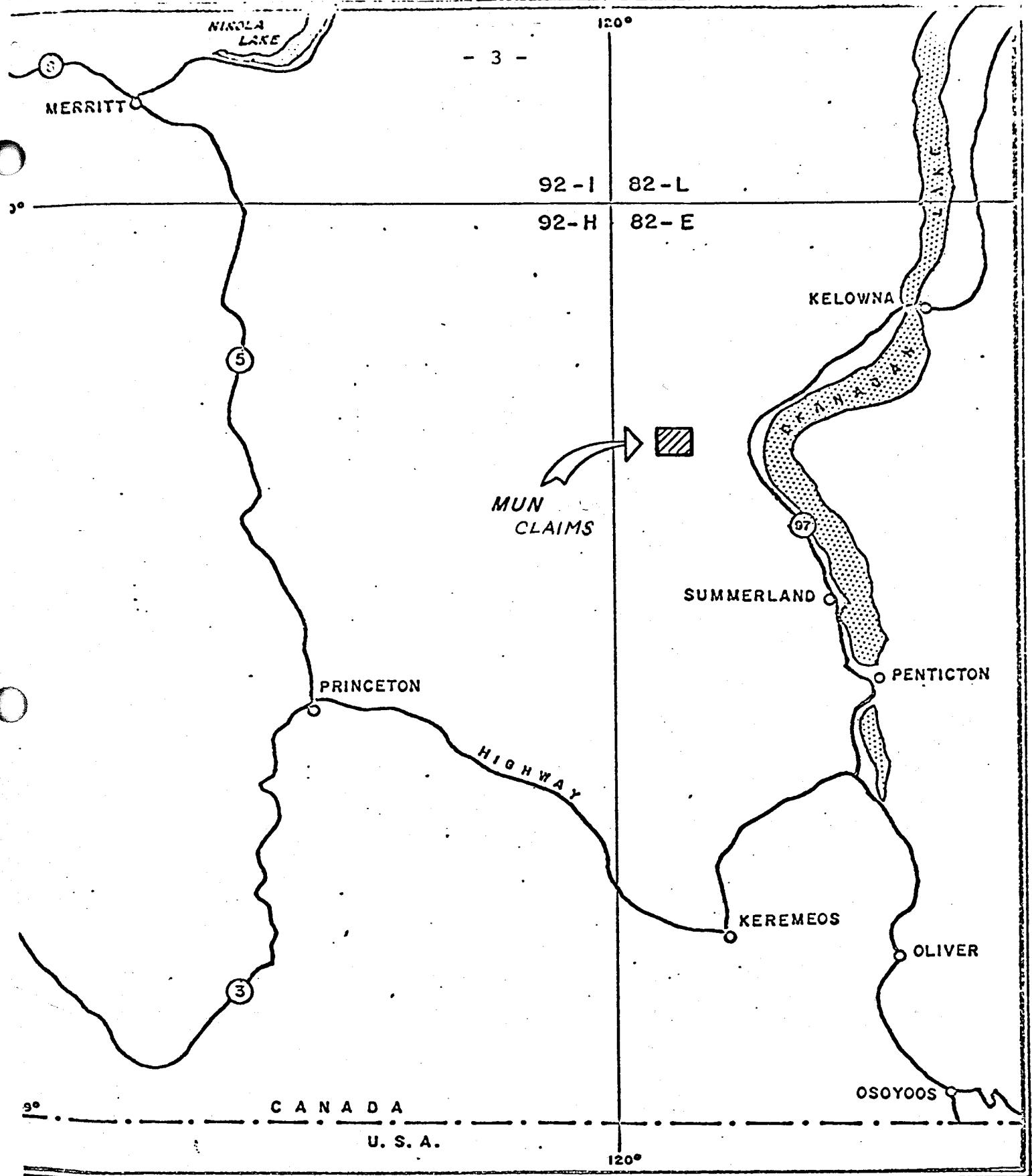
Further reconnaissance work by the Geological Survey of Canada in 1976 indicated that the streams draining the MUN group were also anomalous in silver. Hence, all 1974 soil and drill core samples were re-analysed for silver. To test the zone of highest silver in soils, 562 ft. (171 m.) of wireline BQ diamond drilling was completed between October 7 and 20, 1977. The hole intersected a white, medium-grained granodiorite throughout the entire length. Alteration in the rock varied throughout, and was generally moderately to highly altered to 340 ft. (104 m.), and slightly altered to fresh from there to the end of the hole. Most of the highly altered sections were controlled by low-angle fractures and/or veins, some of which show a texture-destructive greenish envelope adjacent to the fracture. Molybdenite is primarily found in a later, high-angle set of veins, which are almost always quartz-pyrite. Sphalerite was only identified twice.

Geochemical results showed generally erratic values, with most of the best sections occurring before 330 ft. (100 m.). The highest zinc and silver values were both from 325 to 330 ft. (99 to 100 m.), with 3960 ppm Zn, and 10 ppm (0.32 oz/ton) Ag. A limited I.P. Survey is recommended over the most favourable geochemical anomalies to help define the limits of the sulphide mineralization, and determine whether or not more interesting areas remain untested.

INTRODUCTION

During the summer of 1974 Canadian Occidental Petroleum Ltd., Minerals Division carried out geological, geochemical, and magnetometer surveys on the MUN claim group. The results of this work are summarized in a report by J. Schindler dated October 30, 1974. Several coincident Cu-Mo-Zn anomalies were outlined, and three of these were tested by diamond drilling in September and October, 1974. Low-grade Cu-Mo-Zn mineralization was intersected, but did not warrant further work at the time.

The results of regional stream sampling by the Geological Survey of Canada during the summer of 1976 were made public in G.S.C. Open File Report #409, and indicated that the streams draining the MUN claims were anomalous in silver. All 1974 soil and drill core samples were then analysed for silver, which showed that economically interesting values were obtained over short distances in the drill core, and that the area of highest Ag on soils had not yet been drilled (See report by R.H. Wallis, September 12, 1977.). This report will describe the results of diamond drilling of the main silver anomaly.



CANADIAN OCCIDENTAL - PETROLEUM LTD
MINERALS DIVISION

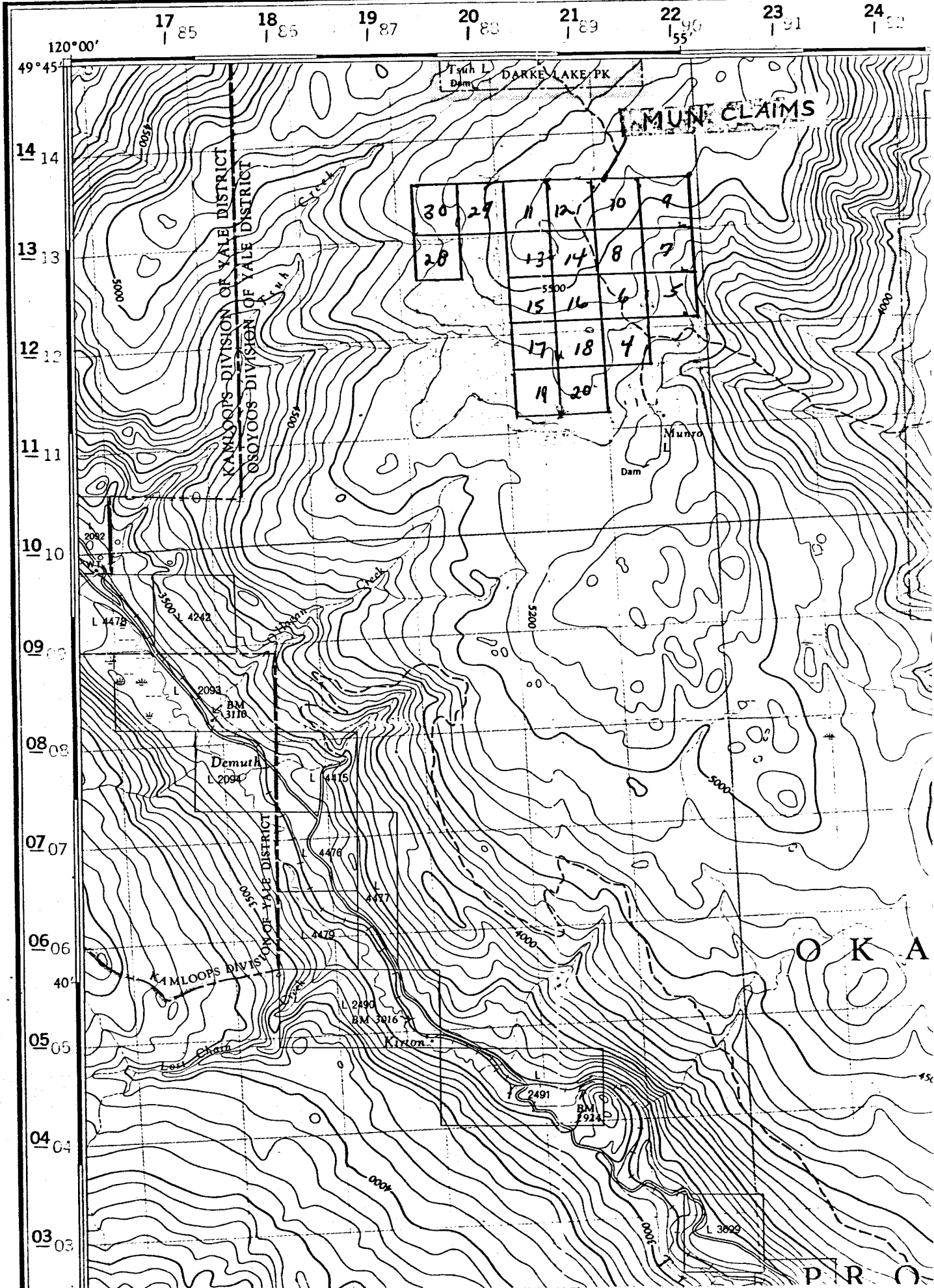
LOCATION OF MUN CLAIMS

Figure 1

82 E/12 W

Figure 2

1:50,000



O K A

P R O

LOCATION AND ACCESS

The MUN group is recorded on claim sheet 82E/12W in the Osoyoos Mining Division. The property is 18 air miles (29 km.) northwest of Summerland, British Columbia. The property is accessible by secondary road from Summerland to Darke Lake, and from there by a 4 x 4 road to the property, a distance of 4.7 miles (7.6 km.). Alternate access is from Peachland, west on the Brenda Mine Road to the sawmill, and from there by secondary road to the property, approximately 10 miles (16 km.).

WORK COMPLETED

Road and Site Preparation

Approximately 500 ft. (152 m.) of road and one drill site was constructed by Herb Allen Drilling Ltd., using a John Deere JD - 450 bulldozer. The equipment was also used to keep the final quarter mile of access road open, as a high water table created deep mud with constant use of the road.

Water Haulage

Water was hauled from Munro Lake using a GMC 3/4 ton 4 x 4 pick-up with a 200 gallon tank.

Diamond Drilling

A total of 562 feet (171 m.) of wireline BQ diamond drilling was completed between October 7 and October 20, 1977, by Herb Allen Drilling Ltd., of Merritt, British Columbia. Equipment used was a skid-mounted Longyear with hydraulic head and chuck, and the drill foreman and driller was Roy Garrett. Geological supervision was by C.C. Macdonald of Canadian Occidental Petroleum Ltd.

One hole was completed, which encountered an unexpected 130 ft. (39.7 m.) of overburden. Core recovery was very good (approximately 96%) considering the highly fractured and blocky nature of the ground. The average rate of drilling was 51 ft./day (15.6 m./day).

Logging and Sampling of Core

The core was logged and sampled by C.C. Macdonald of Canadian Occidental Petroleum Ltd., using the facilities at the company warehouse at 171 Estabrook Avenue, Penticton, British Columbia. The entire core was split, and five foot (1.5 m.) lengths were sampled and sent off for analysis.

Geochemical Analysis

The samples were sent by Greyhound bus to Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver, for analysis for copper, zinc, molybdenum, and silver, all of which are analysed by atomic absorption.

GEOLOGY

For a detailed description of the MUN group geology, see report by J.N. Schindler, dated October 30, 1974. A detailed description of rock units intersected in hole 4-77 is given in the diamond drill log, Appendix 1.

DRILLING RESULTS

Hole MUN 4-77

This hole was collared at L 28 + 00 E/ 69 + 00 N, drilled true north at 45° dip on MUN 29 to test the main silver soil anomaly.

Since a nearby 1974 hole encountered only 19 ft. (6 m.) of overburden, the 130 ft. (40 m.) encountered by MUN 4-77 came as a surprise, and mud was needed to reach bedrock. The hole collared in a white medium-grained equigranular granodiorite, which continued basically unchanged in composition for the length of the hole. The degree of alteration, however, did change, as from 130.0 to 340.0 ft. (40 to 104 m.) the granodiorite was moderately altered for the most

part, with most of the feldspars altered to kaolin, and fresh biotite. Some short sections were highly altered, characterized by total feldspar replacement, some biotite chloritization, and a soft, rubbly texture to the core. Narrow quartz and calcite veins were common, often with associated pyrite, and more rarely molybdenite as discrete blue-grey flakes. Present around some fractures is a greenish-grey alteration envelope, resembling fine chlorite and/or sericite; this also seems to destroy the crystalline texture.

From 340.0 to 562.0 ft. (104 to 171 m.) the granodiorite is generally fresh or only slightly altered, with some sections moderately altered around fractures and the small felsite dikes which are occasionally present. Molybdenite occurrences decrease in number with depth, though pyrite remains fairly constant. Sphalerite was only positively identified twice, though some of the fine-grained molybdenite in quartz veins may also occur with sphalerite, as the grey colour would be unchanged. The post-mineralization dike rocks found elsewhere on the property and in other drill holes was only intersected over a few very short sections.

The geochemical results (Appendix 2) show generally erratic metal values, with good correlation between silver and zinc. Copper values were fairly low, with the highest section from 535 to 540 ft. (163 to 164 m.), with 630 ppm Cu. For molybdenum one value of 250 ppm was reached from 170 to 175 ft. (52 to 53 m.), this too was quite erratic, and often corresponded to visible, molybdenum in the core (see Diamond Drill Logs). The highest zinc value was 3960 ppm Zn, from 325 to 330 ft. (99 to 100 m.), but the best section was 190 to 210 ft. (58 to 64 m.), with values from 1120 to 2720 ppm Zn. This corresponds with silver values from 0.8 to 3.0 ppm, the second best silver section. The best is from 255 to 275 ft. (78 to 84 m.), with values of 1.2 to 5.0 ppm Ag, or an average 2.7 ppm (.087 oz./ton) Ag over 20 ft. (6 m.). The single highest silver value of 10 ppm Ag (.32 oz./ton) corresponds with the highest zinc of 3960 ppm Zn, from 325 to 330 ft. (99 to 100 m.).

CONCLUSIONS

The diamond drilling of the MUN silver anomaly confirmed the presence of vein associated molybdenum - zinc - silver mineralization, but as yet in sub-economic levels.

RECOMMENDATIONS

Enough pyrite is generally associated with the zinc-silver mineralization to give favourable induced polarization response, so a limited I.P. Survey over a selected geochemically favourable area would help define the extent of the sulphide mineralization, and determine whether or not more interesting areas remain untested. At the same time, the resistivity data gained from the same I.P. Survey would supply information on the distribution of post-mineralization dike units, which should have relatively high resistivity, and altered intrusive, which should have a low resistivity.

Respectfully submitted,



Colin C. Macdonald, B.Sc.(Eng.)

TORONTO

November 16, 1977.

- 9 -
CANADIAN OCCIDENTAL PETROLEUM LTD.
 MINERALS DIVISION
DIAMOND DRILL RECORD

LOCATION L28+00E/69+00N DIRECTION 000°T DIP 45° HOLE No. 4-77

LOGGED BY C.C. Macdonald CASING 0-130' SHEET No. 1

STARTED October 7, 1977 CORE SIZE BQ CORRECTED TESTS _____

FINISHED October 20, 1977

PROPERTY MUN

FROM	TO	DESCRIPTION
0	130.0	Cased Overburden.
130.0	197.0	<p>Moderately altered white, medium-grained equigranular granodiorite. Feldspars partially to completely replaced by kaolin, sometimes by pale green, waxy clay minerals. Biotite is quite fresh throughout, slightly chloritized only in the highly altered zones. Occasional highly altered sections up to 6" are rubbly, with only quartz left unaltered, and usually limonitic.</p> <p>Occasional narrow quartz and/or calcite veins often contain pyrite, more rarely molybdenite, and usually have a grey-green envelope up to 2 cm. into the white already-altered granodiorite. Black Mn in fractures and porous zones is present over the first 30 feet.</p> <p>136.0, 136.9, 137.2, 140.0, 141.2, 141.7, 147.0, 151.9, 154.4, 160.3, 170.0, 194.3.</p> <p>Molybdenite as blue-grey discrete grains, usually in the quartz vein, with associated Py at the vein edges and disseminated into the host rock. Average vein 5 mm. width, core angles 40-65° LCA. Usually associated with an ochre-red oxide stain.</p> <p>159.5-161.0 - highly altered clay-rich section.</p>
197.0	214.8	<p>Granodiorite as above, but about 60% affected by the grey-green alteration, which sometimes wanders randomly across the core, usually but not always related to visible fractures. Slightly higher Py content.</p> <p>200.5 - visible sphalerite at the edge of a 2 cm. quartz-pyrite veins, 67° LCA.</p> <p>210.0, 210.6, 212.3 - Minor Mo in narrow quartz veins and smears.</p>

CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

DIAMOND DRILL RECORD

LOCATION _____ DIRECTION _____ DIP _____ HOLE No. 4-77

LOGGED BY _____ CASING _____ SHEET No. 2

STARTED _____ CORE SIZE _____ CORRECTED TESTS _____

FINISHED _____

PROPERTY MUN

FROM	TO	DESCRIPTION
214.8	340.0	<p>White granodiorite, moderately altered with some highly altered and softer sections. Biotite fresh. Pyrite common in quartz and carbonate veins.</p> <p>232.6-237.5 - highly altered, broken and rubbly section, with a green sericitic tint to the altered feldspars.</p> <p>216.4, 218.8, 227.2, 227.9, 250.3, 258.0, 265.7, 271.2, 286.10, 304.0 - molybdenite in narrow quartz veins.</p> <p>Sphalerite possibly present in some of the finer-grained occurrences.</p>
340.0	562.0	<p>Fresh to slightly altered granodiorite, with some sections moderately altered around fractures. A pinkish felsite is occasionally cut for short distances, and it too has caused minor kaolinization of the feldspars. Carbonate veins very rare in this section, and quartz veins less common than previously.</p> <p>346.2, 347.2, 356.3, 358.0, 364.6, 374.2, 399.1, 414.0, 430.1, 436.4, 502.8, 556.0, Molybdenite in narrow quartz veins, core angles 50-80° LCA.</p> <p>422.0 - Fine-grained sphalerite in a highly altered section, along with the ochre stain.</p> <p>454.0 - Minor Cp, Py, and sphalerite in a 2 cm. quartz vein, 70° LCA.</p> <p>562.0 - END OF HOLE</p>

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

NOV 4 1977

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

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

CERTIFICATE NO. 42439

INVOICE NO. 22494

RECEIVED October 26, 1977

ANALYSED November 1, 1977

ATTN: ROCKS

SAMPLE NO.	Footages	PPM Copper	PPM Molybdenum	PPM Zinc	PPM Silver
38901	130-135	395	20	685	0.6
38902	135-140	275	58	885	1.6
38903	140-145	280	33	990	3.2
38904	145-150	445	56	745	0.2
38905	150-155	58	120	165	0.1
38906	153-160	94	49	170	0.2
38907	160-165	34	55	80	0.4
38908	165-170	88	33	65	0.1
38909	170-175	34	250	80	0.1
38910	175-180	128	13	325	0.4
38911	180-185	36	2	75	0.4
38912	185-190	200	12	395	0.8
38913	190-195	335	235	1120	0.8
38914	195-200	225	66	2720	1.4
38915	200-205	330	17	1440	2.0
38916	205-210	430	40	2400	3.0
38917	210-215	225	215	515	0.6
38918	215-220	310	200	135	0.2
38919	220-225	126	11	430	0.1
38920	225-230	52	92	165	0.1
38921	230-235	42	11	145	0.1
38922	235-240	48	6	265	0.1
38923	240-245	114	25	1000	0.1
38924	245-250	62	37	270	0.1
38925	250-255	80	155	550	0.1
38926	255-260	380	85	3000	5.0
38927	260-265	86	27	320	3.0
38928	265-270	82	7	265	1.6
38929	270-275	210	2	730	1.2
38930	275-280	18	1	75	0.4
38931	280-285	72	1	495	0.2
38932	285-290	48	15	360	0.2
38933	290-295	215	1	415	0.2
38934	295-300	60	15	95	0.1
38935	300-305	58	18	80	0.1
38936	305-310	84	1	430	0.2
38937	310-315	92	24	85	0.2
38938	315-320	128	11	295	0.1
38939	320-325	122	59	840	1.4
38940	325-330	270	105	3960	10
STD.		90	9	125	4.6



MEMBER
CANADIAN TESTING
ASSOCIATION

CERTIFIED BY: *W.P. [Signature]*

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

CHEMEX LABS LTD.

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO: Canadian Occidental Petroleum Ltd.,
 Minerals Division
 801 -161 Eglinton Ave., East
 ATTN: Toronto, Ont. M4P 1J5

CERTIFICATE NO. 42440

INVOICE NO. 22461

RECEIVED October 26, 1977

ANALYSED October 31, 1977

ROCKS

SAMPLE NO. :Footages	PPM Copper	PPM Molybdenum	PPM Zinc	PPM Silver
38941 330-335	138	5	530	0.6
38942 335-340	60	6	850	0.2
38943 340-345	36	35	165	0.2
38944 345-350	46	205	90	0.1
38945 350-355	44	11	425	0.2
38946 355-360	86	80	280	0.4
38947 360-365	164	14	925	0.4
38948 365-370	20	26	110	0.1
38949 370-375	72	80	290	0.2
38950 375-380	106	20	540	0.4
38951 380-385	62	30	325	0.4
38952 385-390	36	42	125	0.2
38953 390-395	90	31	940	0.2
38954 395-400	132	150	935	0.4
38955 400-405	54	12	410	0.1
38956 405-410	66	5	180	0.1
38957 410-415	132	150	600	1.4
38958 415-420	62	5	145	0.1
38959 420-425	240	2	1800	1.6
38960 425-430	66	89	420	0.2
38961 430-435	54	77	600	0.2
38962 435-440	86	45	280	0.4
38963 440-445	64	7	145	0.2
38964 445-450	30	29	110	0.1
38965 450-455	76	2	445	0.2
38966 455-460	66	7	305	0.4
38967 460-465	34	2	150	0.2
38968 465-470	80	2	485	0.2
38969 470-475	44	30	345	0.1
38970 475-480	74	8	200	0.1
38971 480-485	52	16	380	0.2
38972 495-490	130	21	150	0.4
38973 490-495	176	125	455	2.6
38974 495-500	152	110	200	0.8
38975 500-505	60	15	195	0.2
38976 505-510	72	4	235	0.1
38977 510-515	154	4	345	0.4
38978 515-520	88	12	395	0.2
38979 520-525	126	6	120	0.4
38980 525-530	255	4	420	0.8
STD.	90	10	130	5.4



MEMBER
 CANADIAN TESTING
 ASSOCIATION

CERTIFIED BY: *[Signature]*

DEC 19 1977

Report on Drill core samples Mun 4-77-200,435.

A polished section was made from each of the samples, and examined by microscope and briefly by electron probe.

Sphalerite is present in both samples, abundantly so in section 200, where it is 10 - 15% of the surface area. It occurs in irregular masses up to 5mm diam - one such large area is indicated on the section by an arrow. The sphalerite often rims the pyrite grains which are more euhedral. Chalcopyrite occurs in lesser amounts, but is commonly found in exsolution blebs throughout the sphalerite, with the bleb size increasing with distance from the edge of the grain. The sphalerite is moderately Fe rich.

Section 435 has less sphalerite, but still very definitely there. This section also has quite a lot of rutile needles associated with the cleavage planes of the silicates.

Small incusions in the sphalerite of section 200 of a phase other than chalcopyrite may be sulphosalt material responsible for the Ag values. An X-ray spectrum containing Pb and Ag was obtained for one of these incusions. A more detailed probe study would be required to check this.

Sections and cutoffs are being returned under seperate cover.

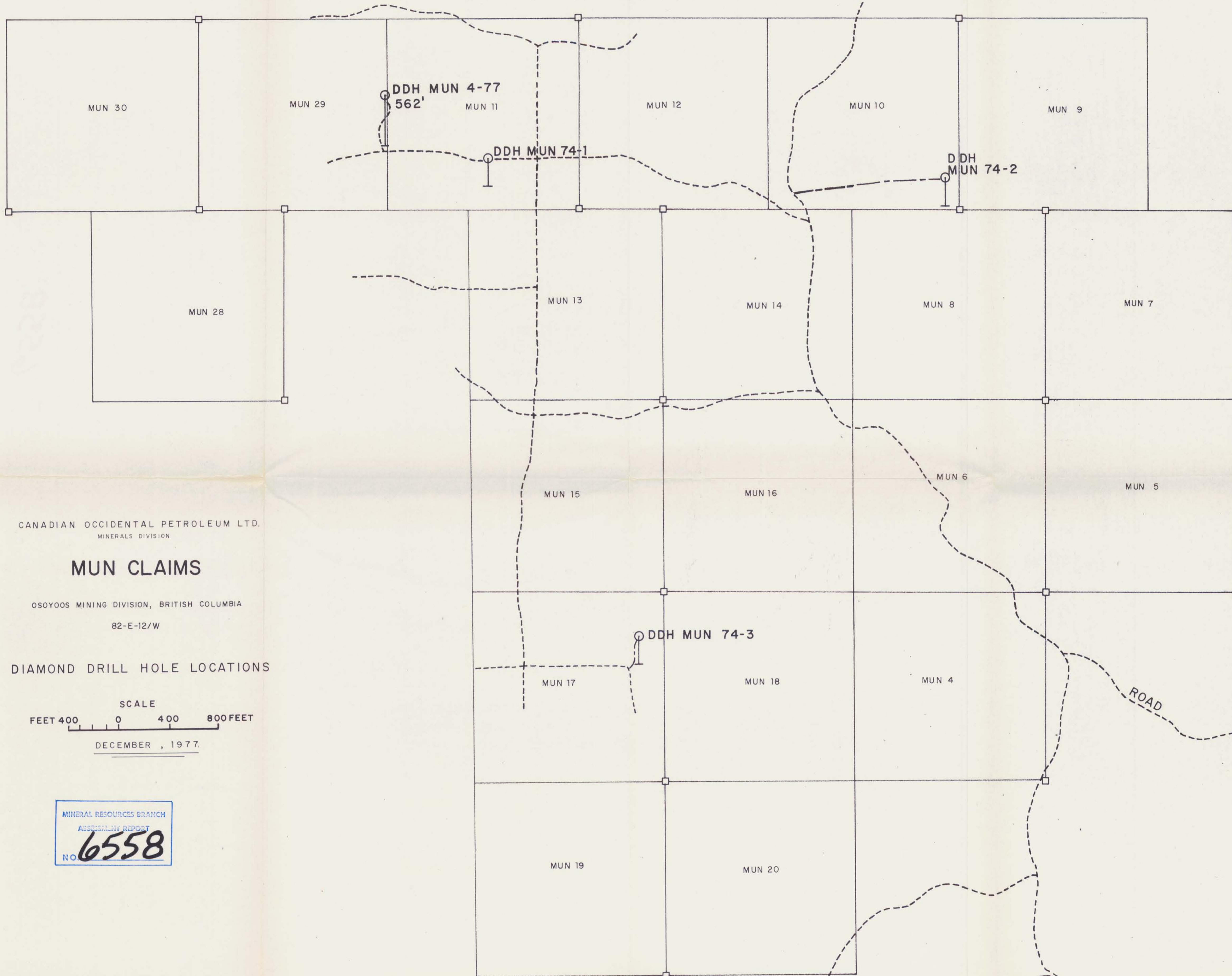
Report prepared by:
J.C.Rucklidge,
Astimex Scientific Ltd.
16 Edgewood Crescent,
Toronto, M4W 3A9

STATEMENT OF EXPENDITURES

MUN Claims (4-21, 28-30)

N.T.S. 82 E/12W

Salaries - C.C. Macdonald	\$	830.32
14 man days @ 59.31/man day		
Geochemical Analysis -86 samples,		
344 determinations		356.81
Diamond Drilling		9,901.00
Camp Costs		475.39
Travel & Transportation		678.66
Reporting Costs		<u>96.29</u>
Total	\$	<u>12,338.47</u>

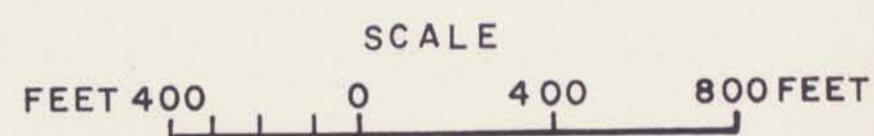


CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

MUN CLAIMS

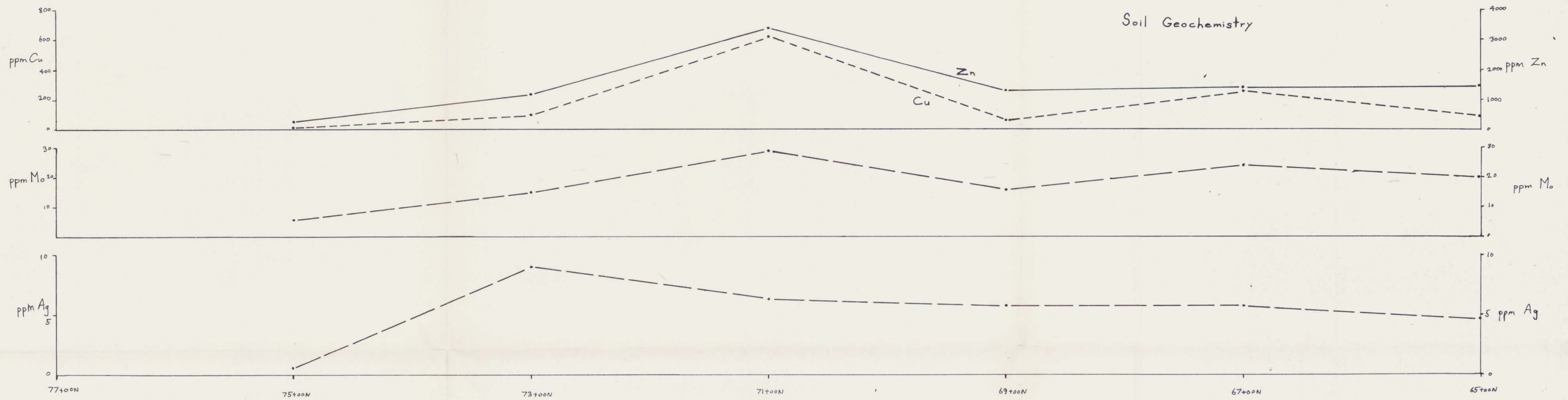
OSOYOOS MINING DIVISION, BRITISH COLUMBIA
82-E-12/W

DIAMOND DRILL HOLE LOCATIONS

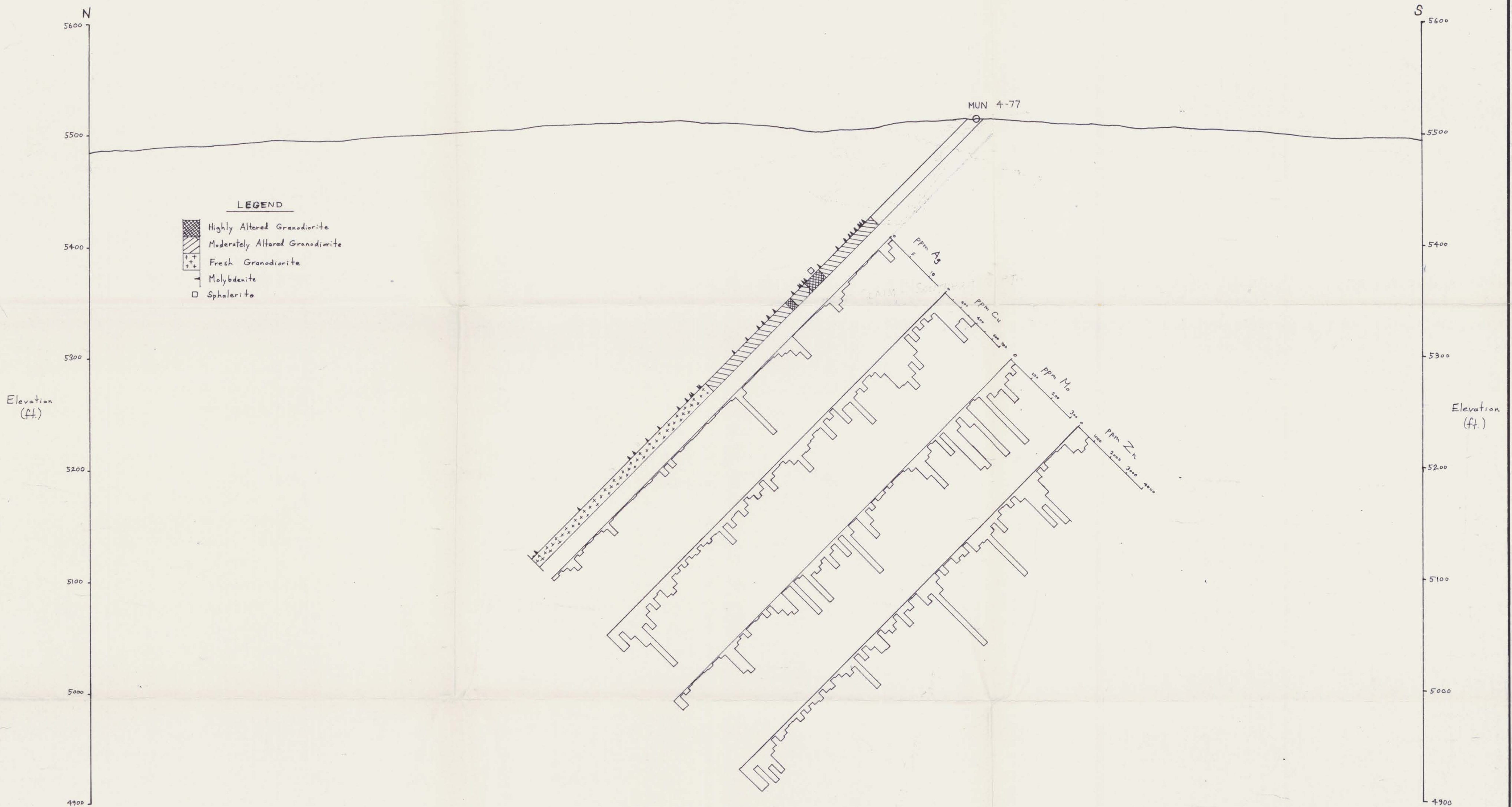


DECEMBER, 1977.

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. **6558**



VERTICAL SCALE 1" = 50'



MINERAL RESOURCES BRANCH
 ANNUAL REPORT
 NO. **6558**

CANADIAN OCCIDENTAL PETROLEUM LTD.
 MINERALS DIVISION

PROJECT MUN
 GEOLOGICAL AND GEOCHEMICAL
 SECTION

SECTION TAKEN ALONG LINE 28+00E, LOOKING EAST

DECEMBER, 1977 PLAN 2