CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

GEOLOGY AND GEOCHEMISTRY OF THE MOX CLAIM GROUP

Lat.: 61°30'N
Long.: 133°18'W

AND THE MORE-BETTER CLAIM GROUP

Lat.: 61°31°N
Long.: 133°16'W

Claims:

MOX 1-14, 16-17, 19, 21-60

MORE-BETTER 1-8

WHITEHORSE MINING DISTRICT

YUKON TERRITORY

090832

by:

M.J. Crandall, B.Sc.

Work Completed August 10 to August 27, 1981

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 27,500.00.

R. Debicki

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

Whitehorse

Supervising Mining Recorder of Whitehorse, Y.T.

CTION ARE:

NEW APPL'N for PLACER LEASE to PROSPECT: Name:

Lease No. ....

RENEWAL APPL'N PLACER LEASE to PROSPECT: Name:

Lease No. ....

AFFIDAVIT of EXPENDITURE on PLACER LEASE. Name:

ASSIGNMENT of PLACER LEASE No. ....
From: To:

GROUPING APPL'N UNDER SEC. 52(2) PLACER MINING ACT.
Owner:

DIAMOND DRILL LOGS:
Claims: Claim sheet no:

QUARTZ ASSESSMENT REPORT:
Claims: Max 1-14, 16, 21-60
Claim sheet no. 105-F-11
Type of report. Geology & Geochemistry
Submitted by: Canadian Occidental Petroleum Ltd.
Cls. work performed on: ALL
$ Req. for ren. application 27,500.

Signature

Date Ret.

Y ACTION.

090832

Signature

Department of Indian Affairs and Northern Development

YUKON QUARTZ MINING ACT

FORM "C" - APPLICATION FOR A CERTIFICATE OF WORK

(This form required in duplicate with sketch showing location of work.)

RECEIVED
6 OCT 1981
MINING RECORDERS OFFICE
WHITEHORSE, Y.T.

OFFICE DATE STAMP

I (Name)	M.J. CRANDALL	Occupation	GEOLOGIST
(Postal Address)	c/o Canadian Occidental Petroleum Ltd. 180 Attwell Dr., 4th Floor, Rexdale, Ont. M9W 6A9		

MAKE OATH AND SAY, THAT:-

1. I am the owner, or agent of the owner, of the mineral claim(s) to which reference is made herein.

2. I have done, or caused to be done, wotk on the following mineral claim(s):
(Here list claims on which work was actually done by number and name)

MOX 1-14 YA24721-34
MOX 16 YA24736
MOX 21-60 YA24741-80

situated at 61°30'N 133°16'W Claim Sheet No. 105-F-11

in the Whitehorse Mining District, to the value of at least 27,500

dollars, since the 10th day of August 19 81,

to represent the following mineral claims under the authority of Grouping Certificate No. -
(Here list claims to be renewed in numerical order, by grant number and claim name, showing renewal period requested).

MOX 1-14 YA24721-YA24734
MOX 16 YA24736
MOX 21-60 YA24741-YA24780

Each claim to be renewed for a period of 5 years.

55 cls. × 5 yrs. × $100.00 per cl. = ~~22,000~~ $27,500 assessment credit.

~~can only be renewed for 4 years.~~

3. The following is a detailed statement of such work: (Set out full particulars of the work done indicating dates work commenced and ended in the twelve months in which such work is required to be done as shown by Section 53.)

Report and final detailed Statement of Expenditures to follow by Nov. 15/81 (geologic survey, geochemical survey, magnetic and VLF surveys, picketing).

Sworn before me at Rexdale

this 1st day of October 19 81

R.J. Evans (signature)

Notary Public

R.J. Evans

Robert John Evans, Notary Public, Judicial District of York, limited to the attestation of instruments and the taking of affidavits, for Canadian Occidental Petroleum Ltd. Expires February 7, 1984.

m. Jane Crandall (signature)

Applicant.

M.J. Crandall

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PLANS (cont'd)

SUMMARY

The MOX Claims are located at 61°30'N, 133°18'W within N.T.S. map sheet 105F/11, Whitehorse Mining District, Yukon Territory. The MOX Claim Group, originally comprising 60 full claims, now consists of 52 units. The MORE-BETTER Claims comprising 8 claims, were staked in 1981 adjacent to the MOX Claims to cover a high Cu, Pb, Zn, Ag stream sediment occurrence.

The property is underlain by regionally metamorphosed Proterozoic sediments, schists, gneisses and migmatites of the Nasina Shelf or Cassiar Platform. The metasediments are a complexly folded layered sequence of quartzites, marbles, calc-silicates and sulphide-bearing variants of the above units. Segregation pegmatites have resulted from the metamorphic event. The metasediments have been intruded by a network of Cretaceous megacrystic biotite-granodiorite and equigranular quartz monzonite as sills, dykes and stocks. A later complex of aplite and pegmatite dykes and sills crosscut the intrusive and metasedimentary rocks and have produced a hydrothermal imprint on the intrusives and metasomatic calc-silicate skarn at the contacts. All units are cut by pyritic quartz feldspar porphyry dykes and quartz veins.

Local, minor mineralized skarn development has occurred at carbonate/intrusive contacts. Although Cu, Pb, Zn, Ag contents are geochemically interesting (up to 1750 ppm

Cu, 1500 ppm Pb, 2000 ppm Zn and 100.0 ppm Ag) in these rocks, the small dimensions and discontinuity of these skarns do not imply an economic means of mineralization. Vein and/or fracture related mineralization may be of significant potential. Galena and sphalerite bearing veins contained high Pb, Zn, Ag (455 ppm-1.14% Pb, 630 ppm-2.00% Zn and 2.3 ppm-90.0 ppm Ag) but were only found in three locations. High Pb, Zn, Ag soil anomalies indicate that some of the shear zones mapped on the MOX West Claims may contain substantial vein-type mineralization. Cu, Pb, Zn, Ag mineralization occurs in a calc-silicate bearing impure recrystallized limestone. Fourteen samples from poorly exposed thin horizons and in float averaged 0.32% Cu, 1.31% Pb, 1.36% Zn and 6.07 oz/ton Ag. Mineralization consists of finely disseminated galena, sphalerite, chalcopyrite, bornite and Ag-bearing chalcocite + covellite. Known mineralized occurrences are adjacent to pegmatites implying skarnification; but the consistency in mineralogy, grade and style of mineralogy suggest a recrystallized syngenetic aspect.

Detail soil sampling has outlined several highly anomalous Pb, Zn, Ag areas covering the known mineralized zones. Northerly trends outlined by the anomalies may have resulted from the subcropping impure limestone hosted mineralization. Fracture/vein related mineralization has not been excluded. A northwesterly trend coincides with a buried fault mapped at its southeast end. Here the highest soil values occur (7000 ppm Pb, 1.09% Zn and 8.20 oz/ton Ag), structurally controlled mineralization is implicated.

Ten locations of VLF-EM and/or Mag conductors have been outlined by Jagodits from the 1981 surveys. Trends tend to be biased due to the widely spaced survey lines, although coincident Pb, Zn, Ag soil anomalies occur.

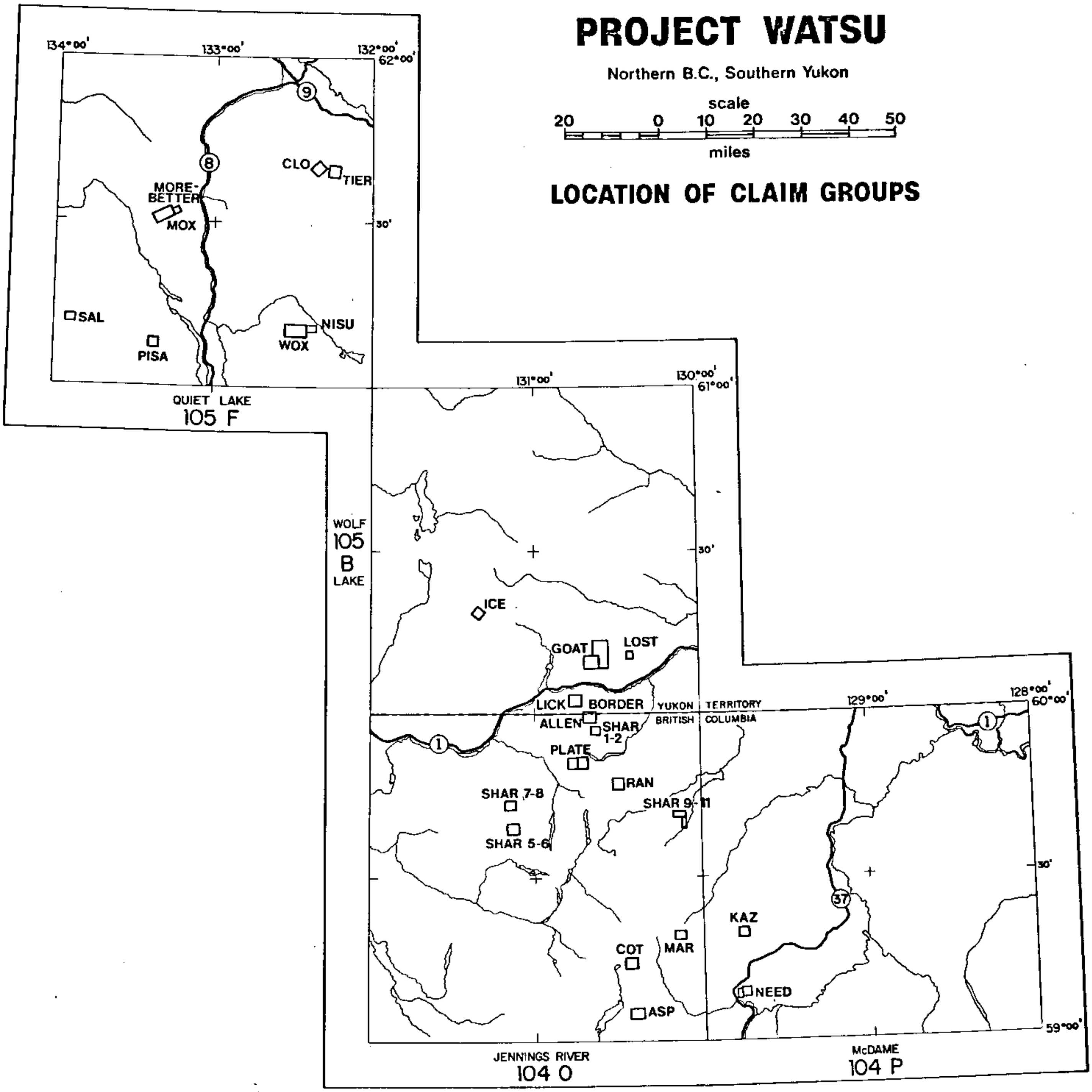
It is recommended that detail fill-in ground geophysics (VLF-EM and Mag) be carried out over the known mineralized and geochemically anomalous areas. A close examination of mineralized and geochemically anomalous zones should be carried out prior to physical work in an attempt to interpret the source of geochemical and geophysical anomalies. Bulldozer trenching of these areas should be employed to prospect geochemical and geophysical targets on the MOX West Claims.

I. INTRODUCTION

The MOX Claims were staked on June 20, 1979 to cover streams with sediments bearing high values of U, F, and Pb, which were detected in the Geological Survey of Canada - Uranium Reconaissance Program of 1978 (data released in Open File 564, June 1979). In 1979, Canadian Occidental personnel conducted a reconnaissance mapping and geochemical survey (Sacks, 1979). A detailed geologic mapping and multi-media geochemical program was completed in 1980 (Gittings, 1980). The results from the field work indicated high rock geochemistry with up to 1.1% zinc and lead, 1250 ppm Cu and 1.9 oz/ton Ag in a pyrrhotite bearing skarn. Also, two extensive Pb-Zn-Ag Cu soil anomalies were outlined in the northwest section of the claims with soil values up to 3050 ppm Zn, 1000 ppm Pb, 825 ppm Cu and 2.36 oz/ton Ag.

In August 1981, an investigation of the skarn associated mineralization was made and control over the geologic mapping was established by a picketed grid. Follow-up soil sampling was carried out covering the known Cu-Pb-Zn-Ag soil anomalous zones. VLF and magnetometer surveys were completed over the western grid and through the central valley of the claim group. The results of the 1981 field work are presented in this report.

Figure 1


PROJECT WATSU
Northern B.C., Southern Yukon
scale
20 0 10 20 30 40 50
miles
LOCATION OF CLAIM GROUPS
134°00'
133°00'
132°00'
62°00'
CLO
TIER
MORE-BETTER
MOX
30'
SAL
PISA
WOX
NISU
QUIET LAKE
105 F
131°00'
130°00'
61°00'
WOLF
105
B
LAKE
ICE
GOAT
LOST
LICK
BORDER
YUKON TERRITORY
BRITISH COLUMBIA
ALLEN
SHAR 1-2
PLATE
RAN
SHAR 7-8
SHAR 9-11
SHAR 5-6
129°00'
128°00'
60°00'
KAZ
MAR
COT
NEED
ASP
59°00'
JENNINGS RIVER
104 O
McDAME
104 P

II. LOCATION AND ACCESS

The MOX Claim Group comprises 55 individual claims and is located at 61°30'N latitude, 133°18'W longitude, within NTS map sheet 105F/11, Whitehorse Mining District, Yukon Territory (Figure 2). The claim group covers an area roughly 11.5 km^2 (4.4 mi^2). The MORE-BETTER Claims, comprising 8 claims lie adjacent to the MOX Group at 61°31'N, 133°16'W covering an area 1.7 km^2 (0.65 mi^2) (Figure 3).

The claims are located at the head of Caribou Creek, approximately 11.0 km (6.6 mi) west of the Canol Road (Yukon Highway No. 8). The Canol Road is a summer-only, narrow dirt road built during World War II. Maintenance is limited but in 1981, road crews had greatly improved the condition of the road.

Access to the claims is via helicopter from the Canol Road. Choice campsites are located along the highway at Rose Lake and Lapie Lakes.

III. PHYSIOGRAPHY AND VEGETATION

Relief over the MOX Claims is 1900 ft (580 m) between elevations of 6300 ft and 4400 ft above sea level. The claims are cut by a central north-south trending, stream valley at 4500 ft (Caribou Creek) with well-developed east and west facing cirques on either side. The tops and back slopes of the cirques are grass-covered, gentle and rolling,

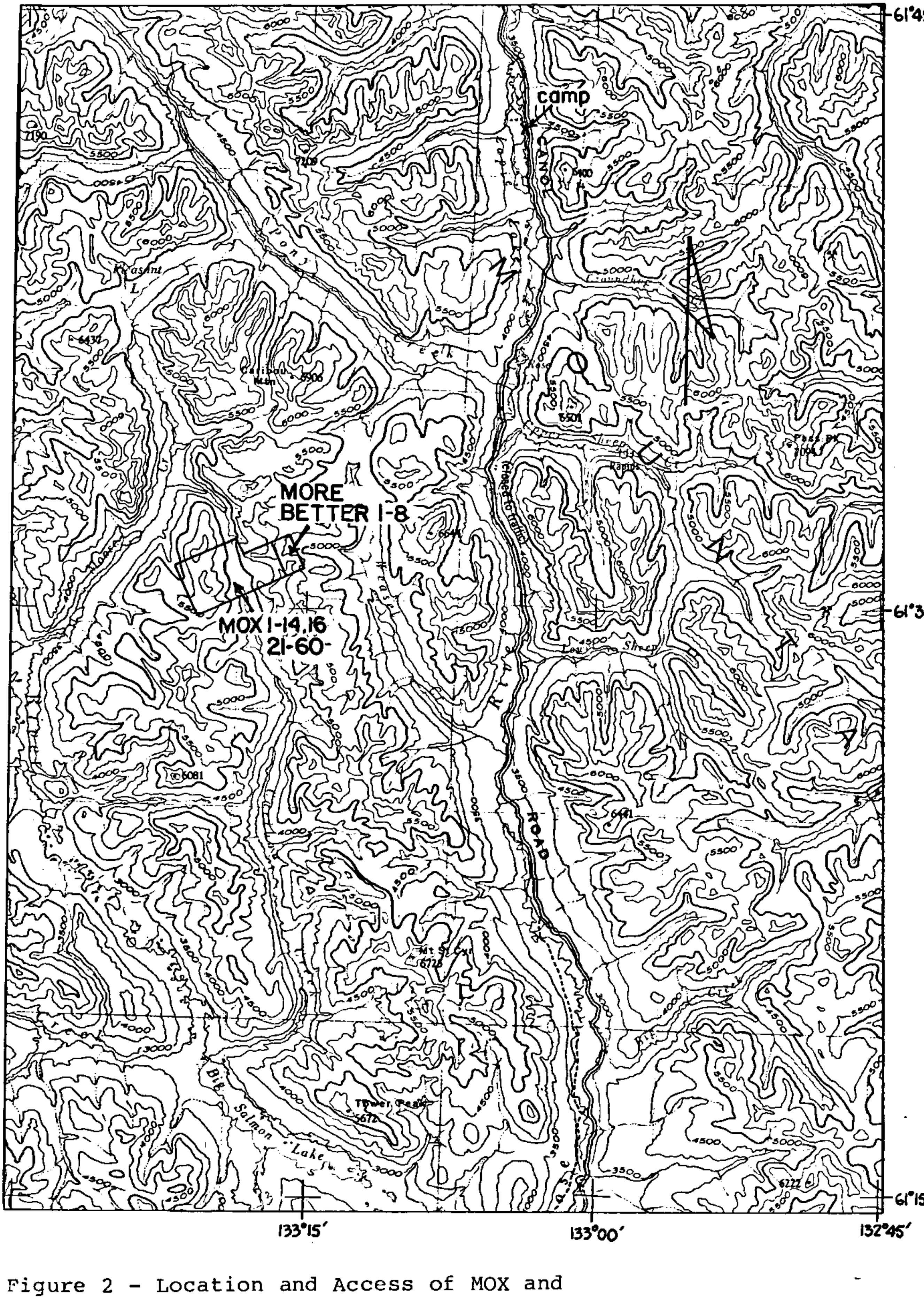


Figure 2 - Location and Access of MOX and

and MORE-BETTER Claims

Scale: 1:250,000

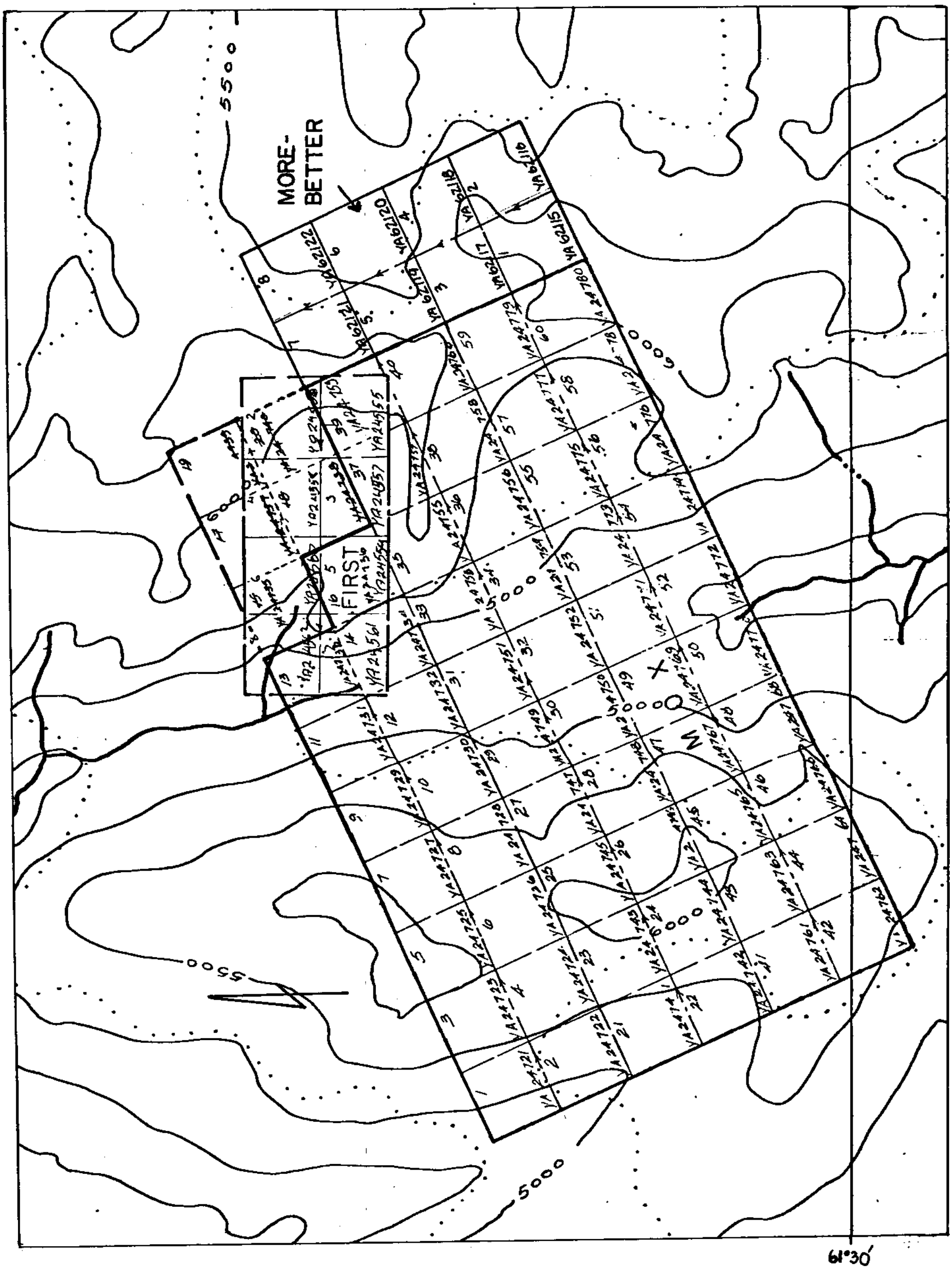


Figure 3 - Staking Sketch Showing MOX and MORE-BETTER Mineral Claims
Scale: 1" = 2640'

whereas cirque faces are quite steep.

Elevations over the MORE-BETTER Claims range from 5100 ft to 6100 ft (1000 ft; 305 m) and is a topographic continuation from the MOX east claims.

The claims are generally above treeline with grass and moss covering the upper slopes. The central valley of MOX is lined with thick dense spruce (up to 20 ft high), long grass and buckbrush.

IV. PREVIOUS WORK

The Quiet Lake map sheet (105-F) was mapped by numerous Geological Survey of Canada geologists between 1956 and 1977 (Wheeler et al, 1960; Templeman-Kluit, 1977). In 1978, the Geological Survey of Canada conducted a reconnaissance stream sediment and water sampling survey over the Quiet Lake Sheet. Results were released in Open File 564 on June 15th, 1979. The MOX 1-60 Claims were staked on June 20th, 1979 to cover high values of U (100 ppm), F (100 ppb) and Pb (129 ppm) in stream sediments and waters.

Parts of MOX Claims 13 to 20, 37 and 39 are covered by the First Claims staked on June 15, 1979 and MOX 15, 18 and 20 were disallowed (see Figure 3). Archer and Cathro did some work on their property (Gittings 1980) but have allowed their claims to lapse in 1981.

In July of 1979, Canadian Occidental conducted reconnaissance geological mapping, prospecting and geochemical surveys over the claim group (Sacks, 1979). A detailed program involving mapping and rock, soil, stream sediment and heavy mineral geochemistry was completed during July 1980 (Gittings 1980). A siliceous pyrrhotite skarn was noted, containing grades up to 1.1% Zn and Pb, 1250 ppm Cu and 1.9 oz/ton Ag. Two major soil anomalies covering approximately 2.5 km^2 and 1.75 km^2 in the northwest section of the claims contain values ranging from 90-825 ppm Cu, 155-1000 ppm Pb, 280-3050 ppm Zn and 2.4 ppm-2.36 oz/ton Ag.

V. CLAIM STATUS

The work carried out on MOX 1-14, 16, 21-60 in 1981 has not been applied for assessment credit to date. The MOX 17, 19 Claims were allowed to lapse in 1981. Requests made for work done in 1980 have been approved, claim status is as follows.

Claim	Tag No.	Date Staked	Date Recorded	Expiry Date
MOX 1-14	YA24721-YA24734	79-06-20	79-07-04	84-10-04
MOX 15	YA24735	79-06-20		Disallowed
MOX 16	YA24736	79-06-20	79-07-04	84-10-04
MOX 17	YA24737	79-06-20	79-07-04	Lapsed 81-10-04
MOX 18	YA24738	79-06-20		Disallowed
MOX 19	YA24739	79-06-20	79-07-04	Lapsed 81-10-04
MOX 20	YA24740	79-06-20		Disallowed
MOX 21-60	YA24741-YA24780	79-06-20	79-07-04	84-10-04
MORE-BETTER 1-8	YA62115-YA62122	81-08-10	81-08-13	82-08-13

VI. WORK COMPLETED 1981

6.1 Claim Staking

The MORE-BETTER 1-8 Claims were staked by C.J. Richardson of Canadian Occidental on August 10, 1981. A total of 8 individual units covering an area of 1.7 km^2 (0.65 mi^2) were staked adjoining the MOX 39, 40, 59 and 60 Claims. Recording date of these claims is August 13, 1981.

6.2 Grids

A chained and picketed grid was established over the MOX Claims for control over geologic, geophysical (VLF and Magnetometer) and soil sampling geochemical surveys. Because of the steep and varying terrain, slope corrections were made at 30 m intervals using Suuntoc clinometers.

30.35 km of picketed grid (Plan 1A) was put in by Canadian Occidental personnel from August 10 to August 23, 1981 for a total of 41.5 mandays of work (see 6.7 for details). The baseline and tieline for MOX runs at 338° and crosslines were established at 125 m x 30 m intervals on the west claims and at 250 m x 30 m on the east side of the main valley. The crosslines bear 248° (068°).

A chained and picketed baseline covers the eastern MOX (260 m) Claims and the MORE-BETTER (740 m) Claims. This line runs at 055°. One manday of work was required for this line, completed on August 23rd, 1981 (see 6.7 for details).

An average of 0.75 km/day/man of line was put in.

6.3 Geochemistry

A total of 412 soil samples were collected by Komar, Manojlovic, and Tetu over the grid (see 6.2) and in 10 soil pits. 9.5 mandays of work was performed (see 6.6.7 for details).

42 soil samples were collected on the MORE-BETTER Claims at 125 m x 125 m paced intervals. Samplers averaged 43 samples/day. In addition, Crandall, Rochat and Watters collected 97 rock samples during the mapping surveys. All

samples were sent to Chemex Labs Ltd., North Vancouver, B.C. for geochemical analysis. (See 6.6.) Analytical results are listed in Appendix III.

6.4 Geophysics

A total of 11 mandays of geophysical surveying was completed by G. Mijac and P.M. Manojlovic on the picketed grid (see 6.2) covering the MOX Claims. VLF electromagnetic and magnetometer readings were taken at 15 m x 125 m intervals on the western grid and at 15 m x 250 m on the eastern grid. Readings and contours were plotted at 1:2500 and interpretation completed by F.L. Jagodits of Excalibur International Consultants Ltd.

The magnetometer survey averaged 4 km/day whereas G. Mijac and VLF survey accomplished 6 km/day.

6.5 Geological Mapping

A detail mapping survey at 1:2500 was conducted over the western grid during the period August 14 to August 27, 1981 by Crandall, Rochat, Komar, Kuehnbaum and Watters (see 6.7 for details). The central valley and eastern claims were remapped during this period at 1:5000. Wallis, Rochat and Crandall visited the property on August 25, 1981 for a geologic summary and evaluation of the MOX and MORE-BETTER Claims. A total of 27.5 mandays of work on the MOX Claims was completed. Two mandays of work was spent on the MORE-BETTER Claims.

Map bases used for 1981 surveys were 1:2500 and 1:5000 blow-ups from 1:50,000 N.T.S. map sheet 105F/11.

Additional ground control was established from 1:2500 and 1:5000 blow-ups of airphotos A12186-208 and A12245-41 (E.M.R. series).

6.6 Summary of Work Completed - 1981

MOX CLAIMS 1-14, 16, 21-60

Type of Work	Man Days	Line km (Area)	No. Samples	Cu	Pb	Zn	Ag	Au	Bi	As	Sb	No. Determinations
Geological Mapping	27.5	(3 km^2)										
Geochemistry	9.5	(2.25 km^2)										
i) rocks			94	94	94	94	94	5	2	2	2	387
ii) soils			412	-	412	412	412	-	-	-	-	1236
iii) standards			18	18	18	18						54
Geophysics												
i) magnetometer	6	24.65										
ii) VLF	5	30.35										
Grid Establishment	41.5	30.35										
Camp plotting	14											
Total	103.5		524	94	524	524	524	5	2	2	2	1677

Helicopter Hours (Hughes 500-C GJXB) 30.4
(Bell 206B FHTT) 1.1

= 31.5 hours

MORE-BETTER Claims 1-8

Type of Work	Man Days	Line km (Area)	No. Samples	Cu	Pb	Zn	Ag	No. Determinations
Geological Mapping	2	($0.5\ km^2$)						
Geochemistry	1	($0.5\ km^2$)						
i) rocks			3	3	3	3	3	12
ii) soils			42		42	42	42	126
Grid Establishment	0.5	0.74						
Total	3.5		45	3	45	45	45	138

6.7 Personnel

NAMES/POSITION	ADDRESS	DATES ON MOX
Dr. R.H. Wallis, P.Eng. Chief Geologist	Canadian Occidental Petroleum Ltd. 180 Attwell Dr. 4th Floor Rexdale, Ontario M9W 6A9	August 25, 1981 (2/3 day)
R.M. Kuehnbaum Project Supervisor	As above	Mapping: August 16,18, 19, 1981
G. Tetu Project Geologist	As above	Soil Sampling: Aug. 22 (1/2 day) Aug. 23 (1/2 day) Grid: Aug. 11, 18, 22 (1/2 day), 23 (1/4 day)
M.J. Crandall Geologist	As above	Mapping: Aug. 14,15,18-20, 22-27 Grid: Aug. 11-13
C.J. Richardson Geologist	As above	Grid: August 18, 1981

NAMES/POSITION	ADDRESS	DATES ON MOX
S. Watters Geologist	As above	Mapping: Aug. 15,16,18, 19, 1981
G. Rochat Geologist	As above	Grid: Aug. 12 Mapping: Aug. 14-16, 18,19,23-26, 1981
K. Komar Geologist	As above	Grid: Aug.13-15, 18-20, 22 Soil Sampling: Aug. 16,23-25 Mapping: August 26, 1981
E. Bianchini Geologist	As above	Grid: Aug.11, 12,14-16,18,19
J. Seguin Junior Assistant	As above	Grid: Aug.11,12, 14-16,18,19
P. Manojlovic Junior Assistant	As above	Grid: Aug.11-13, 22 (1/2 day) Magnetometer: Aug.15,16,18, 19,23,24, 1981 Soil Sampling: Aug. 20, 22 (half day), 26, 1981
P. Maheux Junior Assistant	As above	Soil sampling: Aug.25 (1/2 day) 26,27 Grid: Aug.11-15, 18-20,22,23 (1/4 day)
G. Mijac Geophysical Technician	1303 Daimler Road Mississauga, Ont. L5J 3T3	VLF: Aug. 15, 16,19,22,23, 1981

NAMES/POSITION	ADDRESS	DATES ON MORE-BETTER
Dr. R.H. Wallis, P.Eng. Chief Geologist	Canadian Occidental Petroleum Ltd. 4th Floor 180 Attwell Dr. Rexdale, Ont. M9W 6A9	August 25, 1981 (1/3 day)
G. Tetu Project Geologist	As above	Grid: Aug. 23, 1981 (1/4 day)
M.J. Crandall Geologist	As above	Mapping: Aug. 25 (1/3 day) Aug. 26 (1/2 day)
G. Rochat Geologist	As above	Mapping: Aug. 25 (1/3 day) Aug. 26 (1/2 day)
P. Maheux Junior Assistant	As above	Soils - Aug. 24 Grid - Aug. 23 (1/4 day)

VII. GEOLOGY

7.1 General Geology

Mapping by Geological Survey of Canada geologists shows the MOX Claims to be underlain primarily by Proterozoic and/or Lower Cambrian injection migmatite consisting of muscovite-biotite gneiss, augen gneiss and sills, plugs, dykes and plugs of biotite granite, quartz monzonite, pegmatite and aplite (Unit Pn+ of Tempelman-Kluit, 1977). The Pn+ unit contains layers of Lower Cambrian marble and limy mud (Unit lCc2 of Tempelman-Kluit, 1977). The eastern portion of the claims is cut by NW trending Cretaceous quartz feldspar porphyry dykes (Unit KTFp of Tempelman-Kluit, 1977). A large body of Cretaceous quartz monzonite lies to the southwest of the claims.

Mapping by Canadian Occidental personnel in 1981 shows the claims to be underlain by regionally metamorphosed sediments, schists, gneisses and migmatites. The metasediments are a complexly folded layered sequence of quartzites, marbles, calc-silicates and sulphide-bearing variants of the above units. Although not mapped by Tempelman-Kluit (1977), these metasedimentary rocks are probably a combination of his PlC_s and lCc2 units. Segregation pegmatites have resulted from the metamorphic event.

The metasediments have been intruded by a network of Cretaceous megacrystic biotite granodiorite and equigranular quartz monzonite as sills, dykes and stocks. A later complex of aplite and pegmatite dykes and sills crosscut the intrusive and metasedimentary rocks producing a hydrothermal effect on the intrusives and metasomatic calc-silicate skarn at the contacts of the aplite-pegmatite complex. All units are cut by pyritic quartz feldspar porphyry dykes (unit KTfp, Tempelman-Kluit, 1977) and quartz veins.

It was suggested by Sacks (1979) and Gittings (1980) that the initial intrusive phase produced a metasomatized sulphide-bearing calc-silicate skarn and thermally metamorphosed marbles and impure marbles. In actual fact, evidence supports regional metamorphism of the sediments to amphibolite facies occurred prior to intrusion of the quartz monzonite. The skarn development is the result of late stage intrusion of aplite and pegmatite dykes and sills. Some Cu-Pb-Zn-Ag mineralization is probably syngenetic. No significant increase in sulphides occurs in the skarns and the discontinuity in sulphides within the metasediments is probably related to the emplacement of the intrusives.

7.2 Table of Formations

UPPER CRETACEOUS OR YOUNGER

QV	quartz vein

MID-CRETACEOUS

Intrusive Rocks

Qfp	quartz (feldspar) porphyry
Ap	aplite
Peg	pegmatite
ms(±bi)QM	muscovite (± biotite)-quartz monzonite
biQM	biotite-quartz monzonite, biotite-granodiorite
biQM-m	megacrystic (in part fluxion textured) biotite-quartz monzonite, megacrystic biotite-granodiorite

PROTEROZOIC

Metasedimentary Rocks

sk	skarn-calc-silicate and quartzite rocks with no remnant fabric and/or bedding
cs	well banded calc-silicate bearing metasediments and hornfelsed equivalents with garnet (gar) diopside (di), actinolite (act) and idocrase (ido), amphibole (amph)
qtzt	quartzite, banded quartzite, minor quartz schist

$qtzt_m$	micaceous quartzite
$qtzt_{po}$	pyrrhotite bearing quartzite
$qtzt_l$	thinly interlaminated impure recrystallized limestone and impure siliceous meta-sediments; quartzite >50% of unit
ls	recrystallized limestone (marble), may contain thin bands of idocrase and other metasediments
ls_l	thinly interlaminated impure recrystallized limestone and impure siliceous metasediments, limestone >50% of unit
Pgn	paragneiss, biotite-quartz-feldspar paragneiss; local minor diopside-calcite-quartz-gneiss (calc-gneiss)

7.3 Description of Rock Units

Descriptions of individual rock samples are listed in Appendix VI, along with trace element contents.

7.3.1 Metasedimentary Rocks

Unit Pgn — paragneiss, biotite-quartz feldspar paragneiss, local minor diopside-calcite-quartz gneiss (calc-gneiss)

In the metasedimentary sequence, the paragneiss (biotite-quartz-feldspar gneiss) are most abundant. In general, this unit grades into the quartz monzonite as discrete lenses, the contacts of which are difficult to map.

The rock is fine-grained, grey, grey-green to buff and composed essentially of feldspar (25-30%), biotite (25-50%) and quartz (25-35%) grains contained in a biotite-chlorite groundmass. The biotite is occasionally stained by limonite, resulting in a reddish weathered rock. The rock appears foliated but this is essentially due to the "gneissic" texture and thin bands of biotite ± quartz, feldspar. Minor carbonate and diopside occurs within the groundmass of some variants. Local pyrite ± pyrrhotite (± 1%) occur along some bands.

Unit ls recrystallized limestone (marble)

ls_I thinly interlaminated impure recrystallized limestone and impure siliceous metasediments, limestone >50% of unit

In general, the carbonate rocks occur as thick, well-bedded layers stratigraphically bound by metasediments (quartzites, calc-siicates) and/or unconformably with quartz monzonites. All of the carbonates are recrystallized limestones (marble) consisting of medium-grained (± 5 mm) calcite.

The purer members are white on the fresh surface and weathers grey to light brown. The rock characteristically has a granulated "sugary" texture and tends to crumble easily along fractures to form loose "sandy" talus. Bedding is distinguished by varying grain size of the calcite or by the subtle changes in colour of the weathered surface. Accessory idocrase in small amounts (<5%) may be present.

The impure variety (ls_I) is distinguished by the presence of siliceous layers and/or minor quartz grains.

Accessory minerals often associated with the impure limestone are idocrase, garnet, diopside. The idocrase forms distinctive bands (± 5 mm) and weathers up from the calcite. For the purposes of mapping, this unit is distinguished from the other metasediments by the percentage of calcite (> 50%) to the impurities. Layers tend to be thin (1-5 m wide).

Cu-Pb-Zn-Ag mineralization occurs within a variety of this unit in a few isolated occurrence on the western ridge system. This is more fully described in Economic Geology.

Unit	qtzt	quartzite, banded quartzite, minor quartz schist
	$qtzt_m$	micaceous quartzite
	$qtzt_{po}$	pyrrhotite bearing quartzite
	$qtzt_I$	thinly interlaminated impure recrystallized limestone and impure siliceous metasediments (quartzite >50% of unit)

Of the quartzite present on the property, the white to grey and banded varieties are most common. All quartzites are fine-grained, compact and commonly with limonite stained fractures. The fresh surface varies in colour from white to grey-green and grey. White quartzites tend to occur in massive, thick beds and may contain minor pyrite and/or pyrrhotite (<2%). Bedding is defined by thin dark layers if present, possibly of fine-grained biotite (or graphite). The grey and banded varieties grade from the purer white quartzite to a medium-grained quartz schist. The schists occur as minor thin layers and are comprised principally of quartz with minor feldspar and biotite. The banded quartzites are well-bedded and locally contain up to 2% pyrite $\pm$ galena $\pm$ sphalerite (sample 37517R). Most sulphides occur in selective horizons, are fine-grained and have interlocking boundaries with the host. This suggests that an early sedimentary enrichment of mineralization prior to regional metamorphism has occurred.

The micaceous quartzite ($qtzt_m$) occurs in thin layers (1-5 meters wide) and is distinct from other metasediments by its dark grey to black colour and strong foliation. The predominant mineral is quartz, with thin lenses of feldspar, fine-grained biotite and amphibole. Minor pyrite occurs in lenses along fractures. In outcrop, the rock is extremely fractured and samples break into platy pieces. Limonite staining occurs on weathered and fracture planes in the presence of fine-grained disseminated sulphides.

Differentiation from pyrrhotite bearing quartzite ($qtzt_{po}$) and the other units is not clearly determined, but for mapping purposes, generally >2% pyrrhotite was used to define this unit. Other criteria used to distinguish this unit is the green-grey colour on fresh surfaces and general lack of fabric, especially at contacts with igneous rocks. The pyrrhotite commonly constitutes up to 15% of the rock and it grades into an impure quartzite. It is believed a remobilization of sulphides from the sediments was caused by the intrusion. This unit is extremely siliceous and does not break easily. The weathered surface is limonitized due to the presence of sulphides.

The impure quartzite ($qtzt_I$) is distinguished by thin layers of quartzite and interlaminated carbonate rocks. The layering developed is on a small scale (<1 m) and the quartzite layers contain minor calcite. Accessory minerals often associated with this unit include epidote, diopside and garnet. Finely disseminated pyrite $\pm$ pyrrhotite occur in this unit. In general, the impure quartzite ($qtzt_I$) is distinguished from the impure limestone (ls_I) by the presence of >50% quartz. The two units, however, are gradational.

Unit cs   well banded calc-silicate bearing metasediments and hornfelsed equivalents

The calc-silicate unit refers to any strata containing abundant calc-silicate minerals. In general, the unit is well banded, occurring in thick beds (up to 20 m, apparent thickness) interlayered with quartzites, impure limestone and paragneiss. The calc-silicate is fine-grained, pale green in colour and mainly comprised of diopside, quartz and calcite. Commonly, combinations of garnet, epidote, actinolite/tremolite, wollastonite and idocrase are present. This unit locally grades into the recrystallized limestone. The sequence is interpreted to be the result of thermal and/or regional metamorphism of thinly interbedded calcareous, pelitic-arenites and calcareous pelites.

Hornfelsed equivalents of the calc-silicate unit are characteristically very fine-grained, compact and pale green in colour. Remnant fabric in outcrop distinguishes this sub-unit from the calc-silicate skarn rocks (unit sk). Generally, the hornfelsed equivalent of the calc-silicate form thin layers (1-5 m) at contacts with igneous dykes and sills. The predominate minerals are diopside and quartz, with minor calcite, garnet and epidote.

Unit sk   skarn; calc-silicate and quartzite rocks with no remnant fabric and/or bedding

Skarns, in this text, refer to calc-silicate and sulphide-bearing assemblages resulting from metasomatic alterations of carbonate rocks derived from contact metamorphism of hot granitoid rocks, rich in volatile elements.

In general, the calc-silicate and sulphide-bearing skarn units occur in small xenoliths and thin layers within contact zones of pegmatitic and (less common) aplitic dykes and/or sills and layers of recrystallized limestones and calc-silicate rocks. Typically, the calc-silicate skarn unit is very fine-grained, compact and dense. Also, the rock is quite siliceous, mainly composed of quartz, diopside and garnet. Accessory minerals epidote, idocrase, wollastonite, actinolite/tremolite, hornblende, flourite are also present in minor amounts. The weathered surface tends to be limonite stained due to the presence of sulphides, giving the rock a reddish-brown colour. This unit is distinguished from the calc-silciate unit (unit cs) by the general lack of fabric in outcrop, high density plus overgrowths of garnet.

Mineralization in the skarn rocks is local and concentrated. Sulphides are generally fine-grained, and consist of disseminated pyrrhotite, ± pyrite (± minor galena, sphalerite, or chalcopyrite), and generally are restricted to the immediate zone near the contact of pegmatitic and/or aplitic rocks. The small discontinuous bodies range in width from cms to a few metres averaging 1 m wide, over a strike length of up to 20 m, but commonly are less than 5 m long.

The exposed skarn bodies are less extensive and of a different contact relationship than previously interpreted by Sacks (1979) and Gittings (1980). This somewhat diminishes their economic potential. The metasediment assemblage is thought to have undergone regional metamorphism prior to the intrusion of Cretaceous igneous rocks. This is apparent from the foliations and folds in the sediments and segretation pegmatites, not evident in the intrusive rocks. Thus, porosity and permeability of the sediments has been reduced, limiting the possible interaction of hydrothermal fluids introduced by the intrusion of the granitic magma(s). Also, little alteration occurred during the intrusion of the megacrystic granodiorite and quartz monzonite with the metasediments, implying rather "dry, cold" emplacement of the first-phase igneous rocks. The later aplite/pegmatite complex clearly produced hydrothermal reactions within the igneous rocks and metasomatism of the calc-silicate and carbonate rocks. However, the aplite/pegmatite assemblage is local and limited to the west and northwest part of the claim group. Skarn development is restricted to these areas and to within a few metres of the contacts.

7.3.2 Granitic Intrusive Rocks

Unit bi-QM-m megacrystic (in part fluxion textured) biotite-quartz monzonite, megacrystic biotite-granodiorite

This unit represents the earliest phase or phases of intrusive activity within the MOX (and MORE-BETTER) area. The unit outcrops mainly in the west central part of the MOX claim group as dyke- and sill-like bodies intruding the metasedimentary assemblage. Compositionally this unit is a biotite-granodiorite with some gradation to a quartz monzonite. Late megacrysts of perthite have developed and in part exhibit a fluxion texture (flow) around xenoliths of metasediment and along contacts. This unit is cut by equigranular quartz monzonite (unit bi-QM).

Unit bi-QM biotite-quartz monzonite biotite-granodiorite

The biotite-quartz monzonite is generally light grey, fine-to medium-grained, equigranular and homogenous. Local variations to biotite-granodiorite do occur but essentially the intrusive is composed of 35-65% plagioclase, 10-30% K-feldspar, 15-30% quartz and 5-10% biotite. The presence of hornblende is rare and where present, generally constitutes less than 2% of the rock.

This unit (as well as the megacrystic variety - unit bi-QM-m) is generally fresh and massive. These intrusives occur mainly as thin lenticular bodies of sills and dykes within screens of paragneiss and biotite-quartz-feldspar schists. They tend to be resistive to weathering except where locally fractured. Alteration of feldspars to kaolinite occur and chloritization and limonitization of the mafic minerals occur in these fracture zones. Epidote and sericite are present within fracture zones and near contacts with metasediments. The altered igneous rocks tend to weather recessively to fine crumbly talus.

Some areas of muscovite- and muscovite-biotite quartz monzonite (unit ms ($\pm$ bi) QM)) occur, more frequently in the north part of the claims. It is not certain what relation this intrusive phase has with the other intrusives, however, the nature and alteration of these rocks suggest this unit is a third-phase sequence of the main intrusive event.

Unit Peg, Unit Ap   pegmatite, aplite

Small pegmatitic (unit Peg) and aplitic (unit Ap) dykes and sill-like bodies cross-cut the igneous and metasedimentary rocks. These units are abundant in the western and northwestern claim group but rarely form dimensions large enough to be mapped. Segregation pegmatites occur within the metasedimentary package and can be distinguished from the later pegmatites by the ptygmatic folds, boudins, diffuse contacts with the sediments and presence of tourmaline. The segregation pegmatites are not responsible for skarnification of the calc-silicate units. The later hypabyssal pegmatites invariably crosscut all metasediments, segregation pegmatites and igneous rocks. This unit is generally medium to coarse-grained with quartz, feldspar ± muscovite. Contacts are sharp and/or sutured, although the pegmatites may grade into aplites. The aplitic dykes are comprised of fine-grained quartz and feldspar. In one well-exposed section, very fine-grained pink garnets are disseminated throughout. This suggests that aplites and pegmatites were emplaced in a high temperature regime. The megacrystic biotite-granodiorite and quartz monzonite are somewhat altered hydrothermally due to the intrusion of the pegmatite. Also, the carbonate and calc-silicate metasediments are metasomatized at the pegmatite contacts.

Unit Qfp quartz-feldspar porphyry dykes

This unit consists of an aphanitic to very fine-grained grey-green to tan (possibly leached) quartzo-feldspathic ground mass. Small subhedral clear quartz (2 mm) and K-feldspar (up to 5 mm) phenocrysts are disseminated throughout. Small limonitized pits may occur within the weathered rind and black manganese oxide locally stains fractured planes. This unit is recessively weathered in outcrop and breaks easily along closely spaced cleavage planes, resulting in shard-like broken talus 15 cm x 20 cm in size. These dykes vary in width from 1 to 6 metres and crosscut all other rock types on the property. Tempelman-

Kluit (1977) mapped this unit as KTqfp and is believed to be mid-Cretaceous to Tertiary (?) in age.

7.3.3

Unit Qv Quartz veins

White quartz veins are widespread within the igneous and metasedimentary units. They consist of white euhedral quartz and are commonly limonite stained at contacts and through fracture planes. Pyrite and pyrrhotite sometimes occur as dissemianted grains or in lenses along fractures. In one exposed section, vuggy cavities are lined with coarse galena crystals (up to 1.5 cm). This quartz vein (0.1 m x 1.0 m) crosscut quartzite and impure marble (sample 37577R).

In general, the veins range from 0.1 to 0.5 m wide. One vein on the MORE-BETTER Claims is 10 m wide, and is stained with malachite and azurite (sample 37565R).

7.4 Structure

The metasedimentary rocks have been complexly folded prior to the intrusive activity. This is reflected by well developed isoclinal folds within the foliations of the metasediments not duplicated in the igneous rocks. North-south trending antiforms and synforms are evident in the continuous beds in the northwest. In the central and southwest area, metasediments are absent due to the intrusive and deformation patterns are difficult to map. Segregation pegmatites crosscut and are folded within the foliation planes of the metasediments. These pegmatites are boudinaged and the internal folding probably reflects larger structures.

Evidence indicates that the igneous rocks most likely intruded along weak planes of pelitic metasediments (paragneiss and biotite-quartz-feldspar schist) but minor drag faults in the more competent layers (quartzites) suggest contemporaneous movement with the intrusive activity.

Jointing and fracturing is well developed in the igneous and metasedimentary units. The intensity of fractures increases through the central valley and to the east and major fracture sets trend northeast to northwest with steep to vertical dips. Small shear zones with the igneous rocks are intensely sericitized, limonitized and chloritized. Pegmatite and aplite dykes generally remain unaltered and probably occupy dilation zones.

The quartz-feldspar porphyry dykes trend northeast to northwest and dip steeply at 55-70° to the west. These apparently follow through major fracture sets crosscutting the igneous and metasedimentary rocks. Hydrothermal alteration of the porphyry dykes is reflected in the leached and altered rocks which mechanically break down to sharp, platy pieces in talus.

Two major fracture zones in the central valley trend north-south and are delineated on the air-photographs and from the VLF-EM survey. Mapping revealed the lineations to be intensely fractured quartz porphyry dykes. It is not known if displacement occurred or if these zones are just extensional fractures.

7.5 Metamorphism

The metasedimentary rocks underwent regional metamorphism prior to the emplacement of igneous rocks to at least lower amphibolite facies. This is exemplified by the diopside-actinolite-quartz-garnet-epidote assemblage of the calc-silicate unit and the biotite-quartz-feldspar-garnet assemblage with segregation pegmatites (mobilizates) of the pelitic sediments. The development of metamorphic fabric, including gneissic texture, banding and foliaton in the pelitic units as well as recrystallization of the limestones, occurred at this time.

The intrusion of megacrystic granodiorite and quartz monzonite produced no significant thermal overprint on the metasediments. Contacts between the igneous and sedimentary rocks are sharp, with no hornfelsic development in quartzites or increase in calcite grain size of the carbonates.

Pyrite and/or pyrrhotite, widespread in the siliceous metasediments, conceivably reflect original constituents of the sedimentary rocks. Dissolution, remobilization and concentration may have occurred during regional and/or thermal metamorphism.

Thermally metamorphosed carbonate rocks due to the intrusion of "hot, wet" pegmatitic and aplitic magma(s) produced skarn. The limited extent of the skarn is probably due to the impermeability of the previously regional metamorphosed limestones.

The quartz-feldspar porphyry dykes had little or no thermal effect on the igneous and metasedimentary rocks when introduced into the area.

7.6 Alteration

Surface weathering of the intrusive rocks is of minor importance, however, the distinct black oxide coating on skarn and impure limestone is a distinguishing feature of the assayable mineralized metasediments. The dull lustre of the oxide coating may be easily overlooked when mapping or prospecting.

Alteration associated with late shear, fracture zones skarn associated and vein mineralization are locally significant. Within shear and fracture zones of the igneous rocks, kaolinization, sericitization and limonitization are prevelant alteration features. The rock breaks down easily in these areas to fine crumbly talus and recessed topography. Chloritization and hematization along fractures and joints occur.

Quartz-feldspar porphyry dykes are extremely leached. Pyrite may have occupied the existing cubic pits and mafic minerals might have been subsequently altered to clay minerals.

Sulphide and mafic minerals are weathered to limonite in the metasediments. Other significant alteration features are noted in Section 7.7 - Economic Geology.

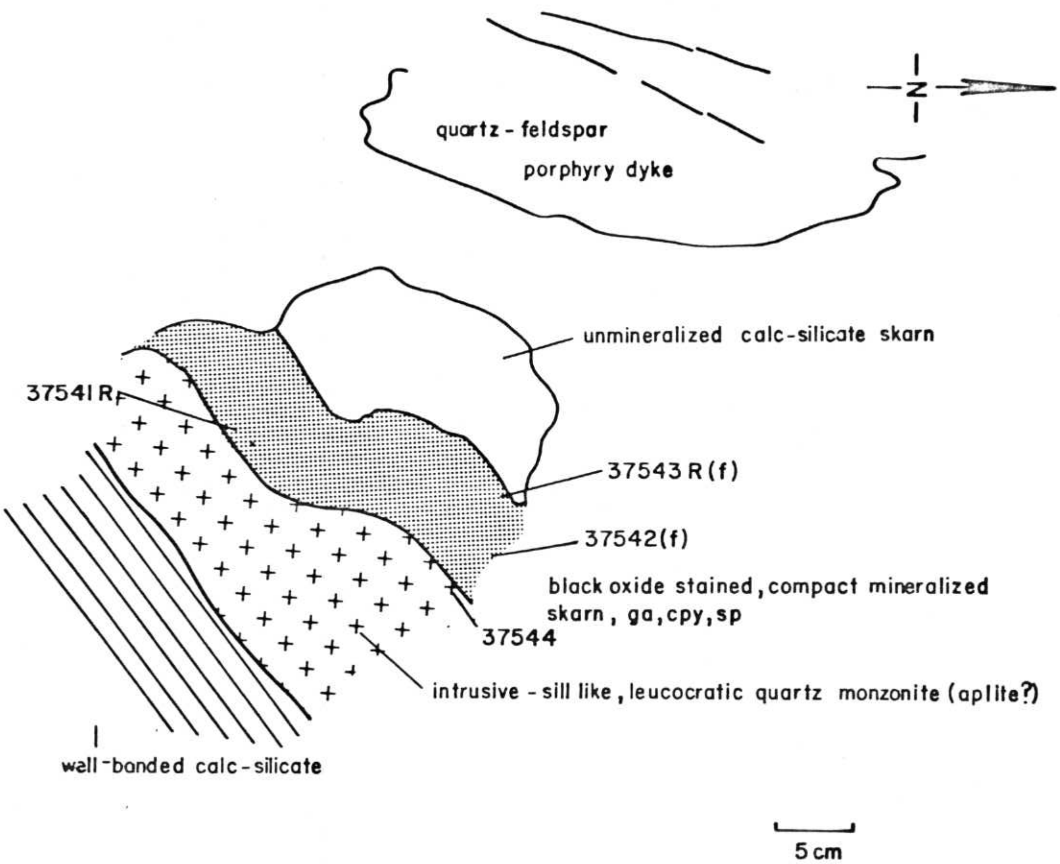
7.7 Economic Geology

Mineralization of economic interest can be categorized into three basic types: 1) skarn mineralization, 2) impure recrystallized limestone with syngenetic mineralization, and 3) vein- and/or fracture-related mineralization.

7.7.1 Skarns

The skarn unit (see 7.3.1) is a calc-silicate assemblage bearing no remnant fabric, locally containing pyrite or pyrrhotite. The unit generally forms discontinuous lenses and xenoliths developed at pegmatitic/aplitic contacts. Disseminated pyrite or pyrrhotite (avg 5%) is common with the rare occurrence of malachite $\pm$ chalcopyrite. Of the samples analysed, Cu-bearing samples were stained with malachite and also contained high Ag contents (48.0 - 100.0 ppm in 37567R and 37568R). No discrete Cu- or Ag-bearing minerals were observed. Non-mineralized calc-silicate skarn are local and rare; intense limonitization of these rocks, however, suggests that the sulphides have been oxidized.

The skarn unit does not warrant further interest due to lack of continuous mineable dimensions or grade of mineralization. As discussed above, this is thought to be due to the limited permeability of carbonate rocks and resultant lack of reaction of hydrothermal fluids introduced into the metamorphosed calc-silicates by the intrusives.



	Cu	Pb	Zn	Ag	(ppm)
37541 R	2050	10,000	9600	50.0	
37542R	5850	1.25%	1.30%	19.0 oz/ton	
37543R	3450	2.50%	2.74%	60.0	
37544 R	70	230	420	4.0	

Figure 4
Sketch Showing Typical Skarn Zone

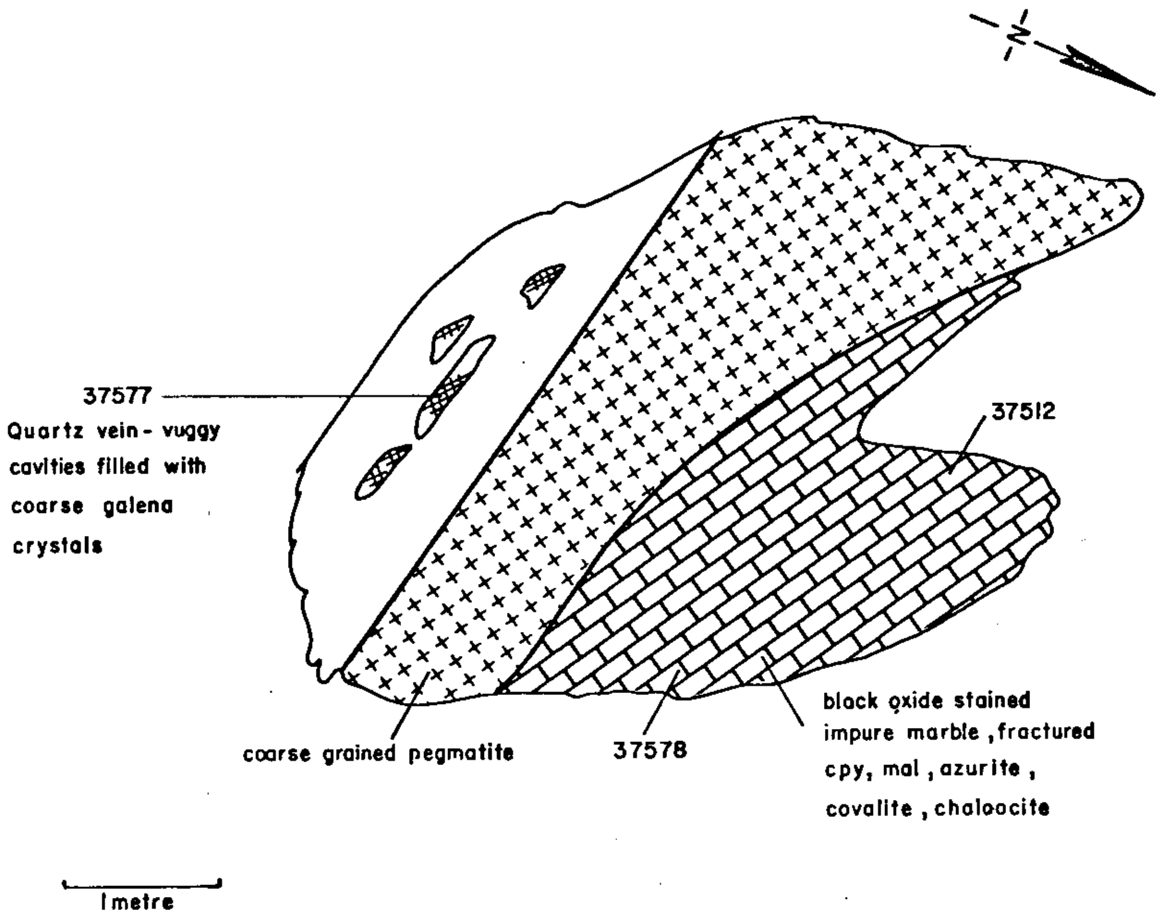
Samples all taken from subcrop

7.7.2 Impure Recrystallized Limestone with Syngenetic Mineralization

This carbonate unit, as found on western MOX Claims, is distinctive in its consistent appearance and uniform style of mineralization. It is characteristically stained with black Fe-Mn oxides and displays a fracturing or parting parallel to original bedding. The rock consists of calcite, pale red-brown garnet, diopside and actinolite, and the general appearance suggests that the mineral assemblage is due primarily to hornfelsing of a marly sediment and not skarnification processes, although in two occurrences it is found adjacent to narrow pegmatite sills (Figs. 4 and 5). It is found in intermittent exposures over wide areas (repeated by folding?) in beds from 5 cm to 1.5 metres in thickness. Elsewhere it occurs in float.

Mineralization is fine-grained, disseminated, and consists of up to 5% galena (up to 1 mm in size), sphalerite (trace to 5%) and chalcocite were noted in a few specimens (confirmed by microprobe studies, Appendix VII). Malachite and, more rarely, azurite staining are present. Sphalerite is occasionally banded and may occur on fracture planes.

With the exception of one sample, the rocks are uniformly well mineralized (Table 10, section 8.2) and contain 41-6550 ppm Cu (averge 0.32% Cu), 730 ppm-3.08% Pb (average 1.31% Pb), 830 ppm-2.96% Zn (average 1.36% Zn) and 3.3 ppm-19.00 oz/ton Ag (average 6.07 oz/ton Ag). Microprobe and polished thin section examination (Appendix VII) have revealed that there are no Ag-minerals in the well-mineralized rocks, but that the Ag is contained in secondary (?) copper minerals.



	Cu	Pb	Zn	Ag (ppm)
37512	2350	3800	4500	6.6 oz/ton
37577	700	1.14%	2.00%	90.0
37578	1950	2.14%	1.67%	0.70 oz/ton

Figure 5
Typical Sketch Showing Impure Marble Mineralization

The main area of interest lies in the centre ridge on MOX West. There are twelve mapped areas of Cu-Pb-Ag-mineralized impure carbonate. Some of the samples were collected in float or from subcrop, and the actual dimensions of contact relationships of these rocks remain uncertain. Due to the similar appearance of all units mapped, as well as the consistent fine-grained mineralization and probable hornfelsed (as opposed to skarnified) character of the rocks, it seems most likely that the mineralization reflects original sedimentary (syngenetic) sulphides. Consequently, the possibility of tracing these units laterally undercover seems quite favourable; soil geochemistry (section 8.3) and geophysics (section IX and Appendix I) may indicate that non-outcropping similar horizons exist on western MOX. Their lateral continuity is probably affected by granitic dykes and plugs, and further work (trenching and diamond drilling) is needed to test the economic potential of these calc-silicate rocks.

7.7.3 Vein- and/or Fracture-related Mineralization

Mineralized veins were mapped in only three locations, however this type is an extremely favourable target for economic mineralization.

The largest mineralized vein is approximately 1 m wide, strike length unknown, and is centrally located on the MOX West Claims (sample location 37577R, Plan 1A). Coarse galena grains occupy large vugs within the vein, which crosscuts quartzite and parallels pegmatite. Two other locations (37566R and 37592R) contain visible galena and disseminated pyrite and/or pyrrhotite.

In areas of intense fracturing, mineralized fracture fillings occur (see rock description 37549R). Fine-grained galena, pyrite and pyrrhotite was observed in the small fracture zones. One buried sheared zone has soils highly enriched in Pb, Zn and Ag above it (see section 8.3). This zone should be trenched to bedrock in future surveys.

VIII. GEOCHEMISTRY

8.1 Statistical Treatment of Results

For the geochemical results in soils, histograms were compiled for each element and a free hand, arbitrary best-fit curve drawn through the normal population. Values above where this curve intersects the abscissa are considered anomalous. From the normal (non-anomalous) population, cumulative frequency curves were constructed and the mean (50th percentile) and probably anomalous (97th percentile) values were obtained. The histograms and cumulative frequency curves compiled include data from both the 1980 and 1981 soil surveys. This was done because the normal population is defined by a smoother curve when the sample population (n) is increased. These diagrams are presented in Appendix IV, Figures 6 to 11, Tables 12 to 14, inclusive. The data is summarized in Table 1.

TABLE 1

Summary of Mean, Probably Anomalous, Anomalous Values and Range for Soils

* All values in ppm unless otherwise indicated.

	Pb		Zn		Ag	
	1980	1980-81	1980	1980-81	1980	1980-81
Mean	14	17	60	65	0.1	0.1
Probably Anom.	58-80	70-80	194-240	165-180	0.7-0.8	1.1-1.4
Anomalous	>80	>80	>240	>180	>0.8	>1.4
Range	1-1000	1-7000	4-3050	3-1.09%	0.1 to 2.36 oz/ton	0.1 to 8.20 oz/ton
Sample Population (n)	411	761	409	759	411	761

For rocks, no statistical interpretation of the results was completed. Most samples taken contain some form of mineralization (py ± po ± ga ± sp ± cpy) or alteration (limonite, hematite, etc.) and therefore no valid treatment of the data could be made. Instead, anomalous samples include those that assayed, and those with arbitrarily chosen limits. These values are summarized in Table 2.

TABLE 2

Summary of Rock Geochemistry Results

All values in ppm unless otherwise noted.

	Cu		Pb		Zn		Ag	
	1980	1981	1980	1981	1980	1981	1980	1981
Anomalous	>40	>1000	>30	>1000	>180	>1000	>0.8	>20.0
Range	1-1100	6-6550	1-780	1-3.14%	4-0.61%	13-2.96%	0.1-1.17 oz/ton	0.1-19.00 oz/ton
Sample Population	58	94	58	94	50	94	52	94
No. of Anom.	16	18	15	18	11	25	13	18

As a check on reproducibility, a standard bulk sample was dried and mixed from an anomalous Ag showing on the LICK Claims, Northern British Columbia (see Watters, 1981). Control samples were labelled and sent to the lab with every shipment of 25-30 samples from the MOX and MORE-BETTER claim groups. A total of 18 control samples of this type were sent with the 472 soil samples analysed. Statistical interpretation of the results were made for each element. Those samples that fall within 1 standard deviation (o) of the mean are considered to be homogeneous and within analytical standards of accuracy. Those control samples and adjacent samples that are greater than 1 standard deviation of the mean are either inhomogeneous (i.e field error) or lack of laboratory precision. The results which fall under the latter condition are marked with an asterisk in Table 3, which tabulates the control sample data.

The small population of samples used to determine the mean and standard deviation for each element is not sufficient to define meaningful limits of reproducibility. Should this method of control sample of results be repeated, more samples should be incorporated to define these limits. In the 1981 WATSU program, over 100 control samples were analysed for Pb, Zn and Ag. A population of this size would define limits of reproducibility, sample homogenity, and lab precision in much better terms.

TABLE 3

REPRODUCIBILITY OF CONTROL SAMPLES

Number	Pb W	W-U	(W-U)^2	Zn W	W-U	(W-U)^2	Ag W	W-U	(W-U)^2
37002	128	+9*	81	230	+2	4	0.8	-.1	0.01
37031	119	0	0	226	-2	4	0.8	-.1	0.01
37060	122	+3	9	234	+6	36	0.7	-.2	0.04
37089	114	-5	25	215	-13	169	0.4	-.5*	0.25
37118	123	+4	16	210	-18*	324	2.0	+1.1*	1.21
37147	120	+1	1	205	-23*	529	0.6	-.3	0.09
37176	128	+9*	81	250	+22*	484	1.0	+.1	0.01
37205	118	-1	1	240	+12	144	0.8	-.1	0.01
37234	120	+1	1	230	+2	4	0.8	-.1	0.01
37263	116	-3	9	235	+7	49	0.5	-.4*	0.16
37292	105	-14*	196	215	-13	169	1.0	+.1	0.01
37321	115	-4	16	216	-12	144	1.1	+.2	0.04
37340	120	+1	1	230	+2	4	0.8	-.1	0.01
37370	110	-9*	81	220	-8	64	1.0	+.1	0.01
37400	120	+1	1	230	+2	4	0.7	-.2	0.04
37430	130	+11*	121	250	+22*	484	0.9	0	0
37460	120	+1	1	255	+27*	729	1.0	+.1	0.01
37490	115	+4	16	210	-18*	324	1.2	+.3	0.09
Total	2143			4101			16.1		
U	119			228			0.9		
σ	6			14			0.3		

All values in ppm
calculation of standard deviation (σ)

$$\sigma = \left(\frac{\{W-U-\}^2}{N} \right)^{\frac{1}{2}}$$

W = analytical values

U = arithmetic values, mean

N = sample population (18)

8.2 Rock Geochemistry

Ninety-seven (97) rock samples were collected and analysed for Cu, Pb, Zn and Ag. A few select samples were also analysed for Au, As, Sb and Bi (399 determinations). For discussion purposes, these rock results have been divided into their appropriate rock types: quartz veins, quartz feldspar porphyry, quartz monzonites, skarns, quartzites, calc-silicates, limestones and paragneisses. Analytical results are tabulated by lithology in Tables 4 to 11, along with a summary of visible mineralization. Analytical results and rock descriptions are presented in Appendices III and V, respectively.

Quartz Veins

Quartz veins are widely distributed throughout the claims area; however, most occur as thin veinlets and are barren of mineralization. Of the 10 samples analysed, 5 contained visible galena and/or sphalerite and/or malachite and azurite. Disseminated pyrite ± pyrrhotite commonly occur but do not enhance the samples significantly in Cu, Pb, Zn or Ag. Galena and sphalerite bearing veins are enriched in these elements with values ranging from 32-900 ppm Cu; 184 ppm - 1.14% Pb; 148 ppm - 2.00% Zn; and 2.3-90.0 ppm Ag. These maximum values were from a vuggy quartz vein lined with coarse galena crystals. Exposures do not reflect mineralization of economic importance, however, this type of mineralization has potential for Pb, Zn, Ag-quartz veining, which may be indicated by soil geochemistry (section 8.3).

TABLE 4

GEOCHEMISTRY OF QUARTZ VEINS

	Cu	Pb	Zn	Ag	Au	
37500R	30	7	68	0.5		
37508R	16	10	360	0.2		Py ± po
37518R	395	258	375	5.8		2% py
37529R	300	10	330	1.3		1% (py+po)
37532R	57	2	50	0.1		1%(py+po)
37559R	61	455	2650	2.3		<1% Ga+sp
37565R	64	275	142	1.1		Malachite, azurite
37566R	900	184	148	45.0		Py
37577R	700	1.14%	2.00%	90.0		1% Ga
37592R	32	1300	630	25.0		1% Ga +po

All values in ppm unless otherwise noted.

Quartz-feldspar Porphyry (Table 5)

The porphyry dykes are numerous but contain no significant enrichment in economic minerals. Small cubic pits within this rock unit possibly represent leached out pyrite crystals. The geochemistry indicates low Cu, Pb, Zn, Ag values in these rocks.

Quartz Monzonite (Table 6)

The intrusive was not sampled in detail as analysis from the 1980 surveys did not show any significant geochemistry (Gittings, 1980). Local enrichment of the granitoid rocks in Cu, Zn and Ag occur in and around alteration zones and contacts with skarns and pegmatites. Maximum values of only 355 ppm Cu, 230 ppm Pb, 420 ppm Zn and 5.5 pm Ag were obtained in pyrite-bearing samples.

Skarns (Table 7)

A total of 13 rocks sampled can be classified as true calc-silicate skarns. Disseminated pyrite and/or pyrrhotite is abundant in the skarn rocks (tr-10%); however, no enrichment in geochemistry occurs with this mineralization. Of the skarns analysed, 3 samples contained visible galena (37546R) or malachite (37520R, 37567R).

Copper, lead, zinc and silver have relatively low values in these rocks. Copper ranges from 13-300 ppm, but two samples (37567R, 37568R) contain 1050 ppm and 1750 ppm Cu, respectively. These samples also contain 48.0 ppm and 100.0 ppm Ag. (No visible mineralization).

Lead and zinc are also low (1-430 ppm Pb, 32-735

TABLE 5

GEOCHEMISTRY OF QUARTZ-FELDSPAR-PORPHYRY

	Cu	Pb	Zn	Ag
37538R	30	13	120	0.1
37547R	15	35	45	0.5

All values in ppm

TABLE 6

GEOCHEMISTRY OF QUARTZ MONZONITE

	Cu	Pb	Zn	Ag	Visible mineralization
37519R	27	50	91	0.8	pyrite cubes
37539R	6	23	50	0.1	
37544R	70	230	420	4.0	
37551R	355	88	108	5.5	5% py ± other sulphides

All values in ppm

TABLE 7

GEOCHEMISTRY OF SKARN ROCKS

	Cu	Pb	Zn	Ag	Visible mineralization
37486R	33	1	108	0.1	2% py, tr po
37487R	27	2	32	0.1	5% (py ± po)
37488R	106	5	60	0.1	10% (py ± po)
37501R	83	540	1100	7.4	
37516	163	220	240	7.5	py + 5% po
37520	300	38	735	6.1	py + po+malachite
37537R	40	50	130	1.5	py
37546R	102	1500	2000	7.7	1% ga;1%sp,tr.cpy or py
37567R	1050	308	146	100.0	malachite ± po ± py
37568R	1750	115	180	48.0	
37576R	46	7	49	0.3	3% (po=py)
37579R	13	430	145	1.4	
37589R	30	68	60	0.5	po ± scheelite

* All values in ppm

ppm Zn). However two enriched samples (37501R, 37546R) contain 540-1500 ppm Pb and 100-2000 ppm Zn. These maximum values are from galena-bearing skarn rocks.

Notably, the metal values in the skarn rocks do not approach economically significant grades.

Quartzite (Table 8)

Although a large population of quartzites were collected (38 samples), no statistics were generated because the purpose of taking samples on the property was to determine size and grade of economically mineralized zones. Most of these rocks contain disseminated pyrite ± pyrrhotite. Only 8 samples contain visible galena; ± sphalerite; ± chalcopyrite, malachite, azurite, and are moderately enriched in Cu, Pb, Zn or Ag. Samples 37517R, 37553R and 37594R are enriched in Pb and Zn with contents ranging from 520 to 5300 ppm Pb and 2100-9000 ppm Zn. Sample 37553R also contains 1050 ppm Cu and 20.0 ppm Ag. The sulphides in this sample are too fine-grained to distinguish in handspecimen.

Copper enrichment is moderate to low (range 11-500 ppm) with 5 samples ranging between 750 ppm to 1400 ppm Cu, and is generally accompanied by moderate silver values (0.7 ppm to 20.0 ppm Ag) averaging at 9 ppm Ag. Silver is not generally enriched in the quartzites ranging only from 0.1-6.0 pm Ag.

Geochemically, the quartzites, including the mineralized samples, are not potentially economic for Cu, Pb,

TABLE 8

Geochemistry of Quartzite

	Cu	Pb	Zn	Ag	Sub Unit	Visible Mineralization
37489R	45	21	102	0.1	-	tr po + 2% py
37506R	25	3	13	0.1	-	- pitted
37509R	156	23	1100	2.5	m	- py
37510R	12	11	35	0.1	-	- same as 37506R
37511R	25	6	90	0.2	m	
37517R	44	5300	6500	3.7	I	- 2% py, +ga+sp
37521R	86	12	48	0.2	-	- po
37522R	43	11	40	0.1	-	-
37523R	850	6	61	0.7	I	- po; ±sp ±ga malachite
37524R	89	3	66	0.3	-	- po
37525R	395	6	45	0.1	I	- po ±sp +cpy
37526R	25	6	43	0.1	I	- ±py ±po
37527R	11	4	39	0.1	I	- ±py ±po
37528R	31	3	57	0.1	I	- ±py ±po
37530R	130	1	28	0.1	-	- po
37531R	95	1	50	0.2	-	- po
37534R	1400	3	6200	2.7	po	- po + cpy malachite, azurite
37535R	215	9	82	0.8	I	- ±po ±py ±ga ±sp
37536R	395	1	43	1.2	po	- 15% (po + py)
37545R	36	82	110	1.5	-	- ±py ±po
37552R	34	86	1800	2.0	I	- 2% (py + po)
37553R	1050	2500	2100	20.0	I	- f.g. sulphides
37554R	36	82	1850	2.0	I	- 2-3% py + sp
37558R	500	17	73	3.4	-	- 5% po
37563R	305	22	65	2.2	-	- po
37564R	165	9	1000	0.6	po	- po + ga
37569R	74	48	26	1.0	-	- po
37570R	950	330	1260	13.5	-	- po + py
37571R	62	95	420	0.5	I	- py
37572R	23	30	40	0.3	-	- py ± po
37573R	126	985	950	1.0	-	- sp
37580R	34	65	42	0.5	po	- po ± py
37591R	27	19	70	0.1	-	- po
37593R	166	45	130	1.5	po	- 3% po ± cpy
37594R	54	520	9000	6.0	po	- 5% po + 2% ga ± sp, py
37595R	41	14	145	0.1	-	- po
37596R	138	18	75	1.5	I	- 4% po
37597R	750	7	130	10.0	I	- po

TABLE 8 (cont'd)

Geochemistry of Quartzite

	Symbol	Rock unit	
Subunits	-	qtzt	- white or banded
	I	$qtzt_I$	- (impure quartzite)
	po	$qtzt_{po}$	- pyrrhotite-bearing
	m	$qtzt_m$	- micaceous

Mineralization

po - pyrrhotite

ga - galena

py - pyrite

cpy - chalcopyrite

sp - sphalerite

All values in ppm

Zn, Ag. The enriched samples are locally high in these elements but do not contain the values necessary to generate further interest in these units.

Impure Recrystallized Limestone (Table 10)

This rock unit represents the most interesting unit economically. Of the 15 samples analysed, 14 contained visible galena or sphalerite, and/or some chalcopyrite and malachite, bornite, chalcocite, azurite, covellite. Disseminated pyrrhotite was found in one sample (37557R) which notably contained only 41 ppm Cu and 3.3 ppm Ag. All other rocks analysed from this unit contain highly anomalous values for Cu, Pb, Zn and Ag. The galena, found in 12 samples, occurs as finely dispersed grains or locally as cubic grains up to 1.0 mm. Sphalerite occurs as very finely disseminated grains within small laminae and along fractures (up to 1% in 6 samples). Few grains of chalcopyrite occur in galena bearing rocks but commonly malachite, bornite and other copper minerals including azurite, chalcocite and covellite predominate (11 samples).

Copper is moderately enriched in the mineralized limestone with values ranging from 1200-6550 ppm Cu, average grade of 0.30%. All of these samples also contain high Pb, Zn and anomalous Ag. The copper mineralization in the area does not attribute to the economic potential but the electron microprobe analysis indicates minor quantities of Ag in chalcocite, covellite assemblages as well as in bornite (Gasparrini, 1981, Appendix VII).

TABLE 9

GEOCHEMISTRY OF CALC-SILICATES

	Cu	Pb	Zn	Ag	Visible mineralization
37503R	131	25	130	3.2	
37504R	27	14	122	4.8	
37555R	168	178	4900	4.0	very fine sulphides
37560R	25	15	49	0.2	po
37590R	20	24	52	0.1	po

TABLE 10

GEOCHEMISTRY OF IMPURE RECRYSTALLIZED LIMESTONE

	Cu	Pb	Zn	Ag	visible mineralization
37491R	1200	730	1030	77.0	malachite, py ± sp
37512R	2350	3800	4500	6.60 oz/ton	malachite,ga +sp
37513R	4450	2.45%	2.57%	10.20 oz/ton	5% ga,malachite,sp + tr. py
37514R	1600	2.34%	2.96%	65.0	same as 37513R
37515R	3450	7500	9600	8.50 oz/ton	ga,sp,py,malachite
37540R	2800	3.08%	2.82%	20.0	5% ga
37541R	2050	10,000	9600	50.0	1% ga,1%py, cpy
37542R	5850	1.25%	1.30%	19.00 oz/ton	malachite, 1%ga,1%py ± cpy
37543R	3450	2.50%	2.74%	60.0	tr sp,5%ga,1%py ± cpy
37548R	2750	1200	830	56.0	cpy, ga, py
37549R	3750	10,000	1.17%	9.00 oz/ton	2%ga, 1% cpy
37550R	2350	1.22%	1.30%	4.80 oz/ton	calcite lens -cpy,ga
37557	41	1200	5100	3.3	po
37578R	1950	2.14%	1.67%	0.70 oz/ton	cpy,malachite,azurite, covellite,chalcocite
37599R	6550	3.14%	2.30%	16.60 oz/ton	3% ga + sp
Mean *	0.32%	1.31%	1.36%	6.07 oz/ton	

* excludes sample 37557R

All values in ppm unless otherwise noted

Lead, zinc and silver combinations are economically interesting. Pb contents ranges from 730 ppm to 3.14% and averages 1.23% Pb and zinc values range from 1030 ppm to 2.96%, averaging 1.31% Zn over the 15 samples. Silver contents range from 20.0 ppm to 19.00 oz/ton in 14 samples averaging 6.07 oz/ton. One sample (37557R) containing only 3.3 pm Ag and low Cu (41 ppm) did not contain any visible mineralization other than pyrrhotite, and it is unique amongst samples of this rock type taken.

Economically the Pb, Zn, Ag combination within this unit is interesting. Limitations of the unit's potential is noted by the dimensions of the exposed mineralized unit, which is poorly exposed in outcrop. Trenching or diamond drilling in the future may determine this unit's lateral extensiveness and thickness.

Paragneiss (Table 11)

The paragneiss unit generally is unmineralized with the exception of disseminated pyrrhotite and/or pyrite found in 5 of the 10 samples analysed. Two samples contain trace sphalerite, one of which contains galena. These rocks are not enriched in Cu, Pb, Zn, Ag. Copper contents range from 16 to 99 ppm with one sample (37494R) containing 700 ppm Cu. This sample also contained 5.5 ppm Ag and 1.15% Zn. The enrichment is attributed to the fine-grained galena ± sphalerite in the sample. Silver values are exceptionally low (0.1 to 1.5 ppm) for this suite of rocks. These rocks are not geochemically enriched and of no economic interest.

TABLE 11

Geochemistry of Paragneiss

	Cu	Pb	Zn	Ag	
37494R	700	97	1.15%	5.5	3% ga ± sp
37505R	75	5	50	1.1	
37507R	16	16	540	0.1	sp
37533R	38	1	125	0.1	po
37556R	37	26	73	0.5	tr. py or po
37561R	47	44	132	0.7	po
37562R	96	13	115	0.6	po
37574R	99	22	52	1.5	
37575R	92	8	86	1.2	5% py
37598R	67	5	145	0.3	

All values in ppm unless otherwise noted.

8.3 Soil Geochemistry

During the 1981 field season, a detailed soil geochemical survey was carried out on the MOX West Claims over the picketed grid at 60 m x 125 m intervals. Also, a pace and compass grid was sampled at 125 m x 125 m intervals over the MOX East and MORE-BETTER Claims. "B" horizon (alpine) soil samples were collected, partially dried in the field and shipped for analysis (see section 8.1, Appendix II and III for details). In addition, 10 soil pits were sampled in an attempt to follow-up geophysical (VLF-EM and magnetic) conductors. All samples were analysed for Pb, Zn and Ag. Soil pit profiles are presented in Appendix V.

Contour intervals for each metal were arbitrarily chosen using the probably anomalous level as the lowest contour; and higher intervals representing the anomalous population were used (Plans 2-7). Anomalies are outlined on the compilation maps, Plans 18A, 18B, and on individual soil maps. Contour intervals used to delineate the soil anomalies were chosen on the basis of trends, values and amount of dispersion. Because the dispersion of probably anomalous Pb, Zn and Ag covers a large area on the property, an exceptionally high contour interval for these elements was chosen (160 ppm Pb, 365 ppm Zn, 4.0 ppm Ag) to define the anomalies. Six individual anomalies occur in the north and central part of the West Claim Group and are described below.

8.3.1 Soil Anomalies

Soil Anomaly 1

This anomaly is located in the west part of the grid from approximately 10+50W to as far as 14+40W and from

L7+50S to L2+50S. A strong northwest Ag trend extends over the central ridge and a coincident north Pb, Zn ± Ag trend circles the east-facing talus slope.

Anomaly 1A

This two sample coincident Pb-Zn-Ag anomaly trends north over 125 m and is marked with extremely anomalous metal contents of up to 7000 ppm Pb, 1.09% Zn, and 8.20 oz/ton Ag. An underlying shear zone mapped at the south end trends northwest and may be outlined by the 4.0 ppm Ag contour (into area 1B). A north trend (anomaly 1C) outlined by the 160 ppm Pb and 365 ppm Zn contour also extends from this anomaly.

Anomaly 1B

This extension of anomaly 1A covers an area of 550 m x 75 m and includes 8 samples with contents from 4.6 ppm to 8.20 oz/ton Ag. The soil anomaly probably coincides with an underlying northwest trending shear zone. Rock geochemistry for this area is limited, and contents for Pb, Zn, Ag are low and unmineralized. This suggests that the source for the soil anomaly is probably structurally controlled and buried.

Anomaly 1C

This anomaly is related to area 1A and is the northern extension of it, but totally isolated from area 1B. A coincident Pb and Zn anomaly trends across the northeast-facing talus slope of the central ridge. The zone measures 450 m from area 1A with an average width of 50 m over 6 stations. Two anomalous Ag-bearing samples (6.6 and 13.6 ppm) are contained in the north end of this zone. This area is underlain by blocks of layered metasediment intruded by intrusive sills. No structural trends are associated in this area other than the general direction of bedding. Rock values are relatively low and no mineralization of economic value was found. The anomaly could result from the downslope groundwater displacement and concentration of soluble metals from structurally controlled mineralized zones on the ridge. A possible mineralized horizon of impure limestone, buried or not mapped, could also explain the enrichment in this zone.

Soil Anomaly 2

This Pb + Ag + Zn anomaly occurs from 8+40W to 11+10W and extends from L7+50S to L3+75S. Coincident Pb-Zn-Ag anomalous values in three stations range from 223 to 560 ppm Pb, 520 to 1150 ppm Zn and 5.0 to 13.0 ppm Ag. A Pb-Ag tail extends north for 350 m. This "tail" outlined by the 160 ppm Pb and 4.0 ppm Ag is a continuous zone averaging 150 m wide over 8 stations. Ag contents range from 5.0 to 29.0 ppm and Pb contents range from 223 to 560 ppm. An underlying sequence of calc-silicate and impure carbonate rocks containing values of 3450-6650 ppm Cu, 7500 ppm-3.14% Pb, 960 ppm-2.30% Zn and 8.50-16.60 oz/ton Ag may be the source for this Pb-Ag and Zn enrichment in soils.

Soil Anomaly 3

This Pb-Zn anomaly, with two smaller Ag soil anomalies, is located from L3+75S, 5+40W to 9+30W and from L6+25S up to L2+50S. Two fan-shaped anomalies (3A and 3B) originating from exposed mineralized zones trend north and spread into the grassy plateau below.

Anomaly 3A

The 160 ppm Pb and 365 ppm Zn contours outline a 200 m x 250 m area which stems from a low-lying exposed zone of sheared and mineralized rock. Pb contents vary from 170 to 2000 ppm and Zn contents from 570-5900 ppm in soils. A discrete area of 4 highly anomalous Ag-bearing soils varies from 4.2 to 10.5 ppm within this area. The underlying geology indicates a mineralized area with rock contents of 1050 ppm Cu, 2500 ppm Pb, 2100 ppm Zn and 20.0 ppm Ag (in float of impure limestone). A fracture zone, indicated by quartz feldspar porphyry, trends in a northerly direction through the coincident Ag-Pb-Zn anomalous zone. Float samples of mineralized impure limestone may indicate an unexposed source for the soil anomalies. An alternative model may be structurally controlled mineralization of the type described for anomaly 1B.

Anomaly 3B

This Pb, Zn and Ag anomalous zone originates on the same extension of the ridge as anomaly 3A, and fans out low in the valley. The Pb and Zn levels are continuous and are an extension of 3A but an isolated Ag enriched zone separates these two anomalies. The area, measuring 300 m x 100 m trends north-northwest as defined by the Pb-Zn contour intervals used. Soil contents vary from 185-870 ppm Pb, 370-675 ppm Zn and 5.4-26.0 ppm Ag. The 4.0 ppm Ag contour outlines a lenticular zone which parallels the zone in anomaly 3A and continues into the area defined by anomaly 2. This Ag zone parallels the surface trace of the bedding of the underlying metasedimentary sequence; however, the rock samples analysed contain only 1200 ppm Pb and 5100 ppm Zn. Source for the metal enrichment is not clearly indicated by the rock geochemistry but is probably related to the occurrence of mineralized impure recrystallized carbonates and/or fracture-related mineralization within this area.

Anomaly 4

This anomaly is a fan-shaped Pb-Zn enriched zone similar to those areas in anomaly 3. Three isolated high Ag values of 13.0, 18.5 and 69.0 ppm are located within the Pb and Zn highly anomalous area. Pb contents vary from 220 to 1350 ppm and Zn contents from 415-1550 ppm over 5 stations. The underlying geology, although poorly exposed, indicates some quartz feldspar porphyry dykes crosscutting quartz monzonite and small lenses of metasedimentary rocks. A few specimens of mineralized impure limestone found in float on the ridge contain up to 5850 ppm Cu, 3.08% Pb, 2.82% Zn and 19.00 oz/ton Ag, and the soil anomalies are probably due to bedrock mineralization of this type.

Anomaly 5

A discrete Ag anomaly outlined by three samples containing 4.0-4.4 ppm Ag trends northwest and is open to the west. An almost coincident Pb anomaly trending in a westerly direction which covers a 300 m x 150 m area, is also open to the west. Pb contents vary from 160-230 ppm and are moderate in comparison to the values in anomalies 1-4. The westerly trend, however, is significantly different than those previously mentioned. The zone follows downslope from the ridge and possible slumping and downward movement of soluble

Pb from a mineralized source, possibly related to an extension of anomaly 1B, has resulted. Interpretation of this anomaly is limited due to the lack of rock exposure in this area.

Anomaly 6

An isolated sample containing 600 ppm zinc is located on L5+00S, 1+20W. Anomalous Ag contents of 2.1 ppm occurs here but lack of rock exposure inhibits the classification of the source.

8.3.2 Soil Pit Geochemistry

Soil pit locations were chosen on the basis of geophysical conductors (VLF-EM and Mag) where rock exposure and geologic information was limited. In general, 10 samples at equally spaced intervals were taken from each pit and sent for geochemical analysis. Profiles were drawn for each pit (excluding Pit 81-02) and are presented in Appendix V.

Soil Pit 81-01

This pit was dug in the vicinity of a north-south trending VLF-EM conductor zone at soil location 37219 (see Plans 2, 3, 4). A 93-cm pit indicates an increase in Pb and Ag content with depth from 40 ppm Pb, 0.1 ppm Ag at surface to contents from 60-110 ppm Pb, and 1.3-2.0 ppm Ag at 30-85 cm. The increase in metal content with depth is not substantial. The VLF conductor lies 40 m (120 ft) west of the pit and most likely would not be reflected in the soils at this location.

Soil Pit 81-03

This pit lies within a magnetic conductive zone with coincident Pb-Zn-Ag anomalous values in soils (Location 1, Jagodits, Appendix I, Plans 2, 3, 4, 16A). A 92-cm deep pit intersected the BC transition zone of the profile. Soil contents slightly increase in Pb-Zn-Ag at a 50 cm depth (up to 700 ppm Pb, 4100 ppm Zn and 7.5 ppm Ag). Values decrease slightly at 70 cm but increase again towards the bottom of the pit (see Figure 13). Possibly slumping causes the fluxuation in metal content. Mineralized impure limestone is found in float within this area, accounting for the anomalous values in soils. The magnetic conductors may be associated with po-bearing rocks.

Soil Pit 81-04

This 55-cm deep pit falls within a wide VLF conductive zone (V5, Plan 15A) and is located within an anomalous Pb-Zn-Ag area. The pit, sampled in a poorly drained area, indicates all metals analysed (Pb, Zn, Ag) to decrease with depth. No conclusions can be derived.

Soil Pit 81-05

This soil pit falls within the same broad VLF-EM conductive zone as soil pit 81-04. A 60-cm deep pit indicates no significant variation of Pb-Ag content with depth. Zn contents vary from 28 ppm at the surface to 355 pppm Zn at 60 cm. This may indicate a structure or mineralized horizon at depth.

In summary, follow-up soil pits over conductive zones is not an effective method of locating sources for geophysical anomalies. The geochemistry typifies the amount of leaching and/or concentration of metals due to groundwater movement or slumping within the profile. Also, the pits are not deep enough to show all horizons of the profile (e.g. "C" horizon). Soil pit profiles 81-06 through 81-10 are presented in Appendix V. Due to the poor interpretations derived from those pits sampled on the West Claims where geophysical and geological information is readily available, these pits on the East Claims are not being used for interpretation.

IX. GEOPHYSICS

9.1 Summary of Report on Ground Geophysical Surveys by Frank L. Jagodits, November, 1981 (Appendix I)

Ground geophysical surveys conducted over the MOX and MORE-BETTER Claims in the summer of 1981 included both a Magnetic Survey and a VLF-EM Survey. Survey specifications and instrumentation are discussed in detail by Jagodits (1981, Appendix I). Results are presented on 1:2500 scale maps within this report (Plans 8-15B).

9.1.1 Magnetic Survey

In general, the rocks in the survey area are non-magnetic. Pyrrhotite-bearing units are probably the main contributing factor to magnetic effects on the property. A good correlation between magnetic anomalies and pyrrhotite showings (Plans 16A, 16B) is prominant. The interpretation of anomalies is biased by the large spacing of the east-west survey lines (125 m intervals). This bias results in a north-northwest trend of narrow width magnetic anomalies. The anomalies are generally of low to moderate amplitudes, rarely exceeding 200 gammas. Areas of potential interest are evaluated in section 9.2.

9.1.2 VLF-EM Survey

The data from the VLF-EM survey was of considerably better quality than obtained from the Magnetic Survey. Some influence of the topography was generated but effectively removed from the filtering process used. In general, there are numerous deep-seated linear conductors of poor strength detected on the property. Some correlation between conductors and skarn mineralization was made but the interpretation suggests the sources of the anomalies are structural features rather than mineralization. Various areas of potential interest are discussed in section 9.2.

9.2 Geophysical Targets of Potential Interest (Summary)

It is noted that in the report, F.L. Jagodits refers to skarn mineralization on numerous occasions. It has been established that this skarn mineralization is, in fact, the mineralized impure limestone unit described within this text. Appropriate changes should be made when reviewing the report of geophysical ground surveys (Appendix I).

Ten locations of potential interest of varying priority were selected by Jagodits (1981, Appendix I). A summary of the high priority locations selected by the author of this report is provided below.

i) Location 1

A first priority target, two narrow magnetic features overlap a mineralized impure limestone (skarn) and pyrrhotite showing. Good VLF-EM correlation is lacking but conductor V9, is near the eastern anomaly., This area lies within an anomalous Pb-Zn-Ag soil anomaly (3A, see section 8.3.1).

ii) Location 2

Two parallel magnetic anomalies associated with pyrrhotite occur with a closely related conductor (V8). This area subparallels the trend of anomalous Pb-Zn-Ag in soils (anomaly 3B). Follow-up geological mapping and trenching of this zone should be considered on a first priority basis.

iii) Location 3

A magnetic anomaly associated with conductor V8 appears to be an extension of the trend outlined by the soil Ag anomaly of Anomaly 2 and 3B. Further investigation is required to evaluate this area.

iv) Location 4

Conductor V3, clearly cuts through soil anomalies 3A and 3B, and is possibly associated with a nearby Pb-Zn-Ag mineralized location. If the structure is in fact assoicated with the mineralization, the conductor becomes a potential area of interest along its entire strike length. Detailed ground geophysical surveys in this area is warranted.

9.3 MOX EAST and MORE-BETTER Claims

Interpretations made on this part of the property are broad scaled due to the wide spacing of the survey lines. Targets chosen for potential interest were based on coincident Magnetic and VLF-EM conductors. Follow-up mapping and geochemistry (see section 8.3.2) over the most significant conductors were made during the summer field season of 1981.

Results of the follow-up survey indicate no significant geochemical expression from the soil pits. Also, the geochemical survey from 1980 (Gittings, 1980) does not outline any significant targets. The underlying quartz feldspar porphyry dykes and shear zones are the likely cause for these conductive locations. Pyrrhotite is probably associated with the underlying rocks but no mineralization of economic potential was found. Further work in this area is not recommended by the author.

X. CONCLUSIONS

1. The MOX and MORE-BETTER claims are underlain by regionally metamorphosed Proterozoic sediments, schists, gneisses and migmatites of the Nasina Shelf or Cassiar Platform. The metasediments are a complexly folded layered sequence of quartzites, marbles, calc-silicates and sulphide-bearing variants of the above units.

Segregation pegmatites have resulted from the metamorphic event. The metasediments have been intruded by a network of Cretaceous megacrystic biotite-granodiorite and equigranular quartz monzonite as sills, dykes and stocks. A later complex of aplite and pegmatite dykes and sills crosscut the intrusive and metasedimentary rocks and have produced a hydrothermal imprint on the intrusives and metasomatic calc-silicate skarn at the contacts. All units are cut by pyritic quartz feldspar porphyry dykes and quartz veins.

2. Mineralization of economic interest on MOX West Claims can be categorized into three basic types: 1) skarn mineralization, 2) impure recrystallized limestone with syngenetic mineralization, and 3) vein- and/or fracture-related mineralization.

3. The skarns generally carry minor amounts of pyrrhotite and/or pyrite and rarely galena, sphalerite and chalcopyrite. These contain from 13-1750 ppm Cu, 1-1500 ppm Pb, 32-2000 ppm Zn and 0.1-100.0 ppm Ag (generally less than 8 ppm Ag). Since this rock type is only locally developed at carbonate/intrusive contacts and since grades of mineralization are generally low it is difficult to conceive that this type of mineralization could be economically viable.

Vein and/or fracture-related mineralization (galena or sphalerite) was mapped in only three locations (455 ppm-1.14% Pb, 630 ppm-2.00% Zn, 2.3 ppm-90.0 ppm Ag). Soil geochemistry indicates that some of these shear zones mapped on MOX West may contain substantial vein type mineralization.

Cu, Pb, Zn, Ag mineralization in calc-silicate bearing impure limestone occurs in generally thin (up to 1.5 m) horizons and in float on MOX West. Fourteen samples of this material averaged 0.32% Cu, 1.31% Pb, 1.36% Zn and 6.07 oz/ton Ag. Mineralization consists of finely disseminated galena, sphalerite, chalcopyrite, bornite, and Ag-bearing chalcocite + covellite; pyrite is absent. This type of mineralization is known adjacent to pegmatites, implying skarnification, but the overall uniformity in rock constituents, and grade and style of mineralization imply a rheomorphic syngenetic aspect. Potentials of this mineralization may be best traced by trenching.

4. Soil geochemistry has outlined several highly anomalous areas of Pb, Zn and Ag on the part of the MOX West Claims where mineralization is known (up to 7000 ppm Pb, 1.09% Zn and 8.20 oz/ton Ag in soils). Northerly trends of anomalies are most easily explained by subcropping impure limestone hosted mineralization; fracture/vein related mineralization is an alternate explanation. A northwesterly trending 800 m long Ag (Pb-Zn) anomaly has at its southeast end a known buried fault of the same orientation and a soil sample with the highest contents of Pb, Zn and Ag on the property; this implies structurally controlled mineralization. Areas of highly anomalous Pb, Zn, Ag should be trenched to evaluate the source of mineralization.

5. Because of the widely spaced line intervals (125 m) interpretations of magnetometer survey results are biased and difficult. Weak magnetic anomalies, however, can often be related to pyrrhotite mineralization found in outcrop.

Numerous deepseated linear conductors of poor strength were detected from the VLF-EM survey. Minor correlation between these conductors and skarn mineralization was made but was not consistent; structural features are the most likely source for these conductors' anomalies.

Ten locations designated by F.L. Jagodits as potential areas of interest correlate reasonably well with soil geochemical anomalies and known mineralized zones. These locations should be followed up with detail ground geophysics and/or trenching.

XII. RECOMMENDATIONS

1. Fill-in ground geophysics (VLF-EM and Mag) should be considered at 30 m lines in the area of mineralization and major soil geochemical anomalies on the MOX West Claims.
2. Prior to any physical work (i.e. trenching), a diligent attempt should be made to trace known occurrences of mineralized impure limestone, and carefully inspect any areas of geophysical interest outlined by step 1.

3. Because of the location of major soil anomalies and mineral occurrences near ridge tops, bulldozer trenching would be the most effective method of prospecting geochemical and geophysical targets.

Respectfully submitted,

M. Jane Crandall

M. J. Crandall, B.Sc.

Toronto, Ontario
November 1981

AUTHOR'S QUALIFICATIONS

M. JANE CRANDALL

M. Jane Crandall graduated from Carleton University, Ottawa, Ontario, with a Bachelor of Science in Geology in 1980.

Since graduation she has worked as a mineral exploration geologist for Canadian Occidental Petroleum Ltd. to the present.

While employed with Canadian Occidental she has carried out and supervised mineral exploration projects in New Brunswick, Saskatchewan, British Columbia and the Yukon.

She is currently a member of the Prospectors' and Developers' Association.

APPENDIX I

REPORT ON
GROUND GEOPHYSICAL SURVEYS,
MOX, MORE-BETTER CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON TERRITORY

for

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

by

Frank L. Jagodits, P. Eng.,
Consulting Geophysicist
November 1981

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LIST OF ACCOMPANYING MAPS

1. INTRODUCTION

During the summer of 1981 the Minerals Division of the Canadian Occidental Petroleum Ltd. conducted ground magnetic and VLF-EM surveys in conjunction with geologic mapping and geochemical sampling over the MOX and MORE-BETTER Claims. The purpose of the ground geophysical surveys was to aid the mapping of skarn hosted mineralization. It was also hoped that the mapping of vein type mineralization will also be helped.

The results of the ground geophysical surveys are discussed in the following and recommendations are made for further investigations.

The survey statistics are given in the Appendix together with the writer's declaration.

2. SURVEY SPECIFICATIONS AND INSTRUMENTATION

2.1 Magnetic Survey

The earth's total magnetic field was determined at every 12.5 m along the survey lines and base lines. The proton precession one gamma magnetometer Model G816 made by Geometrics/Exploranium of Toronto was used.

The diurnal and day-to-day variations of the geomagnetic field were monitored by a base station magnetometer system, Model MR20 manufactured by Canadian Mining Geophysics of Ottawa.

The cycling rate of the base station magnetometer was 10 seconds and the field measurements were timed such to coincide exactly with an observation at the base station. The combined diurnal and day-to-day correction is available from the print-out of the MR20, which was applied to the magnetometer observations.

The method of surveying described above was followed until the base station magnetometer developed a malfunction which could not be corrected in the field. The rest of the survey was completed following the traditional looping procedures. As the base line and other key lines were already surveyed using the base station magnetometer, stations were selected along these lines to serve as base stations for the looping. The average duration of the loops was two hours.

2.2 VLF-EM Survey

The survey was conducted utilizing the EM16 VLF-EM instrument manufactured by Geonics Limited of Mississauga, Ont. The in-phase and quadrature phase components of the VLF magnetic field were measured at stations 12.5 m apart along the survey lines. The very low frequency (VLF) transmitter located at Jim Creek, Washington, operating at a frequency of 18.6 kHz provided the primary electromagnetic field.

3. PRESENTATION OF THE RESULTS

The base maps on which all the geophysical data and the interpretation are presented were prepared at a scale of 1:2500. The magnetic survey results over the MOX West Claims are presented as contours. The contour interval is 10 gammas, with suitably larger intervals in areas of steep magnetic gradients. The contour map also shows the corrected magnetic readings less 58,000 gammas. Because the large separation of the survey lines over the MOX and MORE-BETTER Claims the magnetic results are shown in profile form, together with the corrected values.

The VLF-EM survey results are given on three maps:

a) the values of the in-phase and quadrature phase components plotted at each station;

b) profiles of the above components;

c) filtered in-phase contours. The filtering method applied is described by D. C. Fraser in "Contouring of VLF-EM Data", (Geophysics, Vol. XXXIV, No. 6).

4. DISCUSSION OF THE RESULTS

4.1 MOX West Claims

4.1.1 Geologic Considerations

The following brief geological notes are made to establish the setting for the interpretation of the magnetic data. The survey area is underlain by felsic to intermediate Mid-Cretaceous intrusive rocks intruding Proterozoic metasediments, quartzite, limestone and paragneiss. Lead, zinc and silver mineralization was found at seven locations, which are shown on the Interpretation Maps. Pyrite and pyrrhotite was noted in many outcrops which are also indicated on the Interpretation Map, in order to establish a correlation between the known geology and the magnetics.

The geologic mapping revealed a complex geologic picture, interfingering younger intrusives with the older metasediments. The entire grid is covered by the intrusive, the strike of the intruded metasediments dominantly north-south but east-west strikes are also mapped near the north central map area.

4.1.2 Magnetic Survey

The rocks occurring in the survey area are generally non-magnetic with the possible exception of the intermediate intrusive. Of the four types of quartzites distinguished, one is described as pyrrhotite bearing and can be considered as one of the sources of the magnetic anomalies. Unfortunately the only mapped exposure of this unit is just outside of the magnetic coverage.

The east-west survey lines, which are 125 m apart impose an unavoidable bias on the magnetic contour map. This bias results in nearly north-northwest striking anomalies, which are often transgressive to the mapped geology. Furthermore, it would appear that the line separation is larger than it would be desirable to describe the complex geology where short strike length is the rule than the exception.

As noted earlier, with exception of the intermediate intrusives and the pyrrhotite bearing quartzite, the other rocks are non-magnetic. However pyrrhotite was frequently mapped and more than likely it is the main contributor to the magnetic effects.

It is noted here that the magnetic data in the southwest corner is suspect as they may have been collected during a magnetic disturbance.

The amplitude of the anomalies varies from small to moderate with the exception of two locations where it exceeds 200 gammas suggesting that the magnetic constituents are not abundant. The magnetic contour map was divided into magnetics units in which the magnetic characteristics are reasonably uniform. These units have to be viewed with the limitations in mind which are imposed by the survey line direction and line separation. Individual magnetic bodies believed to be signficant are also outlined.

Magnetic Unit 1 was demarked to include numerous anomalies generally having a north-northwest strike and a narrow width. In the northern part of the unit the magnetic anomalies are nearly perpendicular to the mapped geology. It is unlikely that the anomalies represent a deeper magnetic, dyke-like feature; the anomaly is believed to be artifact of the line direction and spacing and in fact could be left out of Unit 1. South of L-3+75S the correlation improves somewhat in both the eastern and western arms of the unit. In the eastern arm good correlation is noted between pyrrhotite occurrence and magnetic anomalies. The most intense magnetic anomaly, a narrow feature, occurs on L-5+00S at the eastern limit of the unit. Significantly two skarn outcrops and pyrrhotite were mapped in the vicinity of the anomaly. Magnetic Unit 1 is considered as an area where the occurrence of pyrrhotite and pyrrhotite associated with skarn is more abundant.

The second most intense anonaly of the survey is delineated along L-8+75S at the western limit of Magnetic Unit 2. The unit is located in the eastern part of the grid where geological data are not available. The characteristics of the unit is akin to those of Unit 1, but the anomalies are generally wider and suggestive of somewhat deeper depth of burial. Pyrrhotite bearing skarns are the suspected causes.

Magnetic Unit 3 in the northeast corner of the map covers a small area characterized by low amplitude anomalies which are ordered in a somewhat cohesive fashion. The anomalies are believed to be caused by variations in magnetics constituents of the intrusives and metasediments.

The extensive area in the central part of the map is denoted as Magnetic Unit 4. Low amplitude, short strike length anomalies, gentle variations of the magnetic field are the characteristic signs. Mineralization, skarn and pyrrhotite was mapped along east-west traverse crossing L-6+25S at about 4+75W. The mineralization noted is just east and west of L-6+25S and no distinct magnetic association or correlation are evident. The area east of Magnetic Unit 2 is denoted as Unit 4? The uncertainty arises from the fact that the line spacing increases to 250 m east of the base line and contouring of the data becomes tenuous.

Magnetic Unit 5 occupies the area west of Unit 1. Units 4 and 5 are similar, but subtle differences are perceived. The low amplitude, short strike length anomalies create a mottled appearance, differing from Unit 4. These three units represent the undivided, essentially non-magnetic intrusives and metasediments. However the existence of small skarn and the associated pyrrhotite is not precluded because of the filtering effect of line spacing and direction.

Magnetic Unit 6? in the southwest corner is a tenuous unit with somewhat enhanced magnetic activity.

The structural information interpreted from the magnetic data reflects of filtering imposed by line spacing and direction and it may indicate structures not reaching ground surface. The two dominant directions of shearing are east-west and northeast-southwest complimenting the indications of the VLF-EM survey. Northeast striking fault mapped between lines 5+50S and 5+00S provides credence to the interpreted shear from magnetics.

4.1.3 VLF-EM Survey

Good quality VLF-EM data were collected, which show some influence of topography. The topographic effects were effectively removed by the filtering process employed. The particular VLF-EM transmitter used emphasizes conductive structures striking in the direction to the transmitter which in this instance approximates southeast. The line to line correlation of the VLF-EM features is considerably better than found on the magnetic map, suggesting that the linear extent of the conductive structures can be considerable. Numerous shorter strike length conductors were also detected, which are usually shallower than the conductors having longer strike length. The indicated quality of the conductors, which is a measure of the conductivity-thickness product varies from mediocre to poor, indicating that the sources of the anomalies are conductive structural features rather than mineralization,

Clear association between the mapped skarns and VLF-EM conductors is found at one location only along L-10+00S just east of TL-13+00W. In case of mineral showings the correlation improves as conductors V3 and V7 are near mapped mineral showings. The correlation between VLF-EM and pyrrhotite occurrence was also investigated, which fairs better than the previous two as noted along conductors V1, at L-8+75S, V2?, V8 at L-3+75S and V9.

The major conductor axes where line to line correlation is suggested by the in-phase and quadrature profiles are identified. Whenever the correlation is doubtful it is noted with a question mark. Offsets of these conductor axes along nearly east-west shears interpreted from magnetics are clearly evident. Conductors V1, V2, V3, V5 and V8, are the most significant which can be identified along considerable strike length.

4.1.4 Targets of Potential Interest

Ten locations of potential interest of varying priority were selected, which are discussed below:

i) Location 1:

The target area is two narrow magnetic features, one of which is the most intense anomaly of the survey where skarn and pyrrhotite were mapped. Good VLF-EM correlation is lacking but the short strike length Conductor V9? is near the eastern anomaly on L-3+75S. It is a first priority target.

ii) Location 2:

Two, parallel magnetic anomalies with pyrrhotite association constitute this target. The westerly anomaly is wider and a longer strike length is implied there. Conductor V8 is clearly associated with the eastern anomaly and the minor conductor axis on L-3+75S coincides with the westerly limit of the west anomaly. Although skarn is not mapped in the immediate vicinity of the location, mineralization was noted nearby enhancing the importance of the target, which ought to be followed-up on a first priority basis.

iii) Location 3:

A magnetic anomaly on L-6+25S associated with Conductor V8? was selected here for further investigation as a second priority target.

iv) Location 4:

Conductor V3, which is a clearly defined anomaly is near a lead-zinc-silver mineralization. If it is assumed that the mineralization is related to the structure then the conductor becomes a potential area of interest along its entire length. It is a second priority target.

v) Location 5:

The magnetic anomaly along L-3+75S at 2+70W was selected because of its probable association with Conductor V5. A second anomaly along L-5+00S is also included in this target area. The part of the anomaly which is associated with a VLF-EM conductor is the extreme southern extension of an anomaly of considerable strike length. Second priority is assigned to this target area.

vi) Location 6:

As the second largest amplitude magnetic anomaly of the survey, it was selected for further consideration although as a second to third priority target since VLF-EM correlation is lacking.

vii) Location 7:

Conductor V7 is assigned third priority as it is near a lead-zinc-silver occurrence.

viii) Locations 8 and 9:

These locations are shear zones interpreted from magnetics which are near lead-zinc-silver mineralization, and envisaged as third priority targets.

ix) Location 10:

This location was chosen because of two good quality VLF-EM conductors associated with low amplitude magnetic anomalies. It is a second priority target.

4.2 MOX and MORE-BETTER Claims

The reconnaissance survey lines along which the magnetic and VLF-EM surveys were conducted are 250 m apart. Judging from the known geology of the MOX West Claims only minimal line to line correlation of the magnetic data may be expected. Indeed, the magnetic profile map supports the above expectation. Nevertheless broad regions of similar magnetic characteristics can be outlined. These regions are denoted as magnetic units. In addition individual anomalies of significance are also outlined along the survey lines.

Magnetic Unit 1 which extends across Lines 10+00S, 12+50Sand 15+00S in the south central map area is characterized by raised background level upon which local anomalies are superimposed. Intermediate composition intrusive rocks may be considered as the likely cause. Magnetic Unit 2 is expressed at the eastern end of Lines 12+50S and 15+00S. The unit is open to the east, however it is terminated somewhere between Lines 12+50S and 10+00S. The amplitude of the local anomalies along Line 12+50S reach 140 gammas and are suggestive of somewhat deeper depth. The local background level is raised along L-15+00S although local anomaly amplitudes are lower than at L-12+50S, and shallower sources are implied. Skarn zones with pyrrhotite can be postulated here.

The local background levels along the western parts of lines 2+50S, 5+00S and 7+50S are similar where local anomalies are only sporadic. The featureless magnetic picture persists along L-5+00S but marked changes take place on Lines 2+50S and 7+50S. Magnetic Unit 3 on Line 2+50S is dominated the most significant magnetic anomaly of the grid. The assymetric anomaly denotes a dipping body, which obviously terminates between the two most northerly lines. Skarn may be denoted here. Rapidly varying magnetic field sets apart Magnetic Unit 4 along Line 7+50S, where skarns can be suspected to occur.

The last unit of note is found along L-10+00S west of Magnetic Unit 1. It is a local occurrence as it is not expressed along the lines to the north and south. Local skarn with pyrrhotite can be assumed to cause the anomalies. The VLF-EM results are dominated by Conductor V1 persistent through the grid. It is suspected that it may reflect a ridge effect, but it appears to coincide with the westerly limit of Magnetic Unit 1, which can imply a fault contact there. The other seemingly persistent Conductor is V2, which indeed may signify the eastern contact of the Magnetic 1. The similarity of the anomalies suggest that Conductors V3, V4, V5 and V6 may extend across several lines and are believed to represent conductive structures and/or contacts along skarns when associated with magnetic features.

The criterion for selection of targers of potential interest was the coincidence of a significant magnetic anomaly and a VLF-EM conductor. The eminent target is the large amplitude magnetic anomaly coincident with the most northerly expressions of Conductor V2. The second priority target is the most westerly magnetic anomaly of Unit 2 on L-12+50S, where Conductor V6 is located. The third target which is given second priority is located at the eastern end of Lines 12+50S and 15+00S. Here the magnetic anomalies show possible line to line correlation, although the source may be deeper on the northerly line. Conductor V3 is associated with this target.

The fourth target selected is a wider anomaly complex on L-7+50S where the magnetic body limits coincide with VLF-EM conductors. The continuation of this zone is hinted to south on L-10+00S nevertheless the priority of the target is low.

5. CONCLUSIONS AND RECOMMENDATIONS

In spite of the lack of significant susceptibility contrast between the intrusive and metasediments, the magnetic survey revealed magnetic units which outline areas where skarns associated with pyrrhotite are likely to be found. More significantly individual magnetic anomalies were found to correlate with mapped occurrences of pyrrhotite leading to the conclusion that the bulk of the magnetic activity is related to pyrrhotite, which may be associated with skarns, one of the targets of the exploration effort. The amplitude of the anomalies varies from low to moderate excepting three anomalies, two in the MOX West Claims and one in the MOX East, MORE-BETTER Claims, implying that pyrrhotite is not abundant.

The magnetic survey also revealed that much closer line spacing is needed to define skarns along which the magnetic constituents may vary considerably within a short distance. The survey line direction was not the ideal in many instances as the mapped geology clearly indicates it.

The structural information derived from the magnetics compliments the structural picture depicted by the VLF-EM.

The VLF-EM technique proved to be useful delineating conductive structures in general, but specifically established areas of interest where associated with magnetic feature.

As the result of the study 14 locations of varying priority, 10 in the MOX West Claims and 4 in the MOX and MORE-BETTER map area were selected as worthy of further considerations.

The recommended follow-up initially would consist of prospecting and mapping of target areas followed by ground geophysical surveys as dictated by the results of the prospecting and mapping. The ground geophysical surveys should include magnetic and VLF-EM surveys. The direction of the survey lines will be dictated by the findings of the prospecting and mapping, however the survey line interval should not exceed 20 m as closely spaced lines are needed to describe adequately the rapidly varying magnetic characteristics of the skarn deposits.

Respectfully submitted,

Frank L. Jagodits, P. Eng.,
Consulting Geophysicist.

REGISTERED PROFESSIONAL ENGINEER
F. L. JAGODITS
PROVINCE OF ONTARIO

FLJ:sb
November 5, 1981

6. APPENDIX

SURVEY STATISTICS

Magnetic Survey

MOX West Claims: 22.3 km

MOX and MORE-BETTER Claims: 9.9 km

VLF-EM Survey

MOX West Claims: 20.6 km

MOX and MORE-BETTER Claims: 9.9 km

Personnel

P. Manojlovic	Canadian Occidental Petroleum Ltd., 4th Floor, 180 Attwell Drive, Rexdale, Ontario. M9W 6A9	Magnetic Survey	August 15-19, 21, 23-25, 1981
G. Mijac	1303 Daimler Rd., Mississauga, Ont., L5T 3T3	VLF-EM Survey, drafting	August 15, and 16, 19-25 1981
R. T. Marcroft	66 High Street, Mississauga, Ont.	Drafting	3 days during October and November 1981
F. L. Jagodits	19 Orangewood Crescent Agincourt, Ontario. M1W 1C5	Interpreta-tion	3.5 days October, November 1981
S. Blunt	38 Amberwood Sq., Brampton, Ontario. L6Z 1G3.	Typing	Nov. 5, 1981

CERTIFICATE

I, Francis Louis Jagodits, of the Borough of Scarborough, Country of York, Province of Ontario, do hereby certify that:

1. I am a geophysical engineer residing at 19 Orangewood Crescent, Agincourt, Ontario.

2. I am a graduate of the Technical University of Sopron, Hungary with Dipl. Eng. degree in geophysical engineering (1956).

3. I am a member of the Society of Exploration Geophysicists, the European Association of Exploration Geophysicists, the Canadian Geophysical Union and Fellow of the Geological Association of Canada.

4. I am a professional engineer, registered in the Province of Ontario.

5. I have no direct or indirect interest, nor do I expect to receive any interest directly or indirectly in the property or securities of Canadian Occidental Petroleum Ltd.

6. The statements made in this report are based on study of published and unpublished private reports.

7. Permission is granted to use in whole or in part for assessment and qualifications requirements but not for advertising purposes.

Dated at Scarborough,

This sixth day of November, 1981.

Francis L. Jagodits, Dipl. Eng. P. Eng.,

REGISTERED PROFESSIONAL ENGINEER
F. L. JAGODITS
PROVINCE OF ONTARIO

APPENDIX II - SAMPLING AND LABORATORY PROCEDURES

I. SAMPLING PROCEDURES

A) Soil

1. "B" horizon or talus fine material is sampled.

2. Three to four handfuls of material are collected into heavy duty, high wet-strength kraft envelopes which are dried in the field and then sent to the laboratory for analysis.

B) Sample Site Information Card

1. At each soil or stream sample site, an 80 column field data card is completed. The sampler records such information as sample number, location and type, depth of stream, sample composition, vegetation, drainage, etc. Separate cards are used for stream and soil samples in order to record pertinent information.

II. LABORATORY PROCEDURES

A. Sample Preparation

i) Soils

1. Samples are sorted and dried at 50°C for 12 to 16 hours.
2. Dried material is then screened to obtain the -80 mesh (177 micron) fraction. The rest of the material is discarded.

4. Cu, Pb, Zn and Ag are determined by atomic absorption, using background correction for Pb and Ag analyses.

Element	Bkgd. Corr.	Flame Type	Wave Length hm	Detection Limit	Chemex Standard	± 1 Std. Deviation
Pb	Yes	A	217.0	1 ppm	59 ppm	± 1
Zn	No	A	213.8	1 ppm	52 ppm	± 3
Ag	Yes	A	328.1	0.2 ppm	8.5 ppm	± 0.5
Cu	No	A	324.7	1 ppm	71 ppm	± 3

A = Air acetylene flame

N = Nitrous oxide - acetylene flame

ii) <u>ppm Arsenic (As) (Atomic Absorption)</u>

1) A 1.0 gm portion of sample is digested in conc. perchloric nitric acid ($HClO_4$-HNO_3) for approx. 2 hours.

2) The digested sample is cooled and made up to 25 mls with distilled water. The aliquot of water is acidified with HCl and then reduced with potassium iodine to reduce As (V) to As (111).

3) A portion of this solution is further reduced with soidum borohydride to arsine, AsH_3.

4) The volatile arsine is swept into a heated cell in an atomic absorption spectrophotometer and decomposed to free arsenic to determine the arsenic concentration.

5) Detection limit: <u>2 ppb As</u>.

ii) Rocks

1. Entire sample is crushed.
2. If necessary (>250 gms). The sample is split on a Jones splitter, the reject is retained for a short period.
3. The split fraction is pulverized in a ring grinder such that 90% passes a 200 mesh (74 micron) sieve.
4. The -200 mesh material is weighed and analysed for the appropriate elements.

B. Elemental Analyses

i) ppm Copper, Lead, Zinc, Silver, (Atomic Absorption)

1. A 1.0 gm portion of -80 mesh soil or stream sediment or -200 mesh rock flour or pulverized "heavies" is digested in concentrated, hot, perchloric - nitric acid ($HClO_4$-HNO_3) for 2 hours.
2. Digested sample is cooled and made up to 25 mls. with distilled water.
3. Solution is mixed and solids allowed to settle.

4. Cu, Pb, Zn and Ag are determined by atomic absorption, using background correction for Pb and Ag analyses.

Element	Bkgd. Corr.	Flame Type	Wave Length hm	Detection Limit	Chemex Standard	± 1 Std. Deviation
Pb	Yes	A	217.0	1 ppm	59 ppm	± 1
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Cu	No	A	324.7	1 ppm	71 ppm	± 3

A = Air acetylene flame

N = Nitrous oxide - acetylene flame

ii) <u>ppm Arsenic (As) (Atomic Absorption)</u>

1) A 1.0 gm portion of sample is digested in conc. perchloric nitric acid ($HClO_4$-HNO_3) for approx. 2 hours.

2) The digested sample is cooled and made up to 25 mls with distilled water. The aliquot of water is acidified with HCl and then reduced with potassium iodine to reduce As (V) to As (111).

3) A portion of this solution is further reduced with sodium borohydride to arsine, AsH_3.

4) The volatile arsine is swept into a heated cell in an atomic absorption spectrophotometer and decomposed to free arsenic to determine the arsenic concentration.

5) Detection limit: <u>2 ppb As</u>.

iii) ppm Bismuth (Bi) (Atomic Absorption)

1) A 2-gram sample of -200 mesh rock flour or pulverized "heavies" is diluted to volume and a potassium iodine-ascorbic acid addition reduces the Fe and Bi.

2) Bi is extracted from the aliquot (3.267 extraction) as the iodine into M.I.B.K. (Methyl isobutyl ketone) and analyzed via atomic absorption.

3) Detection limit: 1 ppm Bi.

iv) ppm Antimony (Sb) (Atomic Absorption)

1) A 1.0 gm weight of -80 mesh soil or stream sediment, -200 mesh rock flour or pulverized heavy mineral concentrate is digested with concentrated HCl acid in a water bath (100°C) for about 2 hours.

2) The sample is then complexed with iodide to form a Sb-iodide complex.

3) The complex is extracted with TOPO MIBK (Methol isobutyl ketone) and analysed by routine atomic absorption using a background correction.

4) Detection limit: 0.2 ppm.

v) ppb Gold (Au) (Atomic Absorption)

1. A 5 gm sample of -200 mesh rock flour or pulverized "heavies" is ashed at 800°C for 1 hour.

2. Ashed material is digested with aqua regia twice to dryness.

3. Digested material is taken up in 25% HCl.

4. Au is extracted as the bromide into MIBK and analysed via atomic absorption.

5. Detection limit: 10 ppb Au.

APPENDIX III

GEOCHEMICAL CERTIFICATES OF ANALYSIS

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1

TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

CERT. # : A8113730-001-A
INVOICE # : I8113730
DATE : 15-SEP-81
P.O. # : NONE
WATSU

MOX ROCKS

Sample description	Prep code	Cu ppm	Pb ppm	Zn ppm	Ag ppm		
81 WA 37486 R	205	33	1	108	0.1	--	--
81 WA 37487 R	205	27	2	32	0.1	--	--
81 WA 37488 R	205	106	5	60	0.1	--	--
81 WA 37489 R	205	45	21	102	0.1	--	--
81 WA 37491 R	205	1200	730	1030	77.0	--	--
81 WA 37494 R	205	700	97	>10000	5.5	--	--
81 WA 37500 R	205	30	7	68	0.5	--	--
81 WA 37501 R	205	83	540	1100	7.4	--	--
81 WA 37503 R	205	131	25	130	3.2	--	--
81 WA 37504 R	205	27	14	122	4.8	--	--
81 WA 37505 R	205	75	5	50	1.1	--	--
81 WA 37506 R	205	25	3	13	0.1	--	--
WA 37507 R	205	16	16	540	0.1	--	--
81 WA 37508 R	205	16	10	360	0.2	--	--
81 WA 37509 R	205	156	23	1100	2.5	--	--
81 WA 37510 R	205	12	11	35	0.1	--	--
81 WA 37511 R	205	25	6	90	0.2	--	--
81 WA 37512 R	205	2350	3800	4500	>100.0	--	--
81 WA 37513 R	205	4450	>10000	>10000	>100.0	--	--
81 WA 37514 R	205	1600	>10000	>10000	65.0	--	--
81 WA 37515 R	205	3450	7500	9600	>100.0	--	--
81 WA 37516 R	205	163	220	240	7.5	--	--
81 WA 37517 R	205	44	5300	6500	3.7	--	--
81 WA 37518 R	205	395	258	375	5.8	--	--
81 WA 37519 R	205	27	50	91	0.8	--	--
81 WA 37520 R	205	300	38	735	6.1	--	--
81 WA 37521 R	205	86	12	48	0.2	--	--
81 WA 37522 R	205	43	11	40	0.1	--	--
81 WA 37523 R	205	850	6	61	0.7	--	--
81 WA 37524 R	205	89	3	66	0.3	--	--
81 WA 37525 R	205	395	6	45	0.1	--	--
81 WA 37526 R	205	25	6	43	0.1	--	--
81 WA 37527 R	205	11	4	39	0.2	--	--
81 WA 37528 R	205	31	3	57	0.1	--	--
81 WA 37529 R	205	300	10	330	1.3	--	--
81 WA 37530 R	205	130	1	28	0.1	--	--
81 WA 37531 R	205	95	1	50	0.2	--	--
WA 37532 R	205	57	2	50	0.1	--	--
WA 37533 R	205	38	1	125	0.1	--	--
81 WA 37534 R	205	1400	3	6200	2.7	--	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by ..Hart Bichler...

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

CERT. # : A8113730-002-A
INVOICE # : I8113730
DATE : 15-SEP-81
P.O. # : NONE
WATSU

MOX ROCKS

Sample description	Prep code	Cu ppm	Pb ppm	Zn ppm	Ag ppm		
81 WA 37535 R	205	215	9	82	0.8	--	--
81 WA 37536 R	205	395	1	43	1.2	--	--
81 WA 37537 R	205	40	50	130	1.5	--	--
81 WA 37538 R	205	30	13	120	0.1	--	--
81 WA 37539 R	205	6	23	50	0.1	--	--
81 WA 37540 R	205	2800	>10000	>10000	20.0	--	--
81 WA 37541 R	205	2050	10000	9600	50.0	--	--
81 WA 37542 R	205	5850	>10000	>10000	>100.0	--	--
81 WA 37543 R	205	3450	>10000	>10000	60.0	--	--
81 WA 37544 R	205	70	230	420	4.0	--	--
81 WA 37545 R	205	36	82	110	1.5	--	--
81 WA 37546 R	205	102	1500	2000	7.7	--	--
1 WA 37547 R	205	15	35	45	0.5	--	--
81 WA 37548 R	205	2750	1200	830	56.0	--	--
81 WA 37549 R	205	3750	10000	>10000	>100.0	--	--
81 WA 37550 R	205	2350	>10000	>10000	>100.0	--	--
81 WA 37551 R	205	355	88	108	5.5	--	--
81 WA 37552 R	205	34	86	1800	2.0	--	--
81 WA 37553 R	205	1050	2500	2100	20.0	--	--
81 WA 37554 R	205	36	82	1850	2.0	--	--
81 WA 37555 R	205	168	178	4900	3.0	--	--
81 WA 37556 R	205	37	26	73	0.5	--	--
81 WA 37557 R	205	41	1200	5100	3.3	--	--
81 WA 37558 R	205	500	17	73	3.4	--	--
81 WA 37559 R	205	61	455	2650	2.3	--	--
81 WA 37560 R	205	25	15	49	0.2	--	--
81 WA 37561 R	205	47	44	132	0.7	--	--
81 WA 37562 R	205	96	13	115	0.6	--	--
81 WA 37563 R	205	305	22	65	2.2	--	--
81 WA 37564 R	205	165	9	1000	0.6	--	--
81 WA 37565 R	205	64	275	142	1.1	--	--
81 WA 37566 R	205	900	184	148	45.0	--	--
81 WA 37567 R	205	1050	308	146	100.0	--	--
81 WA 37568 R	205	1750	115	180	48.0	--	--
81 WA 37569 R	205	74	48	26	1.0	--	--
81 WA 37570 R	205	950	330	1260	13.5	--	--
81 WA 37571 R	205	62	95	420	0.5	--	--
1 WA 37572 R	205	23	30	40	0.3	--	--
81 WA 37573 R	205	126	985	950	1.0	--	--
81 WA 37574 R	205	99	22	52	1.5	--	--

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CANADA V7J 2C1
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TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

CERT. # : A8113730-003-A
INVOICE # : I8113730
DATE : 15-SEP-81
P.O. # : NONE
WATSU

MOX ROCKS

Sample description	Prep code	Cu ppm	Pb ppm	Zn ppm	Ag ppm		
81 WA 37575 R	205	92	8	86	1.2	--	--
81 WA 37576 R	205	46	7	49	0.3	--	--
81 WA 37577 R	205	700	>10000	>10000	90.0	--	--
81 WA 37578 R	205	1950	>10000	>10000	>100.0	--	--
81 WA 37579 R	205	13	430	145	1.4	--	--
81 WA 37580 R	205	34	65	42	0.5	--	--
81 WA 37589 R	205	30	68	60	0.5	--	--
81 WA 37590 R	205	20	24	52	0.1	--	--
81 WA 37591 R	205	27	19	70	0.1	--	--
81 WA 37592 R	205	32	1300	630	25.0	--	--
81 WA 37593 R	205	166	45	130	1.5	--	--
81 WA 37594 R	205	54	520	9000	6.0	--	--
81 WA 37595 R	205	41	14	145	0.1	--	--
81 WA 37596 R	205	138	18	75	1.5	--	--
81 WA 37597 R	205	750	7	130	10.0	--	--
81 WA 37598 R	205	67	5	145	0.3	--	--
81 WA 37599 R	205	6550	>10000	>10000	>100.0	--	--

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MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

CERT. # : A8114204-001-A
INVOICE # : I8114204
DATE : 02-OCT-81
P.O. # : NONE
WATSU

MOX ROCKS

Sample description	Prep code	Pb %	Zn %	Ag FA oz/T			
81 WA 37494 R	214	--	1.15	--	--	--	--
81 WA 37512 R	214	--	--	6.60	--	--	--
81 WA 37513 R	214	2.45	2.57	10.20	--	--	--
81 WA 37514 R	214	2.34	2.96	--	--	--	--
81 WA 37515 R	214	--	--	8.50	--	--	--
81 WA 37540 R	214	3.08	2.82	--	--	--	--
81 WA 37542 R	214	1.25	1.30	19.00	--	--	--
81 WA 37543 R	214	2.50	2.74	--	--	--	--
81 WA 37549 R	214	--	1.17	9.00	--	--	--
81 WA 37550 R	214	1.22	1.30	4.80	--	--	--
81 WA 37577 R	214	1.14	2.00	--	--	--	--
81 WA 37578 R	214	2.14	1.67	0.70	--	--	--
31 WA 37599 R	214	3.14	2.30	16.60	--	--	--

Registered Assayer, Province of British Columbia

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CERTIFICATE OF ANALYSIS

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MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

CERT. # : A8114248-001-A
INVOICE # : I8114248
DATE : 13-OCT-81
P.O. # : NONE
WATSU

"MOX ROCKS"

Sample description	Prep code	AS ppm	AU-AA ppb	Sb ppm	Bi ppm		
81 WA 37513 R	214	4	20	0.1	--	--	--
81 WA 37518 R	214	--	10	--	--	--	--
81 WA 37566 R	214	--	10	--	--	--	--
81 WA 37577 R	214	--	<10	--	--	--	--
81 WA 37599 R	214	5	<10	2.8	0.1	--	--

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NADIAN TESTING
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C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
Y0A 1C0

CERT. # : A8113584-001-A
INVOICE # : I8113584
DATE : 10-SEP-81
P.O. # : NONE
MOX CLAIM

MOX SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81-WA-37002	201	128	230	0.8	CONTROL : STANDARD		
81-WA-37006	201	17	55	0.1	--	--	--
81-WA-37008	201	15	50	0.1	--	--	--
81-WA-37009	201	1	10	0.1	--	--	--
81-WA-37010	201	10	43	0.1	--	--	--
81-WA-37011	201	122	170	1.6	--	--	--
81-WA-37012	201	1350	1550	69.0	--	--	--
81-WA-37013	201	73	135	1.3	--	--	--
81-WA-37014	201	59	52	0.8	--	--	--
81-WA-37015	201	163	265	0.8	--	--	--
81-WA-37016	201	4	14	0.7	--	--	--
81-WA-37017	201	1	3	0.1	--	--	--
-WA-37019	201	1	3	0.1	--	--	--
8[illegible]-WA-37020	201	8	27	0.1	--	--	--
81-WA-37021	201	23	42	0.2	--	--	--
81-WA-37022	201	82	210	0.1	--	--	--
81-WA-37023	201	23	48	0.1	--	--	--
81-WA-37024	201	16	45	0.1	--	--	--
81-WA-37025	201	1	4	0.1	--	--	--
81-WA-37026	201	1	8	0.1	--	--	--
81-WA-37027	201	25	106	0.1	--	--	--
81-WA-37028	201	22	145	0.1	--	--	--
81-WA-37029	201	3	15	0.1	--	--	--
81-WA-37030	201	24	54	0.1	--	--	--
81-WA-37031	201	119	226	0.8	CONTROL : STANDARD		
81-WA-37032	201	170	305	6.0	--	--	--
81-WA-37033	201	50	156	2.1	--	--	--
81-WA-37034	201	135	205	2.1	--	--	--
81-WA-37035	201	14	65	0.4	--	--	--
81-WA-37036	201	78	128	0.7	--	--	--
81-WA-37037	201	68	130	0.5	--	--	--
81-WA-37038	201	43	100	0.1	--	--	--
81-WA-37039	201	17	56	0.3	--	--	--
81-WA-37040	201	42	92	0.1	--	--	--
81-WA-37041	201	168	257	1.2	--	--	--
81-WA-37042	201	218	330	3.0	--	--	--
81-WA-37043	201	230	350	2.8	--	--	--
[illegible]-WA-37044	201	180	278	3.1	--	--	--
[illegible]-WA-37045	201	190	280	3.8	--	--	--
81-WA-37046	201	200	310	4.0	--	--	--

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212 BROOKSBANK AVE.
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TELEX: 043-52597

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CERTIFICATE OF ANALYSIS

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
C/O LITEHOUSE EXPEDITING
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WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8113584-002-A
INVOICE # : I8113584
DATE : 10-SEP-81
P.O. # : NONE
MOX CLAIM

MOX SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81-WA-37047	201	45	148	0.1	--	--	--
81-WA-37048	201	32	125	0.4	--	--	--
81-WA-37049	201	13	53	0.1	--	--	--
81-WA-37050	201	30	125	0.1	--	--	--
81-WA-37051	201	24	98	0.1	--	--	--
81-WA-37052	201	18	62	0.1	--	--	--
81-WA-37053	201	16	88	0.1	--	--	--
81-WA-37054	201	17	61	0.1	--	--	--
81-WA-37055	201	26	94	0.1	--	--	--
81-WA-37056	201	17	103	0.1	--	--	--
81-WA-37057	201	7	40	0.8	--	--	--
81-WA-37058	201	13	44	0.1	--	--	--
81-WA-37059	201	11	57	0.1	--	--	--
81-WA-37060	201	122	234	0.7	CONTROL : STANDARD		
81-WA-37061	201	8	31	0.1	--	--	--
81-WA-37062	201	1	13	0.1	--	--	--
81-WA-37063	201	10	40	0.1	--	--	--
81-WA-37064	201	1	3	0.1	--	--	--
81-WA-37065	201	29	72	0.1	--	--	--
81-WA-37066	201	16	54	0.1	--	--	--
81-WA-37067	201	9	55	0.1	--	--	--
81-WA-37068	201	6	35	0.1	--	--	--
81-WA-37069	201	63	168	0.1	--	--	--
81-WA-37070	201	19	62	0.1	--	--	--
81-WA-37071	201	2	14	0.1	--	--	--
81-WA-37073	201	52	155	0.1	--	--	--
81-WA-37074	201	11	33	0.1	--	--	--
81-WA-37075	201	72	105	0.1	--	--	--
81-WA-37076	201	102	250	0.1	--	--	--
81-WA-37077	201	24	98	0.1	--	--	--
81-WA-37078	201	1	17	0.1	--	--	--
81-WA-37079	201	26	87	0.1	--	--	--
81-WA-37080	201	45	122	0.1	--	--	--
81-WA-37081	201	35	95	0.1	--	--	--
81-WA-37082	201	90	230	0.1	--	--	--
81-WA-37083	201	50	93	0.1	--	--	--
81-WA-37084	201	75	163	0.1	--	--	--
81-WA-37085	201	1	8	0.1	--	--	--
81-WA-37086	201	90	180	0.1	--	--	--
81-WA-37087	201	35	80	0.1	--	--	--

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YOA 1CO

CERT. # : A8113584-003-A
INVOICE # : I8113584
DATE : 10-SEP-81
P.O. # : NONE
MOX CLAIM

MOX SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81-WA-37088	201	6	14	0.1	--	--	--
81-WA-37089	201	114	215	0.4	CONTROL : STANDARD		
81-WA-37090	201	175	370	5.4	--	--	--
81-WA-37091	201	305	462	16.5	--	--	--
81-WA-37092	201	580	636	14.5	--	--	--
81-WA-37093	201	103	225	2.2	--	--	--
81-WA-37094	201	19	165	1.1	--	--	--
81-WA-37095	201	378	450	13.6	--	--	--
81-WA-37096	201	182	330	6.6	--	--	--
81-WA-37097	201	163	225	2.4	--	--	--
81-WA-37098	201	134	235	3.3	--	--	--
81-WA-37099	201	150	200	3.7	--	--	--
1-WA-37100	201	178	350	4.6	--	--	--
81-WA-37101	201	98	280	4.6	--	--	--
81-WA-37102	201	116	235	3.4	--	--	--
81-WA-37103	201	160	258	4.4	--	--	--
81-WA-37104	201	120	240	4.0	--	--	--
81-WA-37105	201	76	178	3.9	--	--	--
81-WA-37106	201	76	195	2.4	--	--	--
81-WA-37107	201	62	140	3.2	--	--	--
81-WA-37108	201	108	178	9.5	--	--	--
81-WA-37109	201	120	165	4.4	--	--	--
81-WA-37110	201	53	98	1.9	--	--	--
81-WA-37111	201	170	300	2.8	--	--	--
81-WA-37112	201	156	370	2.6	--	--	--
81-WA-37113	201	98	190	2.2	--	--	--
81-WA-37114	201	86	170	1.8	--	--	--
81-WA-37115	201	234	330	9.1	--	--	--
81-WA-37116	201	185	295	3.8	--	--	--
81-WA-37117	201	525	675	15.4	--	--	--
81-WA-37118	201	123	210	2.0	CONTROL : STANDARD		
81-WA-37119	201	187	345	1.3	--	--	--
81-WA-37120	201	215	380	1.3	--	--	--
81-WA-37121	201	268	448	2.3	--	--	--
81-WA-37122	201	350	630	6.4	--	--	--
81-WA-37123	201	390	1450	4.2	--	--	--
81-WA-37124	201	253	760	3.0	--	--	--
1-WA-37125	201	80	140	1.0	--	--	--
1-WA-37126	201	138	238	2.9	--	--	--
81-WA-37127	201	48	80	0.1	--	--	--

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YOA 1CO

CERT. # : A8113584-004-A
INVOICE # : I8113584
DATE : 10-SEP-81
P.O. # : NONE
MOX CLAIM

MOX SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81-WA-37128	201	64	98	0.1	--	--	--
81-WA-37129	201	54	85	0.1	--	--	--
81-WA-37130	201	30	110	0.1	--	--	--
81-WA-37131	201	112	235	0.9	--	--	--
81-WA-37132	201	12	18	0.2	--	--	--
81-WA-37133	201	65	145	0.1	--	--	--
81-WA-37134	201	42	168	0.2	--	--	--
81-WA-37135	201	86	175	0.6	--	--	--
81-WA-37136	201	37	85	0.3	--	--	--
81-WA-37137	201	114	218	0.2	--	--	--
81-WA-37138	201	25	55	0.1	--	--	--
81-WA-37139	201	12	30	0.1	--	--	--
81-WA-37140	201	4	25	0.1	--	--	--
81-WA-37141	201	10	49	0.4	--	--	--
81-WA-37142	201	49	115	0.1	--	--	--
81-WA-37143	201	50	85	0.1	--	--	--
81-WA-37144	201	4	12	0.1	--	--	--
81-WA-37145	201	61	82	0.1	--	--	--
81-WA-37146	201	106	160	0.1	--	--	--
81-WA-37147	201	120	205	0.6	CONTROL : STANDARD		
81-WA-37148	201	61	140	0.1	--	--	--
81-WA-37149	201	5	11	0.1	--	--	--
81-WA-37150	201	1	6	0.1	--	--	--
81-WA-37151	201	12	26	0.1	--	--	--
81-WA-37152	201	39	105	0.1	--	--	--
81-WA-37153	201	37	105	0.5	--	--	--
81-WA-37154	201	98	140	1.4	--	--	--
81-WA-37155	201	31	73	0.1	--	--	--
81-WA-37156	201	22	55	0.1	--	--	--
81-WA-37157	201	29	65	0.1	--	--	--
81-WA-37158	201	37	75	0.1	--	--	--
81-WA-37159	201	70	190	1.1	--	--	--
81-WA-37160	201	114	120	0.1	--	--	--
81-WA-37161	201	32	118	0.1	--	--	--
81-WA-37162	201	40	118	0.4	--	--	--
81-WA-37200	201	102	132	0.1	--	--	--
81-WA-37201	201	308	155	18.5	--	--	--
81-WA-37202	201	380	225	1.2	--	--	--
81-WA-37203	201	80	128	1.4	--	--	--
81-WA-37204	201	18	45	1.1	--	--	--

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TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
C/O LITEHOUSE EXPEDITING
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WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8113584-005-A
INVOICE # : I8113584
DATE : 10-SEP-81
P.O. # : NONE
MOX CLAIM

MOX SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81-WA-37205	201	118	240	0.8	CONTROL : STANDARD		
81-WA-37206	201	32	132	0.2	--	--	--
81-WA-37207	201	49	270	2.2	--	--	--
81-WA-37208	201	76	220	0.7	--	--	--
81-WA-37209	201	68	190	0.1	--	--	--
81-WA-37210	201	20	256	0.5	--	--	--
81-WA-37211	201	325	620	5.0	--	--	--
81-WA-37212	201	223	520	13.0	--	--	--
81-WA-37213	201	114	260	2.8	--	--	--
81-WA-37214	201	96	365	10.1	--	--	--
81-WA-37215	201	55	100	1.4	--	--	--
81-WA-37216	201	165	224	2.1	--	--	--
1-WA-37217	201	38	83	0.1	--	--	--
1-WA-37218	201	46	68	0.1	--	--	--
81-WA-37219	201	32	68	0.1	--	--	--
81-WA-37220	201	68	122	0.9	--	--	--
81-WA-37221	201	110	230	2.7	--	--	--
81-WA-37222	201	134	298	3.7	--	--	--
81-WA-37223	201	62	200	3.9	--	--	--
81-WA-37224	201	3	27	0.1	--	--	--
81-WA-37225	201	24	95	0.1	--	--	--
81-WA-37226	201	14	110	0.1	--	--	--
81-WA-37227	201	22	65	0.1	--	--	--
81-WA-37228	201	22	132	0.1	--	--	--
81-WA-37229	201	16	98	0.1	--	--	--
81-WA-37230	201	32	200	0.1	--	--	--
81-WA-37231	201	36	165	0.1	--	--	--
81-WA-37232	201	12	45	0.1	--	--	--
81-WA-37233	201	80	300	0.1	--	--	--
81-WA-37234	201	120	230	0.8	CONTROL : STANDARD		
81-WA-37235	201	17	134	0.1	--	--	--
81-WA-37236	201	88	390	0.1	--	--	--
81-WA-37237	201	175	355	0.3	--	--	--
81-WA-37238	201	24	100	0.1	--	--	--
81-WA-37239	201	18	114	0.1	--	--	--
81-WA-37240	201	10	38	0.1	--	--	--
81-WA-37241	201	15	110	0.1	--	--	--
1-WA-37242	201	7	90	0.1	--	--	--
1-WA-37243	201	10	93	0.1	--	--	--
81-WA-37244	201	16	97	0.1	--	--	--

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212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8113584-006-A
INVOICE # : I8113584
DATE : 10-SEP-81
P.O. # : NONE
MOX CLAIM

MOX SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81-WA-37245	201	58	172	0.1	--	--	--
81-WA-37261	201	5	28	0.1	--	--	--
81-WA-37262	201	1	4	0.1	--	--	--
81-WA-37263	201	116	235	0.5	CONTROL : STANDARD		
81-WA-37264	201	28	100	0.1	--	--	--
81-WA-37265	201	25	155	0.1	--	--	--
81-WA-37266	201	26	144	0.1	--	--	--
81-WA-37267	201	9	70	0.1	--	--	--
81-WA-37268	201	5	30	0.1	--	--	--
81-WA-37269	201	32	116	0.1	--	--	--
81-WA-37270	201	85	230	0.1	--	--	--
81-WA-37271	201	116	325	0.1	--	--	--
31-WA-37272	201	1	10	0.1	--	--	--
81-WA-37273	201	25	124	0.1	--	--	--
81-WA-37274	201	12	115	0.1	--	--	--
81-WA-37275	201	34	112	0.1	--	--	--
81-WA-37276	201	58	185	0.1	--	--	--
81-WA-37277	201	93	295	0.1	--	--	--
81-WA-37278	201	46	202	0.1	--	--	--

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TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
Y0A 1C0

CERT. # : A8113731-001-A
INVOICE # : I8113731
DATE : 15-SEP-81
P.O. # : NONE
120.

MOX CLAIMS - SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
-81 WA 37007	201	40	64	0.2	--	--	--
-81 WA 37072	201	63	160	0.3	--	--	--
81 WA 37163	201	29	113	0.1	--	--	--
81 WA 37164	201	33	155	0.1	--	--	--
81 WA 37165	201	94	500	0.1	--	--	--
81 WA 37166	201	27	120	0.1	--	--	--
81 WA 37167	201	45	128	0.1	--	--	--
81 WA 37168	201	38	128	0.1	--	--	--
81 WA 37169	201	305	380	0.5	--	--	--
81 WA 37170	201	28	140	0.1	--	--	--
81 WA 37171	201	82	296	0.5	--	--	--
81 WA 37172	201	102	260	0.5	--	--	--
81 WA 37173	201	15	84	0.3	--	--	--
81 WA 37174	201	13	72	0.1	--	--	--
81 WA 37175	201	685	420	3.0	--	--	--
81 WA 37176	201	128	250	1.0	CONTROL : STANDARD		
81 WA 37177	201	7	29	0.2	--	--	--
81 WA 37178	201	1	11	0.2	--	--	--
81 WA 37179	201	37	198	0.2	--	--	--
81 WA 37180	201	41	155	0.3	--	--	--
81 WA 37181	201	2	11	0.2	--	--	--
81 WA 37182	201	88	188	0.1	--	--	--
81 WA 37183	201	29	104	0.2	--	--	--
81 WA 37184	201	18	78	0.1	--	--	--
81 WA 37185	201	24	45	0.3	--	--	--
81 WA 37186	201	58	125	0.3	--	--	--
81 WA 37187	201	20	103	0.3	--	--	--
81 WA 37188	201	35	115	0.2	--	--	--
81 WA 37189	201	62	116	0.5	--	--	--
81 WA 37190	201	120	238	0.3	--	--	--
81 WA 37191	201	22	72	0.4	--	--	--
81 WA 37192	201	28	195	0.6	--	--	--
81 WA 37193	201	75	158	0.1	--	--	--
81 WA 37194	201	24	68	0.1	--	--	--
81 WA 37195	201	51	100	1.0	--	--	--
81 WA 37196	201	110	113	1.3	--	--	--
81 WA 37197	201	56	105	2.0	SOIL PIT 81-01		
81 WA 37198	201	60	105	1.5	--	--	--
81 WA 37199	201	63	116	1.5	--	--	--
81 WA 37246	203	82	265	0.3	--	--	--

Certified by [signature]

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WATSON LAKE, Y.T.
YOA 1C0

CERT. # : A8113731-002-A
INVOICE # : I8113731
DATE : 22-SEP-81
P.O. # : NONE
120

MOX CLAIMS SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm				Notes
81 WA 37247	203	70	250	0.3	--	--	--	
81 WA 37248	201	82	315	0.5	--	--	--	
81 WA 37249	201	85	345	0.5	--	--	--	
81 WA 37250	201	85	328	0.6	--	--	--	
81 WA 37251	201	236	640	1.5	--	--	--	
81 WA 37252	201	182	550	2.3	--	--	--	
81 WA 37253	201	130	500	0.3	--	--	--	
81 WA 37254	201	135	540	1.4	--	--	--	
81 WA 37255	201	72	265	2.7	--	--	--	
81 WA 37256	201	770	2100	7.0	--	--	--	
81 WA 37257	201	750	2000	6.8	--	--	--	
81 WA 37258	201	720	1700	5.8				SOIL PIT 81-03
81 WA 37259	201	610	2350	3.8	--	--	--	
81 WA 37260	201	620	4200	4.0	--	--	--	
81 WA 37279	201	70	135	1.5				SOIL PIT 81-01
81 WA 37280	201	72	92	0.3	--	--	--	
81 WA 37281	201	80	98	0.1	--	--	--	
81 WA 37282	201	67	105	0.1	--	--	--	
81 WA 37283	203	42	80	0.3	--	--	--	
81 WA 37284	203	45	85	0.5				SOIL PIT 81-08
81 WA 37285	203	42	60	0.1	--	--	--	
81 WA 37286	201	29	42	0.1	--	--	--	
81 WA 37287	203	23	35	0.2	--	--	--	
81 WA 37288	201	11	36	0.1	--	--	--	
81 WA 37289	203	16	60	0.1				SOIL PIT 81-07
81 WA 37290	201	11	36	0.1	--	--	--	
81 WA 37291	201	18	56	0.1	--	--	--	
81 WA 37292	201	105	215	1.0				CONTROL : STANDARD
81 WA 37293	201	21	52	0.1	--	--	--	
81 WA 37294	201	17	50	0.1	--	--	--	
81 WA 37295	201	16	46	0.1				SOIL PIT 81-07
81 WA 37296	201	13	48	0.1		--	--	
81 WA 37297	201	2	9	0.1	--	--	--	
81 WA 37298	201	5	22	0.1	--	--	--	
81 WA 37300	203	48	180	0.2				SOIL PIT 81-06
81 WA 37301	201	18	52	0.1	--	--	--	
81 WA 37302	201	66	32	0.1	--	--	--	
81 WA 37303	201	80	600	2.1	--	--	--	
81 WA 37304	201	38	110	0.4	--	--	--	
81 WA 37305	201	10	45	0.1	--	--	--	

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C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
Y0A 1C0

CERT. # : A8113731-003-A
INVOICE # : I8113731
DATE : 15-SEP-81
P.O. # : NONE
120

MCX CLAIMS - Soils

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81 WA 37306	201	290	460	1.4	--	--	--
81 WA 37307	201	170	415	2.5	--	--	--
81 WA 37308	201	750	850	13.0	--	--	--
81 WA 37309	201	115	170	1.4	--	--	--
81 WA 37310	201	290	330	1.5	--	--	--
81 WA 37311	201	280	305	1.1	--	--	--
81 WA 37312	201	2000	5900	10.5	--	--	--
81 WA 37313	201	800	1250	5.0	--	--	--
81 WA 37314	201	170	278	2.6	--	--	--
81 WA 37315	201	820	630	26.0	--	--	--
81 WA 37316	201	80	205	3.5	--	--	--
81 WA 37317	201	260	305	29.0	--	--	--
81 WA 37318	201	110	225	3.5	--	--	--
81 WA 37319	201	9	28	1.0	--	--	--
81 WA 37320	201	77	150	3.2	--	--	--
81 WA 37321	201	115	216	1.1	CONTROL : STANDARD		
81 WA 37322	201	300	435	9.0	--	--	--
81 WA 37323	201	140	238	5.7	--	--	--
81 WA 37324	201	100	238	5.9	--	--	--
81 WA 37325	201	82	105	1.1	--	--	--
81 WA 37326	201	110	108	0.8	--	--	--
81 WA 37327	201	50	94	1.5	--	--	--
81 WA 37328	201	7000	>10000	>100.0	--	--	--
81 WA 37329	201	63	108	2.0	--	--	--
81 WA 37330	201	78	180	11.5	--	--	--
81 WA 37331	201	560	1150	10.0	--	--	--
81 WA 37332	201	95	265	5.0	--	--	--
81 WA 37333	201	22	45	1.1	--	--	--
81 WA 37334	201	90	152	0.5	--	--	--
81 WA 37335	201	1	10	0.1	--	--	--
81 WA 37336	201	450	570	3.6	--	--	--
81 WA 37337	201	180	320	0.5	--	--	--
81 WA 37338	201	200	270	0.6	--	--	--
81 WA 37339	201	33	163	0.5	--	--	--
81 WA 37340	201	120	230	0.8	CONTROL : STANDARD		
81 WA 37341	201	250	325	3.7	--	--	--
81 WA 37342	201	220	355	3.4	--	--	--
81 WA 37343	201	400	440	4.4	--	--	--
81 WA 37344	201	60	145	3.0	--	--	--
81 WA 37345	201	3	11	0.1	--	--	--

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YOA 1CO

CERT. # : A8113732-001-A
INVOICE # : I8113732
DATE : 15-SEP-81
P.O. # : NONE

MOX CLAIMS SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81 WA 37346	201	17	60	0.3	--	--	--
81 WA 37347	201	53	290	0.2	--	--	--
81 WA 37348	201	8	45	0.2	--	--	--
81 WA 37349	201	14	64	0.3	--	--	--
81 WA 37350	201	47	230	1.0	--	--	--
81 WA 37351	201	28	118	0.5	--	--	--
81 WA 37352	201	44	95	0.2	--	--	--
81 WA 37353	201	4	14	0.1	--	--	--
81 WA 37354	201	20	72	0.5	--	--	--
81 WA 37355	201	5	15	0.6	--	--	--
81 WA 37356	201	120	245	0.4	--	--	--
81 WA 37357	201	50	145	0.1	--	--	--
1 WA 37358	201	75	168	0.1	--	--	--
81 WA 37359	201	18	88	0.3	--	--	--
81 WA 37360	201	95	240	0.2	--	--	--
81 WA 37361	201	62	122	0.1	--	--	--
81 WA 37362	201	43	98	0.4	--	--	--
81 WA 37363	201	45	102	0.3	--	--	--
81 WA 37364	201	29	200	0.4	--	--	--
81 WA 37365	201	29	180	0.2	--	--	--
81 WA 37366	201	28	48	0.3	--	--	--
81 WA 37367	201	16	58	0.5	--	--	--
81 WA 37368	201	29	110	2.0	--	--	--
81 WA 37369	201	5	350	1.0	--	--	--
81 WA 37370	201	110	220	1.0	CONTROL STANDARD		
81 WA 37371	201	53	102	2.0	--	--	--
81 WA 37372	201	67	98	2.0	--	--	--
81 WA 37373	201	53	105	3.0	--	--	--
81 WA 37374	201	22	58	1.5	--	--	--
81 WA 37375	201	65	85	1.0	--	--	--
81 WA 37376	201	4	11	0.1	--	--	--
81 WA 37377	201	70	210	0.6	--	--	--
81 WA 37378	201	37	78	0.5	--	--	--
81 WA 37379	201	50	88	1.0	--	--	--
81 WA 37380	201	90	120	0.5	--	--	--
81 WA 37381	201	60	123	1.5	--	--	--
81 WA 37382	201	52	125	1.5	--	--	--
1 WA 37383	201	14	138	2.0	--	--	--
81 WA 37384	201	80	147	0.2	--	--	--
81 WA 37385	201	15	33	1.0	--	--	--

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WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8113732-002-A
INVOICE # : I8113732
DATE : 15-SEP-81
P.O. # : NONE

MOX CLAIMS SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
-81 WA 37386	201	52	142	1.0	--	--	--
-81 WA 37387	201	22	64	0.2	--	--	--
-81 WA 37388	201	51	82	0.2	--	--	--
-81 WA 37389	201	33	78	0.1	--	--	--
-81 WA 37390	201	110	280	2.0	--	--	--
-81 WA 37391	201	220	550	2.3	--	--	--
-81 WA 37392	201	23	66	1.2	--	--	--
-81 WA 37393	201	9	39	0.2	--	--	--
-81 WA 37394	201	32	66	0.1	--	--	--
-81 WA 37395	201	33	140	0.1	--	--	--
-81 WA 37396	201	88	175	0.1	--	--	--
-81 WA 37397	201	11	38	0.1	--	--	--
81 WA 37398	201	40	88	0.1	--	--	--
81 WA 37399	201	46	100	0.1	--	--	--
81 WA 37400	201	120	230	0.7	CONTROL : STANDARD		
81 WA 37401	201	700	4100	7.5	--	--	--
81 WA 37402	201	540	3500	4.7	--	--	--
81 WA 37403	201	620	4000	4.6	SOIL PIT 81-03		
81 WA 37404	201	580	3600	4.5	--	--	--
81 WA 37405	201	430	2000	2.2	--	--	--
81 WA 37406	201	160	390	2.2	--	--	--
81 WA 37407	201	210	485	3.0	--	--	--
81 WA 37408	201	150	320	0.5	--	--	--
81 WA 37409	201	145	330	1.0	--	--	--
81 WA 37410	201	150	425	1.5	SOIL PIT 81-04		
81 WA 37411	201	260	290	7.4	--	--	--
81 WA 37412	201	340	240	5.0	--	--	--
81 WA 37413	201	120	465	2.5	--	--	--
81 WA 37414	201	280	120	6.8	--	--	--
81 WA 37415	201	380	115	7.0	--	--	--
81 WA 37416	201	260	355	1.0	--	--	--
81 WA 37417	201	180	290	1.0	--	--	--
81 WA 37418	201	85	235	0.7	--	--	--
81 WA 37419	201	52	180	0.2	--	--	--
81 WA 37420	201	50	190	0.2	SOIL PIT 81-05		
81 WA 37421	201	42	185	0.5	--	--	--
81 WA 37422	201	45	148	0.2	--	--	--
81 WA 37423	201	47	180	0.1	--	--	--
81 WA 37424	201	48	140	0.1	--	--	--
81 WA 37425	201	15	28	0.1	--	--	--

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TELEPHONE: (604)984-0221
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C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8113732-003-A
INVOICE # : I8113732
DATE : 15-SEP-81
P.O. # : NONE

MOX CLAIMS SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81 WA 37426	201	90	178	0.3	--	--	--
81 WA 37427	201	62	158	0.1	SOIL PIT 81-10		
81 WA 37428	203	61	125	0.1	--	--	--
81 WA 37429	201	90	163	0.1	--	--	--
81 WA 37430	201	130	250	0.9	CONTROL : STANDARD		
81 WA 37431	201	62	140	0.1	--	--	--
81 WA 37432	201	50	125	0.1	SOIL PIT 81-10		
81 WA 37433	201	62	145	0.1	--	--	--
81 WA 37434	201	75	150	0.1	--	--	--
81 WA 37435	201	17	48	0.1	--	--	--
81 WA 37436	201	1	18	0.1	--	--	--
81 WA 37437	201	2	10	0.1	--	--	--
81 WA 37438	201	1	16	0.1	--	--	--
81 WA 37439	201	20	50	0.1	--	--	--
81 WA 37440	201	52	206	0.1	--	--	--
81 WA 37441	201	6	55	0.1	--	--	--
81 WA 37442	203	13	52	0.1	--	--	--
81 WA 37443	201	195	135	0.1	--	--	--
81 WA 37444	201	150	230	0.1	--	--	--
81 WA 37445	201	115	720	0.1	--	--	--
81 WA 37446	201	100	280	0.1	--	--	--
81 WA 37447	201	65	275	0.1	--	--	--
81 WA 37448	201	210	400	0.3	--	--	--
81 WA 37449	201	280	500	0.2	--	--	--
81 WA 37450	201	85	215	0.6	--	--	--
81 WA 37451	201	97	200	0.2	--	--	--
81 WA 37452	201	125	170	0.1	--	--	--
81 WA 37453	201	120	190	0.1	--	--	--
81 WA 37454	201	140	210	0.1	SOIL PIT 81-06		
81 WA 37455	201	65	108	0.1	--	--	--
81 WA 37456	201	64	115	0.1	--	--	--
81 WA 37457	201	32	65	0.1	--	--	--
81 WA 37458	201	78	175	0.1	--	--	--
81 WA 37459	201	2	10	0.1	SOIL PIT 81-08		
81 WA 37460	201	120	255	1.0	CONTROL : STANDARD.		
81 WA 37461	201	3	16	0.1	SOIL PIT 81-08		
81 WA 37462	201	140	95	0.1	--	--	--
81 WA 37463	201	125	94	0.3	--	--	--
81 WA 37464	201	75	72	0.4	SOIL PIT 81-09		
81 WA 37465	201	72	72	0.1	--		--

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212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ANALYSIS

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8113733-001-A
INVOICE # : I8113733
DATE : 15-SEP-81
P.O. # : NONE

MOX CLAIMS SOILS

Sample description	Prep code	Pb ppm	Zn ppm	Ag ppm			
81 WA 37466	201	75	70	0.1	--	--	--
81 WA 37467	201	85	85	0.1	--	--	--
81 WA 37468	201	3	10	0.1	SOIL PIT 81-09		
81 WA 37469	201	7	12	0.1	--	--	--
81 WA 37470	201	13	18	0.1	--	--	--
81 WA 37471	201	24	34	0.1	--	--	--
81 WA 37472	201	70	143	0.1	SOIL PIT 81-10		
81 WA 37473	201	36	75	1.1	--	--	--
81 WA 37477	201	40	98	0.1	--	--	--
81 WA 37478	201	50	100	0.8	SOIL PIT 81-01		
81 WA 37479	201	60	112	1.3	--	--	--
81 WA 37480	201	70	110	1.4	--	--	--
81 WA 37490	201	115	210	1.2	CONTROL : STANDARD		

Certified by .... Hart Bichler

CHEMEX LABS LTD.

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NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CANADIAN OCCIDENTAL PETROLEUM LTD.
C/O LITEHOUSE EXPEDITING
BOX 295
WATSON LAKE, Y.T.
YOA 1CO

CERT. # : A8114226-001-A
INVOICE # : I8114226
DATE : 19-OCT-81
P.O. # : NONE
120

MOX SOIL

Sample description	Prep code	Zn %	Ag FA oz/T				
81 WA 37328	214	1.09	8.20	--	--	--	--

Registered Assayer, Province of British Columbia

APPENDIX IV

FREQUENCY DISTRIBUTION TABLES, HISTOGRAMS, AND CUMULATIVE FREQUENCY GRAPHS FOR SOIL GEOCHEMISTRY

Table 12
MOX Claims

Frequency Distribution of Pb in Soils

Pb	1980	1981	Total	Cumulative Frequency	Cumulative Percent
0-10	144	50	194	194	32.0
11-20	99	43	142	336	55.5
21-30	60	40	100	436	72.0
31-40	29	28	57	493	81.4
41-50	16	23	39	532	87.8
51-60	12	17	29	561	92.6
61-70	5	19	24	585	97.0
71-80	5	16	21	606	100.0
81-90	1	13	14		
91-100	7	11	18		
101-110	0	10	10		
111-120	7	12	19		
121-130	6	2	8		
131-140	2	5	7		
141-150	1	2	3		
151-160	2	2	4		
>160	15	57	72		
Total	411	350	761		

Values >160 (1981): 305, 685, 175, 210, 325, 7000, 220, 820
290, 280, 1350, 560, 400, 800, 580, 220,
308, 450, 300, 2000, 305, 223, 380, 250,
260, 280, 230, 750, 290, 234, 525, 215,
218, 268, 350, 390, 253, 378

+ 21 more

Certificates (1981): A8113584-001-A to -006-A,
A8113731-001-A, -003-A
A8113732-001-A to -003-A
A8113733-001-A

Figure 6

MOX

FREQUENCY DISTRIBUTION OF LEAD IN SOILS.

n = 761

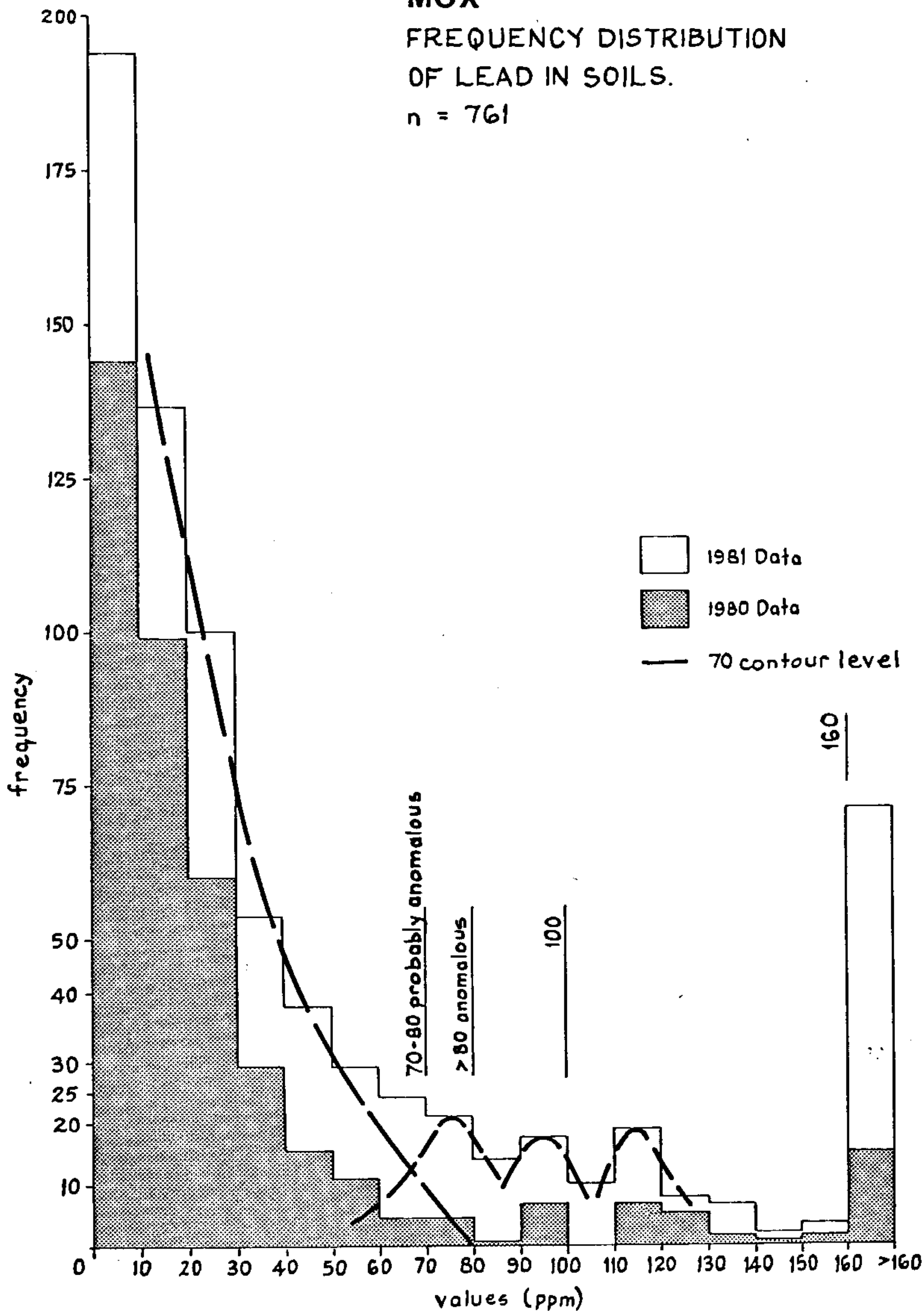


Figure 7
MOX
CUMULATIVE FREQUENCY DISTRIBUTION
OF LEAD IN SOILS
n= 606

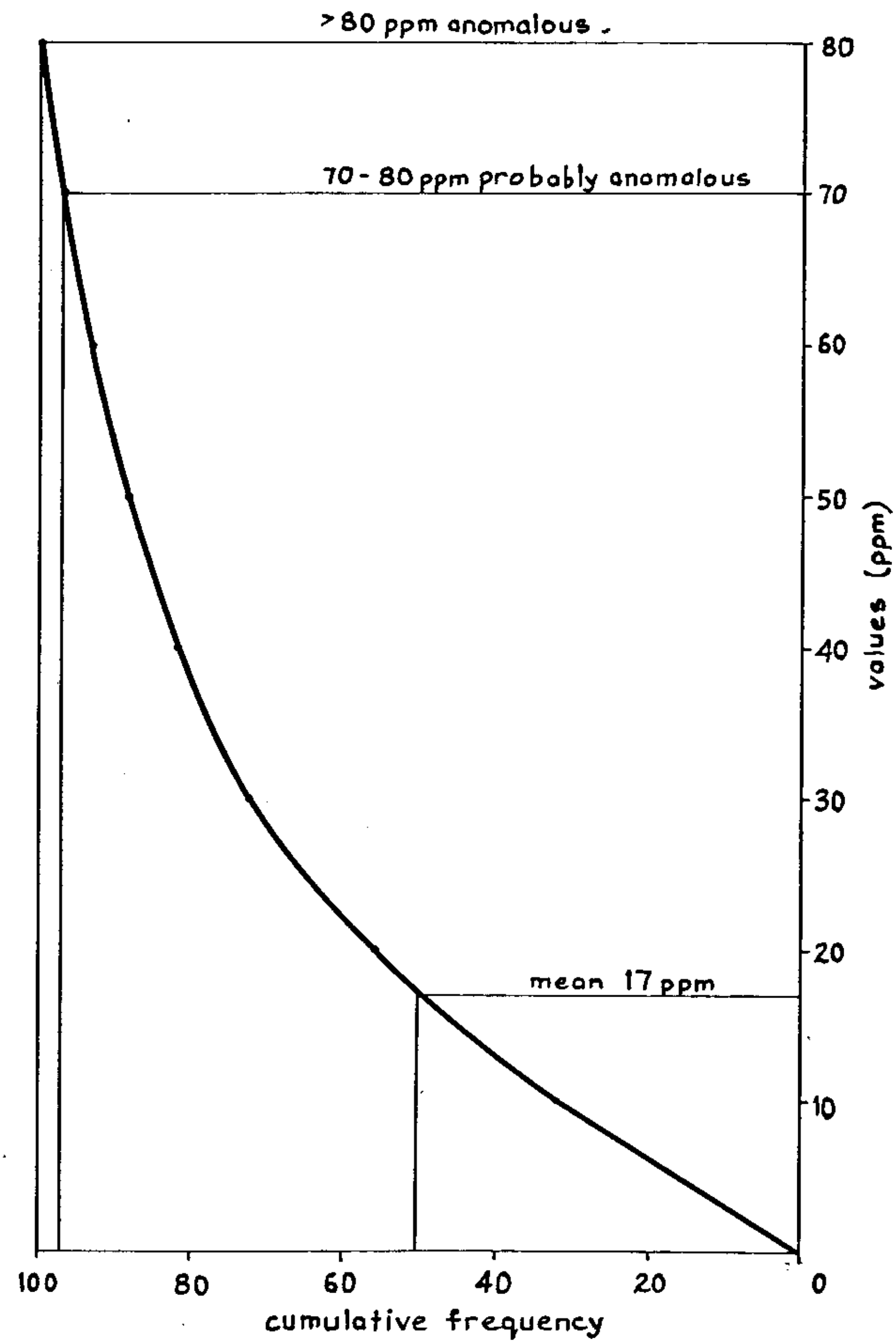


Table 13
MOX Claims

Frequency Distribution of Zn in Soils

Zn	1980	1981	Total	Cumulative Frequency	Cumulative Percent
0-20	76	29	105	105	17.4
21-40	56	18	74	179	29.7
41-60	66	29	95	274	45.5
61-80	74	26	100	374	62.1
81-100	43	35	78	452	75.1
101-120	21	31	52	504	83.7
121-140	16	27	43	547	91.0
141-160	13	19	32	579	96.2
161-180	4	19	23	602	100
181-200	15	12	27		
201-220	1	9	10		
221-240	2	20	22		
241-260	2	7	9		
261-280	4	11	15		
281-300	3	7	10		
301-320	2	5	7		
321-340	0	6	6		
341-360	1	6	7		
361-380	0	5	5		
381-400	0	2	2		
>400	10	27	37		
Total	409	350	759		

Values >400 (1981): 550, 620 570 448, 462, 500, 1550, 440, 630, 500, 720, >10,000, 460, 1450, 420, 520, 1150, 415, 760, 630, 5900, 850, 450, 435, 1250, 675, 636

Certificates (1981): A8113584-001-A to -006A
A8113731-001-A, -003A
A8113732-001-A to -003A
A8113733-001-A

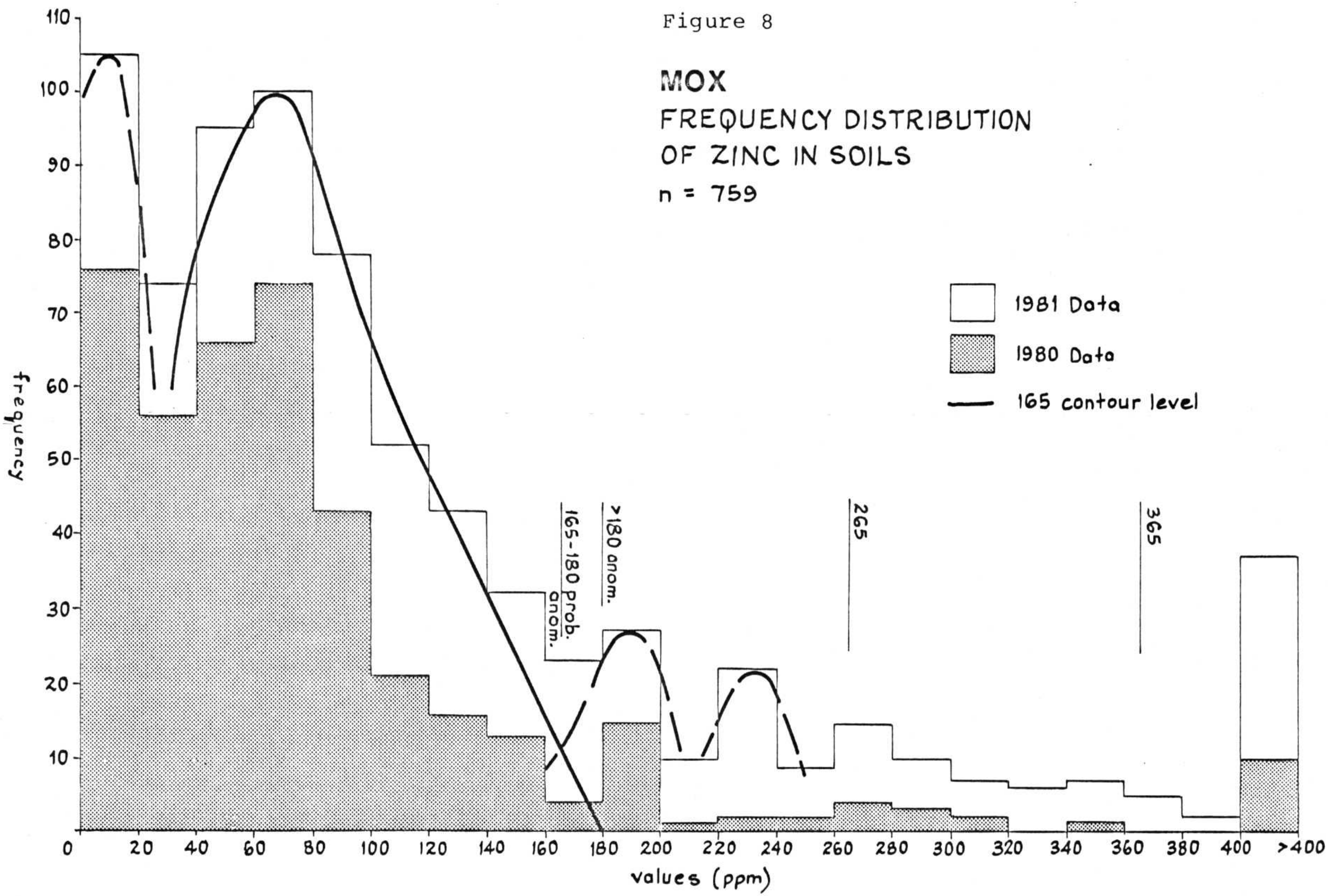


Figure 8
MOX
FREQUENCY DISTRIBUTION
OF ZINC IN SOILS
n = 759
1981 Data
1980 Data
165 contour level
frequency
values (ppm)
165-180 prob. anom.
>180 anom.
265
365
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
300
320
340
360
380
400
>400
10
20
30
40
50
60
70
80
90
100
110

Figure 9

MOX

CUMULATIVE FREQUENCY DISTRIBUTION OF ZINC IN SOILS.

n = 602

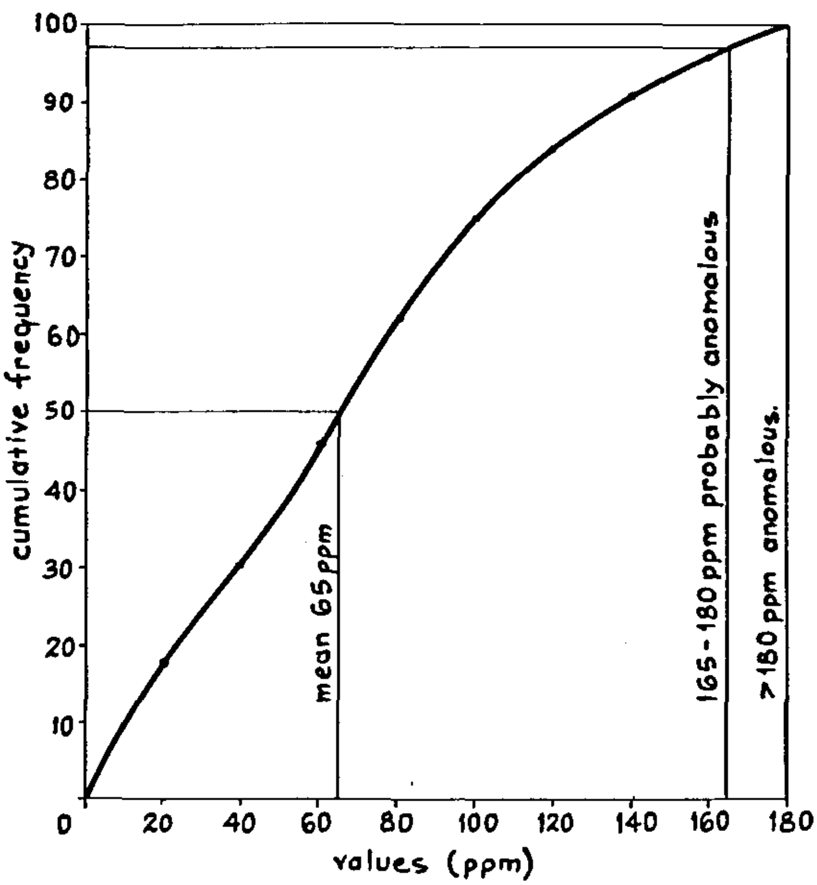


Table 14
MOX Claims

Frequency Distribution of Ag in Soils

Ag	1980	1981	Total	Cumulative Frequency	Cumulative Percent
0-0.1	287	160	447	447	69.1
>0.1-0.2	32	22	54	501	77.4
>0.2-0.4	18	24	42	543	84.0
>0.4-0.6	13	21	34	577	89.2
>0.6-0.8	14	8	22	599	92.6
>0.8-1.0	10	10	20	619	95.7
>1.0-1.2	6	9	15	634	98.0
>1.2-1.4	5	8	13	647	100.0
>1.4-1.6	0	6	6		
>1.6-1.8	4	1	5		
>1.8-2.0	1	7	8		
>2.0-2.2	0	6	6		
>2.2-2.4	1	4	5		
>2.4-2.6	3	3	6		
>2.6-2.8	1	4	5		
>2.8-3.0	4	5	9		
>3.0-3.2	4	3	7		
>3.2-3.4	1	3	4		
>3.4-3.6	2	3	5		
>3.6-3.8	1	5	6		
>3.8-4.0	0	4	4		
>4.1-5.0	0	9	9		
>5.1-6.0	1	4	5		
>6.1-7.0	0	2	2		
>7.1-8.0	1	0	1		
>8.1-9.0	0	1	1		
>9.1-10.0	0	3	3		
>10.0	2	14	16		
Total	411	349	760		

Values >10.0 (1981): 13.6, 14.5, 16.5, 13.0, 10.5, 13.0, 11.5, >100.0, 26.0, 18.5 15.4, 10.1, 29.0, 69.0

Certificates: A8113584-001-A to -006-A
A8113732-001-A to -003-A
A8113733-001-A
A8113731-001-A, -003-A

Figure 10

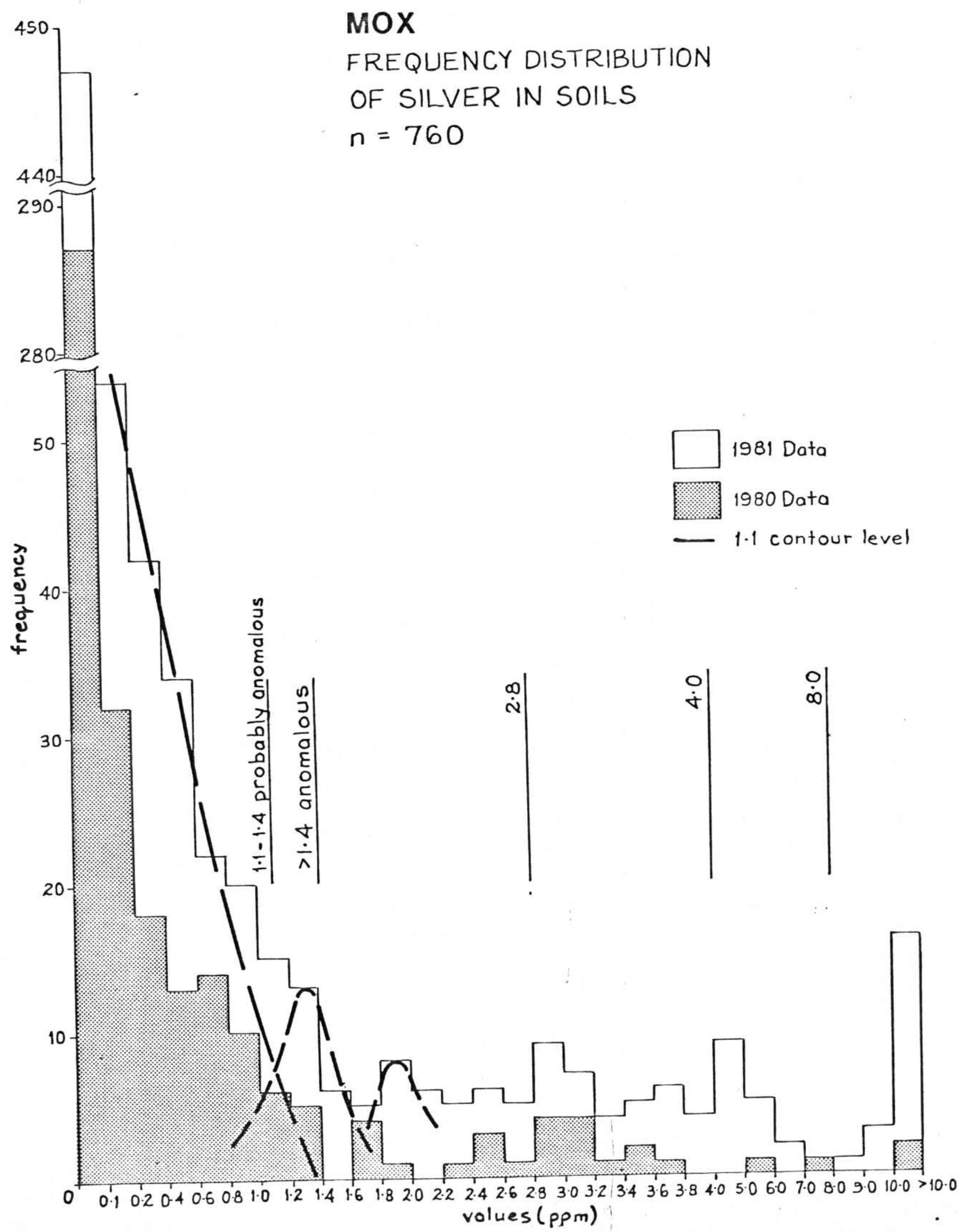
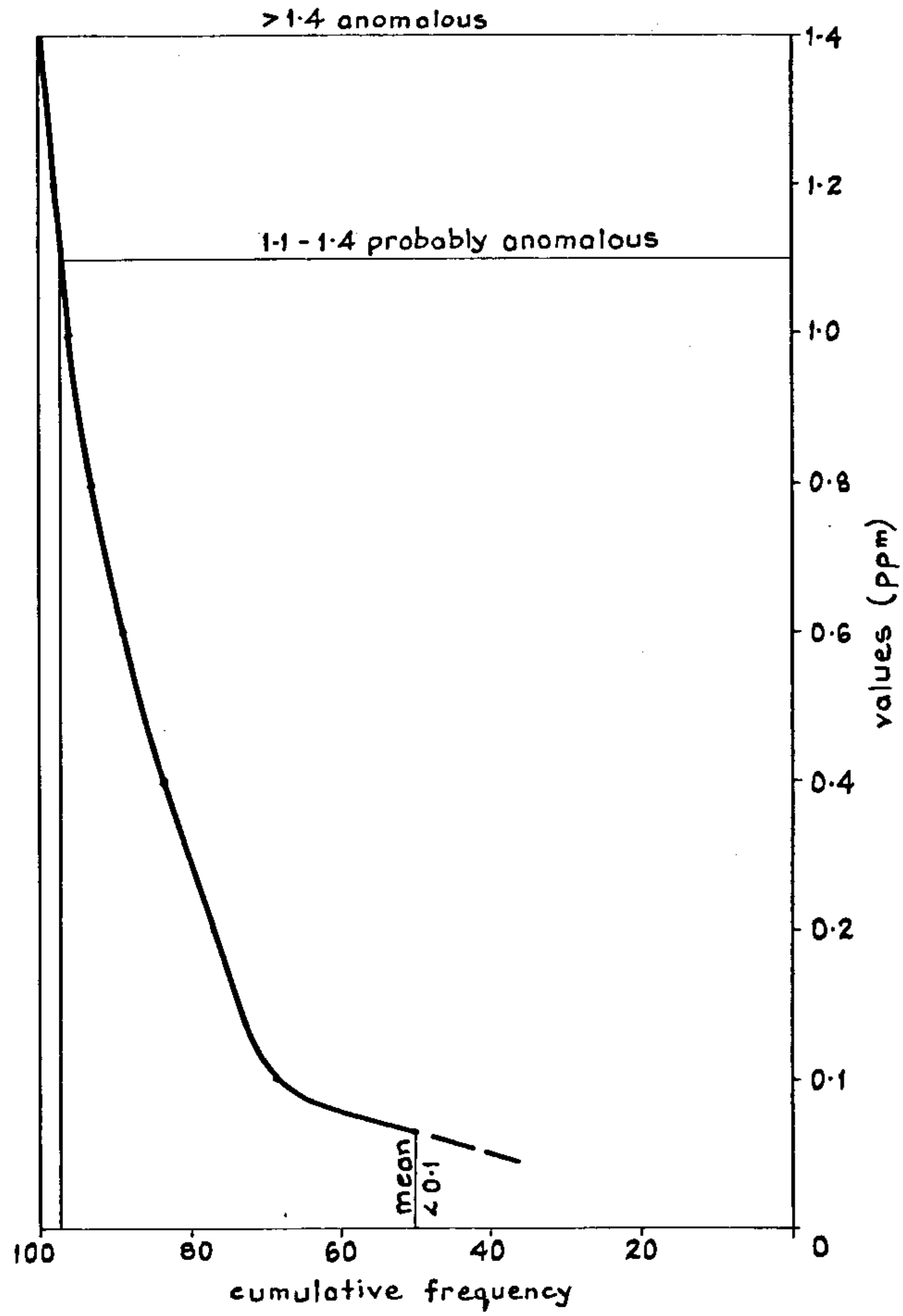

MOX
FREQUENCY DISTRIBUTION
OF SILVER IN SOILS
n = 760
1981 Data
1980 Data
1·1 contour level
frequency
values (ppm)
1·1 - 1·4 probably anomalous
>1·4 anomalous
2·8
4·0
8·0
450
440
290
280
50
40
30
20
10
0
0·1 0·2 0·4 0·6 0·8 1·0 1·2 1·4 1·6 1·8 2·0 2·2 2·4 2·6 2·8 3·0 3·2 3·4 3·6 3·8 4·0 5·0 6·0 7·0 8·0 9·0 10·0 >10·0

Figure 11

MOX

CUMULATIVE FREQUENCY DISTRIBUTION OF SILVER IN SOILS.

n = 647



APPENDIX V

SOIL PIT PROFILES AND GEOCHEMISTRY

(N.B. Soil Pit No. (81-02) -
No Profile)

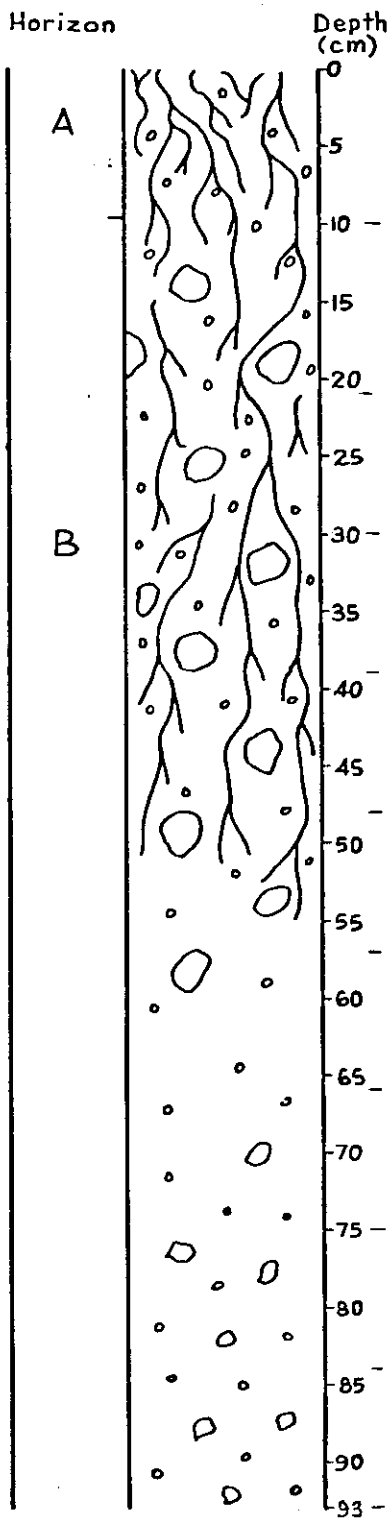
Figure12

MOX

SOIL PIT No. 1. (81-01)

L 7+50 S, 14+20 W.

30° slope to west, grass and moss covered, subcrop and float of quartz monzonite



Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
				All values ppm		
A	10	81-WA-37477	50% sand, 10% silt, 10% clay, 20% gravel, 10% gravel/organic layer, brown, roots.	40	98	0·1
B	20	81-WA-37478	brown, 60% sand, 30% gravel, 10% silt, rocks (8-10 cm) biotite quartz monzonite, roots.	50	100	0·8
	30	81-WA-37479	60% sand, 20% gravel, 10% clay, 10% silt, roots	60	112	1·3
		81-WA-37480	brown, 50% sand, 20% clay/silt, 10% gravel. 10% rock fragments 8-10cm roots.	70	110	1·4
		81-WA-37279	brown, 60% sand, 10% clay, 10% silt, 20% gravel, 10% rock fragments, roots.	70	135	1·5
		81-WA-37199	70% sand, 10% silt, 20% gravel, brown, subrounded fragments to 8cm.	63	116	1·5
	65	81-WA-37198	brown, sandy layer, 90% sand, 10 % gravel	60	105	1·5
	75	81-WA-37197	grey-brown, 60% sand, 10% clay, 20% gravel, 10% rock fragments up to 4 cm.	56	105	2·0
		81-WA-37196	grey-brown, 70% sand, 20% gravel, 10% rock fragments, (4-5 cm) subangular (monzonite)	110	113	1·3
	93	81-WA-37195	brown, still 'B' horizon, 70% sand, 20% gravel, 10% rock fragments, (4-5cm) subangular (monzonite)	51	100	1·0

Figure 13

MOX

SOIL PIT No. 3. (81-03)

L 5+00 S 7+75 W

Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
				All values in ppm		
A	0					
	5					
	10	81-WA-37405	black brown 80% sand, 10% gravel, 10% organics	430	2000	2.2
B	15					
	20	81-WA-37404	70% sand, 20% gravel, 10% silt, red stain in brown	580	3600	4.5
	25					
	30	81-WA-37403	70 % sand, 30% gravel	620	4000	4.6
	35					
	40	81-WA-37402	70% sand, 30% gravel	540	3500	4.7
	45					
	50	81-WA-37401	80% sand, 20% gravel with slight red stain, rootlets	700	4100	7.5
	55					
	60	81-WA-37260	80% sand, 20 % gravel, rootlets	620	4200	4.0
	65					
	70	81-WA-37259	grey brown, 40% clay, 40 % sand, 20% gravel	610	2350	3.8
	75					
	80	81-WA-37258	light brown, 40% clay, 40% gravel, 10 % silt, 10% sand	720	1700	5.8
	85					
BC	90	81-WA-37257	brown, 30% clay, 30% sand, 30% gravel, 10% silt	750	2000	6.8
	92	81-WA-37256	brown grey, 40% sand, 30% clay, 20% gravel, 10% silt, 20% rock fragments up to 20 cm	770	2100	7.0

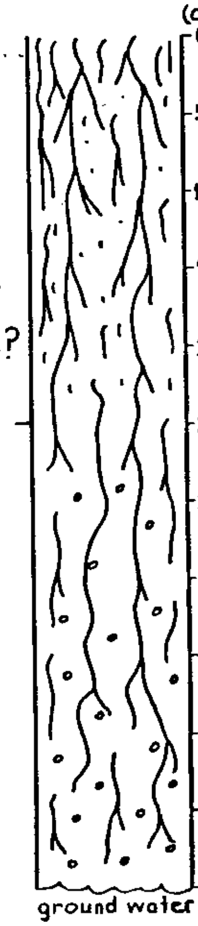
Figure14

MOX

SOIL PIT No. 4. (81-04)

L 5+00 S, 3+50 W.

Poor drainage (20m from creek) gentle slope, low relief 40m from talus.



All values in ppm

Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
	0					
A	5	81-WA-37415	dk. black humus layer, absense of rock fragments, rootlets. organics 40%, silt 30%, sand 20%, clay 10%	380	115	7·0
	10	81-WA-37414		280	120	6·8
	15	81-WA-37413		120	465	2·5
AB?	20	81-WA-37412		340	240	5·0
	25	81-WA-37411		260	290	7·4
B	30	81-WA-37410	grey, clay layer, orange stain, rootlets, 30% gravel, 30% sand, 40% silt. 30% rock fragments, rounded, polished, ablation clay	150	425	1·5
	35	81-WA-37409		145	330	1·0
	40	81-WA-37408		150	320	0·5
	45	81-WA-37407		210	485	3·0
	50	81-WA-37406		160	390	2·2
	55					

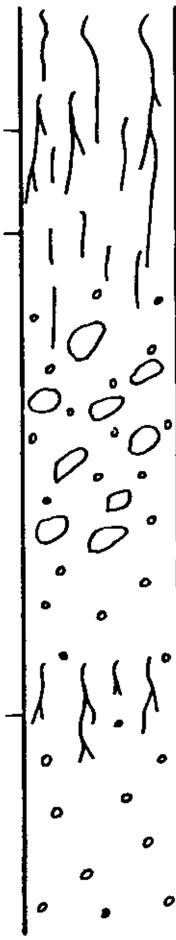
Figure15

MOX

SOIL PIT No. 5. (81-05)

L 3+75 S, 3+75 W

Flat, poorly drained, grass covered



Horizon	Depth (cm)	Sample Number	Description	Pb (ppm)	Zn (ppm)	Ag (ppm)
A	0–10	81-WA-37425	organic layer, grey, 80% sand, 20% organic, roots.	15	28	0·1
AB	15	81-WA-37424	70% sand, 20% gravel, 10% organics, black soil.	48	140	0·1
B	20	81-WA-37423	rock fragments, subangular up to 32 cm long, slight orange stain, 80% sand, 20% gravel. (applies to 81-WA-37423 and 81-WA-37422)	47	180	0·1
	25	81-WA-37422		45	148	0·2
	30–35	81-WA-37421	rock fragments, subangular up to 32cm long, slight orange stain, 80% sand, 20% gravel, cobbles.	42	185	0·5
	35–40	81-WA-37420	rock fragments, subangular up to 32 cm long, slight orange stain, 80% sand, 20% gravel.	50	190	0·2
	45	81-WA-37419	rock fragments, subangular up to 32cm long, slight orange stain, 80% sand, 20% gravel, roots.	52	180	0·2
BC	45–50	81-WA-37418	45% rock fragments, subangular up to 32 cm long slight orange stain, 80% sand, 20% gravel. (applies to 81-WA-37418, 81-WA-37417 and 81-WA-37416)	85	235	0·7
	55	81-WA-37417		180	290	1·0
	60	81-WA-37416		260	355	1·0

All values in ppm

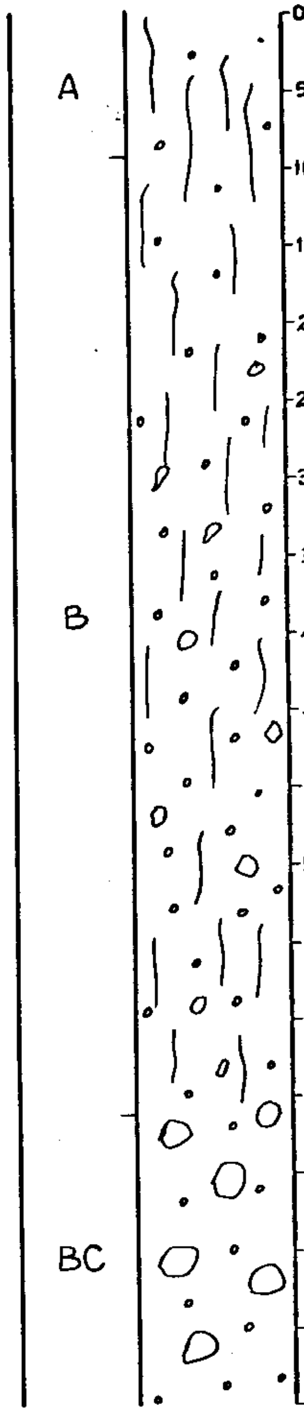
Figure16

MOX

SOIL PIT No. 6. (81-06)

L 12+50 S, 16+25 E.

10% slope facing south, grass covered



Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
A	10	81-WA-37458	30% sand, 30% silt, 20% organics, 10% gravel, 10% clay	78	175	0.1
B	18	81-WA-37457	lt. brown, 30% sand, 30% silt, 20% gravel, 20% clay	32	65	0.1
B	27	81-WA-37456	40% sand, 30% gravel, 20% silt, 10% clay.	64	115	0.1
B	35	81-WA-37455	(as above)	65	108	0.1
B	45	81-WA-37454	rootlets, dark brown. 50% gravel, 40% sand, 10% silt	140	210	0.1
B	54	81-WA-37453	(as above)	120	190	0.1
B	63	81-WA-37452	(as above)	125	170	0.1
BC	72	81-WA-37451	brown, 60% gravel, 40% sand, rock fragments, angular to subangular, diorite, monzonite, quartz feldspar porphyry, rootlets.	97	200	0.2
BC	80	81-WA-37300	(as above)	48	180	0.2
BC	90	81-WA-37299	brown, 80% gravel, 20% sand, rock fragments, angular to subangular, diorite, monzonite, quartz feldspar porphyry, rootlets.			

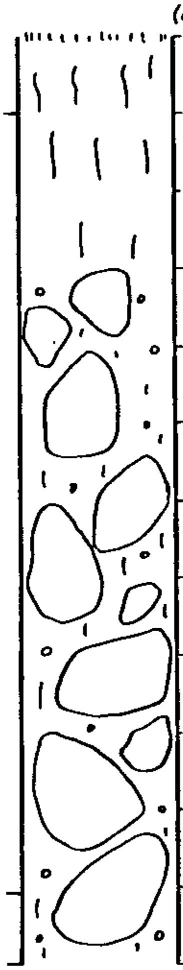
All values in ppm

Figure 17

MOX

SOIL PIT No. 7 (81-07)
L 12+50 S, 10+00E

5 % slope to north; grass covered with alders.



Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
A	0	81-WA-37298	grey brown humus layer 20% organic, 50% sand, 20% silt, 10% clay.	5	22	0·1
	5	81-WA-37297	red brown, 10% gravel, 60% sand, 20% silt, 10% clay.	2	9	0·1
B		81-WA-37296	40% rock fragments subrounded to angular. soil - brown, 30% gravel, 70% sand. large boulders at base of pit > 65 cm.	13	48	0·1
	25	81-WA-37295		16	46	0·1
	30	81-WA-37294		17	50	0·1
	35	81-WA-37293		21	52	0·1
		81-WA-37291		18	56	0·1
		81-WA-37290		11	36	0·1
	55	81-WA-37289		16	60	0·1
C?	60	81-WA-37288		11	36	0·1

All values in ppm

Figure 18

MOX

SOIL PIT No. 8. (81-08)

L 12+50 S, 7+00 E

10° slope to west, moss covered, well drained.

Depth scale (cm): 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70

Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
				All values in ppm		
Ah		81-WA-37461	organics 40%, clay 30%, silt 30% organic horizon	3	16	0·1
Ae	15	81-WA-37459	grey brown, leached, 30% sand, 50% silt, 20% clay	2	10	0·1
B	20	81-WA-37287	10% gravel, 50% sand, 30% silt, 10% clay, rootlets	23	35	0·2
		81-WA-37286	10% gravel, 50% sand, 30% silt, 10% clay, rootlets.	29	42	0·1
	35	81-WA-37285	red brown, 20% gravel, 50% sand, 20% silt, 10% clay, rootlets.	42	60	0·1
		81-WA-37284	reddish tinge otherwise sand.	45	85	0·5
	50	81-WA-37283	orange brown, rootlets, 20% rock fragments quartz feldspar porphyry, limonite stained. soil - 30% gravel, 50% sand, 20% silt. (applies to 81-WA-37283 to 81-WA-37280)	42	80	0·3
	55	81-WA-37282		67	105	0·1
		81-WA-37281		80	98	0·1
	70	81-WA-37280		72	92	0·3

Figure 19

MOX

SOIL PIT No. 9 (81-09)

L 12+50 S, 7+30E.

2° north gentle slope, flat lying, poorly drained, grass and moss vegetation, some alders.

All values in ppm

Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
A	0	81-WA-37471	organic layer, dark brown, 10% gravel, 60% sand, 30% organic.	24	34	0.1
A	25	81-WA-37470	red brown, 60% sand, 30% silt, 10% clay, rootlets.	13	18	0.1
Ae	30	81-WA-37469	red brown, 60% sand, 30% silt, 10% clay	7	12	0.1
AB		81-WA-37468	white sand lens not continuous, rootlets, 60% sand, 30% silt.	3	10	0.1
B	40	81-WA-37467	dark brown, 30% gravel, 60% sand, 10% silt, rootlets, 10% rock fragments, more of a red tinge due to quartz porphyry, limonitic stain.	85	85	0.1
B		81-WA-37466	dark brown, 30% gravel, 60% sand, 10% silt, rootlets, 10% rock fragments.	75	70	0.1
B		81-WA-37465		72	72	0.1
B		81-WA-37464	dark brown, 30% gravel, 60% sand, 10% silt, rootlets.	75	72	0.4
B		81-WA-37463		125	94	0.3
BC	80	81-WA-37462	20% large boulders, angular quartz porphyry up to 20 cm. limonitic stain on surface. red brown, 30% gravel, 60% sand, 10% silt.	140	95	0.1

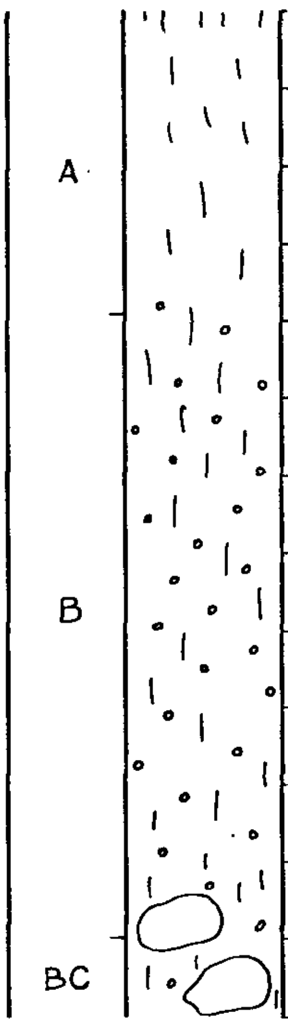
Figure 20

MOX

SOIL PIT No. 10 (81-10)

L 12 + 50 S, 6 + 80 E.

gently rolling, grass covered, moderately drained



Horizon	Depth (cm)	Sample Number	Description	Pb	Zn	Ag
				All values in ppm		
A	5	81-WA-37473	black, 60% sand, 20% silt, 20% organics	36	75	1·1
A		81-WA-37472	black, 60% sand, 20% silt, 20% organics	70	143	0·1
B	25	81-WA-37434	brown grey, 20% gravel, 30% sand, 30% silt, 20% clay	75	150	0·1
B	30	81-WA-37433	sand, mottling of red.	62	145	0·1
B	35	81-WA-37432	brown, 20% gravel, 40% sand, 20% silt, 20% clay.	50	125	0·1
B		81-WA-37431	brown, 20% gravel, 40% sand, 20% silt, 20% clay.	62	140	0·1
B		81-WA-37427	30% gravel, 40% sand, 20% silt, 10% clay	62	158	0·1
B	55	81-WA-37429	30% gravel, 40% sand, 20% silt, 10% clay	90	163	0·1
B	60	81-WA-37428	30% gravel, 40% sand, 20% silt, 10% clay	61	125	0·1
BC	65	81-WA-37426	40% gravel, 40% sand, 20% silt, brown, 30% rock fragments, boulders >20 cm, quartz feldspar porphyry, limonite stained	90	178	0·3

APPENDIX VI

ROCK DESCRIPTIONS AND GEOCHEMISTRY

MOX ROCK DESCRIPTIONS

Sample No.	Description
81-WA-37486R	Calc-silicate Skarn Small broken outcrop of calc-silicate skarn. Weathered surface is brown to red-brown due to limonitization. Fresh surface is dark green. Main constituents are diopside, calcite and quartz with 3% biotite as small flakes up to 1 mm wide. Pyrite is disseminated through 2% of the sample with trace pyrrhotite. No fabric or bedding evident in hand specimen or outcrop. Cu 33, Pb 1, Zn 108, Ag 0.1 (ppm)
81-WA-37487R	Calc-silicate Skarn Diopside-calc-silicate skarn with 5% disseminated pyrite and pyrrhotite. This unit in contact with impure marble at 060°/47°NW. Impure marble consists of recrystallized limestone and remnant banding or layering of idocrase and biotite quartz schist/paragneiss. Cu 27, Pb 2, Zn 32, Ag 0.1 (ppm)
81-WA-37488R	Calc-silicate Skarn Small zone of skarn enveloping quartz and quartz-feldspar pegmatite veins. The veins crosscut calc-silicate rocks and paragneiss. Sample is fine-grained, diopside-amphibole-carbonate-quartz skarn with 10% disseminated pyrrhotite and pyrite. Cu 106, Pb 5, Zn 60, Ag 0.1 (ppm)

81-WA-37489R

Quartzite
Small zone of pyrrhotite bearing quartzite in contact with 0.5 m wide cross-cutting pegmatite. Limonite and manganese oxide stained weathered surface. Dark green-grey impure quartzite with 2% disseminated cubic pyrite and trace magnetic pyrrhotite. This zone is 0.5 m wide.

Cu	Pb	Zn	Ag	(ppm)
45	21	102	0.1	

81-WA-37491R

Impure Limestone
Fine-grained diopside calc-silicate with no remnant fabric. This unit is in contact with quartz monzonite. Dark brown weathered surface, fresh is light green. The skarn is comprised of diopside, quartz, calcite, plus malachite, pyrite and possible fine-grained sphalerite (?).

Cu	Pb	Zn	Ag	(ppm)
1200	730	1030	77.0	

81-WA-37494R

Paragneiss

Cu	Pb	Ag	(ppm)	Zn
700	97	5.5		1.15%

81-WA-37500R

Quartz Vein
Quartz vein (0.3 m wide) in contact with quartz-feldspar leached quartz monzonite. Kaolinized feldspar and open fractures.
<2% mafics in quartz monzonite.

Cu	Pb	Zn	Ag	(ppm)
30	7	68	0.5	

81-WA-37501R

Calc-silicate Skarn
Diopside-calcite quartz rock at contact between impure marble and quartz monzonite. Unit is <0.5 m wide and mainly buried under broken impure marble unit. Both sediment units are cut by coarse pegmatite vein.

Cu	Pb	Zn	Ag	(ppm)
83	540	1100	7.4	

81-WA-37503R	Garnet-diopside calc-silicate (float) Quartz-garnet-diopside-actinolite carbonate Limonite stained weathered surface with pitted surface due to leached pyrite (?), chlorite alteration.

Cu	Pb	Zn	Ag	(ppm)
131	25	130	3.2	

81-WA-37504R	Calc-silicate Fracture surface along calc-silicate limonitized, chloritized Garnet-diopside.

Cu	Pb	Zn	Ag	(ppm)
27	14	122	4.8	

81-WA-37505R	Paragneiss Amphibolitic quartzite with thin garnetiferous bands. Limonite stain on weathered rind, bands of diopside, in metasediment xenolith within a biotite-quartz monzonite with megacrysts.

Cu	Pb	Zn	Ag	(ppm)
75	5	50	1.1	

81-WA-37506R	White quartzite Well-bedded, fine-grained, white quartzite with thin lenses of limonite pitted pyrite.

Cu	Pb	Zn	Ag	(ppm)
25	3	13	0.1	

81-WA-37507R

Paragneiss
Fine-grained dense banded quartz and diopside? Quartz vein crosscuts unit. Disseminated sphalerite in thin band of quartzite.

Cu	Pb	Zn	Ag	(ppm)
16	16	540	0.1	

81-WA-37508R

Vein filling
Thin fracture through impure quartzite containing disseminated pyrite and possibly pyrrhotite. Limonite pervasive throughout.

Cu	Pb	Zn	Ag	(ppm)
16	10	360	0.2	

81-WA-37509R

Micaceous Quartzite
Compact siliceous sediment. Limonite weathered surface and along fractures. Dark grey on fresh surface. Breaks into thin platy pieces similar to shale. Small lenses of pyrite along fractures.

Cu	Pb	Zn	Ag	(ppm)
156	23	1100	2.5	

81-WA-37510R

Quartzite
Same as 31506R.

Cu	Pb	Zn	Ag	(ppm)
12	11	35	0.1	

81-WA-37511R

Micaceous Quartzite (float)
Fine-grained to aphanitic amphibole-biotite quartzite with pyrrhotite, weathered and fracture surface are limonite-stained. Fresh surface is dark grey.

Cu	Pb	Zn	Ag	(ppm)
25	6	90	0.2	

81-WA-37512R Impure Limestone

Fine to medium-grained limestone with black oxidized weathered surface. Contains some malachite stain (1%) galena and disseminated sphalerite in small bands. Taken at quartz monzonite contact.

Cu	Pb	Zn (ppm)	Ag
2350	3800	4500	6.6 oz/ton

81-WA-37513R Impure Limestone

Fine-grained truncated calc-silicate and impure limestone in small zone of paragneiss, quartzite and calc-silicate within quartz monzonite. Black oxidation is pervasive. Zone is 0.1 to 1.5 m wide and 5 m long. Contains epidote, amphibole, sphalerite, galena, malachite and trace pyrite.

Cu	Sb	As (ppm)	Au (ppb)	Pb	Zn	Ag
4450	0.1	4	20	2.45%	2.57%	10.20 oz/ton

81-WA-37514R Impure Limestone

Same as 37513R

Cu	Ag (ppm)	Pb	Zn
1600	65.0	2.34%	2.96%

81-WA-37515R Impure Limestone

Same as 37513R and 37514R except less calc-silicate

Cu	Pb	Zn (ppm)	Ag
3450	7500	9600	8.50 oz/ton

81-WA-37516R Actinolite-diopside-calc-slicate Skarn

Fine-grained well indurate with no fabric or bedding. Actinolite is acicular and needles form up to 0.5 cm. Contains pyrite as cubes (<5%) and 5% disseminated magnetic pyrrhotite. Weathered surface is limonite stained and limonite is pervasive throughout 2% of the rock. Fresh surface is pale green in colour.

Cu	Pb	Zn	Ag (ppm)
163	220	240	7.5

81-WA-37517R

Quartzite

Fine to medium-grained grey quartzite with 2% disseminated pyrite and trace magnetic pyrrhotite. Small cubic galena crystals averaging 0.1 cm over 2% of sample. Boxwork limonite and hematite alteration. 2% sphalerite. Weathered surface is light brown and limonitized. Fresh surface is grey. No remnant bedding.

Cu	Pb	Zn	Ag	(ppm)
44	5300	6500	3.7	

81-WA-37518R

Quartz Vein

Quartz vein in calc-silicate hornfels. Vein is 3 cm wide and contains 2% pyrite as cubes. Limonite boxwork at vein/host contact. Host is dark green calc-silicate hornfels. The sample is well-indurated, fine-grained. Host contains 2% disseminated pyrite.

Cu	Pb	Zn	Ag	(ppm)	Au (ppb)
395	258	375	5.8		10

81-WA-37519R

Quartz Monzonite

Kaolinized and limonitized extremely altered intrusive. Contains sericite, residual quartz and pyrite cubes up to 1.5 mm in size. Limonite coated surface.

Cu	Pb	Zn	Ag	(ppm)
27	50	91	0.8	

81-WA-37520R

Calc-silicate Skarn

Diopside-garnet calc-silicate skarn

No remnant fabric. Trace bedding in outcrop. Weathered surface is limonitized, pitted and black from manganese oxidation. Fresh surface is dark green with limonite stain along vuggy cavities. Contains pyrite, magnetic pyrrhotite, malachite and chalcopyrite. Mineralized skarn is about 0.2 m x 1 m. Small zones of mineralized skarn exist over 5% of the outcrop usually limited to areas with pervasive fracturing.

Cu	Pb	Zn	Ag	(ppm)
300	38	735	6.1	

81-WA-37521R (Broken outcrop)

See 37531R.

Cu	Pb	Zn	Ag	(ppm)
86	12	48	0.2	

81-WA-37522R

See 37531R.

Cu	Pb	Zn	Ag	(ppm)
43	11	40	0.1	

81-WA-37523R

See 37534R.
Mineralization: Po; Spha + Ga? (altered fine-grained)
Some Cpy alteration (Mal)
Contact altered biotite-schist and Hornfels (garnet-ido) along aplite/pegm. (muscovite) "sill".

Cu	Pb	Zn	Ag	(ppm)
850	6	61	0.7	

81-WA-37524R

See 37531R.

Cu	Pb	Zn	Ag	(ppm)
89	3	66	0.3	

81-WA-37525R

Medium-grained Quartzite.
Mineralization: Po + Cpy (fine oriented grain).
Contact with skarn (garnet-diop-ido) and altered biotite schist.

Cu	Pb	Zn	Ag	(ppm)
395	6	45	0.1	

81-WA-37526R — See 37528R contact with Megacrystic Q-monzonite and altered biotite-schist.

Cu	Pb	Zn	Ag	(ppm)
25	6	43	0.1	

37526-527-528R are from the same outcrop, in different layer.

81-WA-37527R — See 37528R (Quartzite)

Cu	Pb	Zn	Ag	(ppm)
11	4	39	0.2	

81-WA-37528R (outcrop) — Impure Quartzite (carbonate); and calc-silicate (diopside) medium-grained rusty surf.
Contact with altered biotite schist and calc-sil. skarn (epid-diop)
Mineralization: (Py) + Po (<1%).

Cu	Pb	Zn	Ag	(ppm)
31	3	57	0.1	

81-WA-37529R — See 37531R.

Cu	Pb	Zn	Ag	(ppm)
300	10	330	1.3	

81-WA-37530R — See 37531R.
In well-banded calc-silicate (diopside, impure marble), this unit is cut by QFP dyke (20 cm wide).

Cu	Pb	Zn	Ag	(ppm)
130	1	28	0.1	

81-WA-37531R
(Outcrop)

Quartzite (rusty surface) fine-grained (weakly layered) fractured
Mineralization: Po
In contact with biotite schist (altered) and calc-silicate (carb; diopside) skarn.

Cu	Pb	Zn	Ag	(ppm)
95	1	50	0.2	

81-WA-37532R
(Float)

Q-vein. (coarse grain; limonite stain + fracture filling)
Mineralization: Py + Po (1%) and possible fine altered Ga.

Cu	Pb	Zn	Ag	(ppm)
57	2	50	0.1	

81-WA-37533R
(Broken outcrop)

Paragneiss (rusty surface) Bi: 30%, Qtz 40%, Feld 25%
Mineralization: fine-grained Po (>1%) along layer (biotite fresh)

Cu	Pb	Zn	Ag	(ppm)
38	1	125	0.1	

81-WA-37534R
(Subcrop?)

Altered (rusty) Quartzite fine-grain
Mineralization: Po medium elongate grain (2-4%) + Cpy (altered in part to malachite and azurite)

Cu	Pb	Zn	Ag	(ppm)
1400	3	6200	2.7	

81-WA-37535R
(Float)

Grey -bluish quartzite with limonite + Mn stain; fine grain
Mineralization: Py + Po, fine grain, in dark layer.

Cu	Pb	Zn	Ag	(ppm)
215	9	82	0.8	

81-WA-37536R

Quartzite (?)
- Grey-green, very fine-grained quartzite (?) with abundant pyrrhotite 15%? and lesser pyrite
- strong limonite stained fractures
- broken outcrop - rusty zone probably 1 m. wide - lost to overburden downslope?
- probably primary pyrrhotite (follows bedding)

Cu	Pb	Zn	Ag	(ppm)
395	1	43	1.2	

81-WA-37537R

Skarn (?)
- mottled blue-green and pink, fine-grained
- siliceous
- faint banded texture in places
- occurs as inclusion ± 1 m wide within medium to coarse-grained intrusive containing 15-20 % quartz, few mafics (minor biotite), in part graphic granite texture
- minor disseminated pyrite in skarn
- intrusive subparallels metasediments
- strike 145°/70°NE
- intrusive and metasediments quite variable in composition over outcrop

Cu	Pb	Zn	Ag	(ppm)
40	50	130	1.5	

81-WA-37538R

Quartz Porphyry
- 3m wide dyke, strike 185°/vertical (?)
- 1-3 mm wide quartz and black (now chlorite) phenocrysts in very fine-grained greenish-grey matrix of feldspar, epidote, biotite (?) and quartz
- .2 mm epidote along fracture

Cu	Pb	Zn	Ag	(ppm)
30	13	120	0.1	

81-WA-37539R

Quartz Monzonite (?)
- grey to greenish-grey, medium-grained
- variable mafic content over outcrop <1-10%
- feldspars moderately saussuritized
- 2 samples taken, one has 2% white mica, minor Mn oxide (?) and the other 5-10% biotite ± chlorite
- both have 1% epidote, along fracture in biotite-bearing sample

Cu	Pb	Zn	Ag
6	23	50	0.1

81-WA-37540R

Calcareous Metasediment (float)
- very fine-grained, layered < mm scale
- fine-grained galena along layers - 5% (?)
- brownish black-stained surface
- float on quartz feldspar porphyry dyke

Cu	Ag	(ppm)	Pb	Zn
2800	20.0		3.08%	2.82%

81-WA-37541R

Calcite Actinolite (?) Calc-silicate (float) - Impure Limestone
- fine-grained, banded on mm-cm scale
- green and white spotted
- very fine-grained disseminated galena - 1%, pyrite 1% ± chalcopyrite (?)
- dark brownish black stain on outer surface

Cu	Pb	Zn	Ag	(ppm)
2050	10000	9600	50.0	

81-WA-37542R

Calcite Actinolite Calc-silicate (float) - Impure Limestone
- similar to 37541R but has a few spots of coarser galena and chalcopyrite <1 mm grains
- black coating on outside surface and fractures parallel to bedding
- minor to abundant malachite stain

Cu (ppm)	Pb	Zn	Ag
5850	1.25%	1.30%	19.00 oz/ton

81-WA-37543R

Calcite-Actinolite Calc-silicate (float) - Impure Limestone
- similar to 37541R but minor sphalerite also present
- sample also shows contact with mineralized calc-silicate

Cu	Ag	(ppm)	Pb	Zn
3450	60.0		2.50%	2.74%

81-WA-37544R

Quartz monzonite? (float)

- also at 37543R location, at contact with mineralized sample 37543R
- medium-grained grey-green
- 15-20% quartz, <5% biotite plus chlorite, 75% feldspar
- grain boundaries indistinct

Cu	Pb	Zn	Ag	(ppm)
70	230	420	4.0	

81-WA-37545R

Quartzite (float)

- fine- to medium-grained, grey
- limonite stained fractures and 0.5-1 cm into rock from fractures
- minor disseminated pyrite? and/or pyrrhotite plus fine-grained dark grey mineral - galena (?), sphalerite (?)
- contact with intrusive on one sample

Cu	Pb	Zn	Ag	(ppm)
36	82	110	1.5	

81-WA-37546R

Skarn (float)

- fine-grained, indistinctly banded, grey green and buff
- siliceous
- contains quartz, diopside, garnet, <1% galena, 1% sphalerite (?) - trace chalcopyrite and/or pyrite
- up to 1 m? wide at contact with intrusive to the west
- also in gradational contact with calc-silicate hornfels consisting of
    - soft white (no fizz with HCl) wollastonite (?)
    - quartz, diopside and/or actinolite
    - biotite and/or phlogopite
    - epidote
    - garnet as porphyroblasts up to 2 cm across
- hornfels is very dense with mm scale banding
- epidote in fractures as well as within rock
- unit is cross-cut by pegmatite and minor aplite dykes
- a few quartz lenses, quartz veins also parallel to fractures
- 35 m contact with intrusive, maximum width exposed is 5 m

Cu	Pb	Zn	Ag	(ppm)
102	1500	2000	7.7	

81-WA-37547R

Quartz Porphyry
- 5 m wide dyke runs at ± 190°
- 0.2-1.0 mm quartz phenocrysts
- buff, aphanitic groundmass
- limonitic banding in parts of outcrop
- brownish-black (Mn oxide?) stain along fracture surfaces

Cu	Pb	Zn	Ag	(ppm)
15	35	45	0.5	

81-WA-37548R

Impure Limestone
Calcite-actinolite (?)-diopside (?)-epidote calc-silicate
- fine-grained in mineralized part, medium-grained at unmineralized contact
- chalcopyrite aggregates 0.1-1 mm
- galena, very fine-grained
- sphalerite (?) very, very fine-grained, massive trace pyrite (?)
- weakly banded in mineralized part, banded on mm scale, cm scale in rest of outcrop
- brownish black stain on mineralized parts of outcrop

Cu	Pb	Zn	Ag	(ppm)
2750	1200	830	56.0	

81-WA-37549R

Impure Limestone
Calc-silicate hornfels or banded calc-silicate rock
- fine-grained greenish-grey
- calcite, actinolite and/or diopside, quartz (?)
- 2-5% galena, 1% chalcopyrite
- sample also contains 0.5 cm wide mineralized vein (chalcopyrite spots and trace galena); vein is stained with black oxide - apparently broken pieces of calc-silicate rock, one parallel quartz vein also in outcrop
- mineralization appears to follow vein (fracture) as well as bedding
- mineralized patches in outcrop generally ± 1-2 m along bedding are 0.5 m thick and cover 10% or less of outcrop surface
- black oxide coating on surface of all? mineralized sections

Cu	Pb	(ppm)	Zn	Ag
3750	10000		1.17%	9.00 oz/ton

81-WA-37550R

Calcite lens - Impure Limestone
- coarse calcite vein up to 10 cm wide (1 cm grains) with dark brownish black stained border up to 4 cm in granulated? quartz monzonite and containing minor chalcopyrite and galena
- 1.5 m exposed - pinches out updip but another smaller lens along strike 1 m.

Cu (ppm)	Pb	Zn	Ag
2350	1.22%	1.30%	4.80 oz/ton

81-WA-37551R

Quartz Monzonite (?) (subcrop)
- limonite stained and altered
- 5% pyrite ± other sulphides?
- limonite coated fractures which have various orientations

Cu	Pb	Zn	Ag (ppm)
355	88	108	5.5

81-WA-37552R

Quartzite
- 1 m wide, medium-grained translucent with 1-2% actinolite (?)
- rusty fractures
- mm to cm scale banding with combined 2% pyrrhotite and pyrite

Cu	Pb	Zn	Ag (ppm)
34	86	1800	2.0

81-WA-37553R

Quartzite
- very fine-grained dark grey quartzite
- very fine-grained disseminated sulphides (?)
- quartzite and calcareous rocks in float all with dark grey-black stain

Cu	Pb	Zn	Ag (ppm)
1050	2500	2100	20.0

81-WA-37554R

Quartzite
- medium to coarse-grained
- 1-2% actinolite? or diopside?
- 2-3% pyrite plus minor sphalerite
- strong limonite-stained fractures

Cu	Pb	Zn	Ag	(ppm)
36	82	1850	2.0	

81-WA-37555R

Calc-silicate
- grey-green, very fine-grained
- calcite, actinolite, wollastonite (?)
- very fine-grained sulphides
- dark brownish black stain on surface and fractures

Cu	Pb	Zn	Ag	(ppm)
168	178	4900	4.0	

81-WA-37556R

Quartz feldspar biotite paragneiss
- very fine-grained, grey to buff
- quartz, feldspar, biotite
- trace pyrite or pyrrhotite
- trace galena
- weak limonite stain

Cu	Pb	Zn	Ag	(ppm)
37	26	73	0.5	

81-WA-37557R

Impure Limestone
Calc-silicate (diopside)
Mineralization: Po

Cu	Pb	Zn	Ag	(ppm)
41	1200	5100	3.3	

81-WA-37558R

Fine Quartzite
Po 5% (fine massive in fracture)

Cu	Pb	Zn	Ag	(ppm)
500	17	73	3.4	

81-WA-37559R

Quartz vein
Ga + sp <1%, medium grain, altered

Cu	Pb	Zn	Ag	(ppm)
61	455	2650	2.3	

81-WA-37560R

Calc-silicate hornfels

Cu	Pb	Zn	Ag	(ppm)
25	15	49	0.2	

81-WA-37561R

Paragneiss; po

Cu	Pb	Zn	Ag	(ppm)
47	44	132	0.7	

81-WA-37562R

Paragneiss; tr. po

Cu	Pb	Zn	Ag	(ppm)
96	13	115	0.6	

81-WA-37563R

See 37531R. Quartzite; po

Cu	Pb	Zn	Ag	(ppm)
305	22	65	2.2	

81-WA-37564R

Fine grain Quartzite
Po + Ga (fine altered grain)

Cu	Pb	Zn	Ag	(ppm)
165	9	1000	0.6	

81-WA-37565R

Vuggy, altered Quartz Vein (5-8 m!)
Altered Cpy (mal. + azurite) contact with mineralized quartzite

Cu	Pb	Zn	Ag	(ppm)
64	275	142	1.1	

81-WA-37566R

Quartz Vein
Small quartz vein crosscutting garnet-diopside-calc-silicate skarn and muscovite quartz monzonite (with sericite/chlorite alteration). Limonite stain is pervasive and sample contains small pods of pyrite.

Cu	Pb	Zn	Ag	(ppm)	Au (ppb)
900	184	148	45.0		10

81-WA-37567R

Calc-silicate Skarn
At contact between a biotite-quartz monzonite and garnet-diopside calc-silicate hornfels. Skarn is about 0.1 m wide for 2 m. Contact between above units is 15 m long at 145°/85°E. Alteration: limonite and manganese oxide. Pockets of graphite and some disseminated malachite, possible pyrrhotite and pyrite are present.

Cu	Pb	Zn	Ag	(ppm)
1050	308	146	100.0	

81-WA-37568R

Skarn?
Extremely siliceous; alteration and weathering mask original texture. Contains some biotite quartz monzonite and paragneiss.

Cu	Pb	Zn	Ag	(ppm)
1750	115	180	48.0	

81-WA-37569R

Quartzite
Dark grey quartzite with thin micaceous seams and small stringers of pyrrhotite. Weathered surface is limonitized.

Cu	Pb	Zn	Ag	(ppm)
74	48	26	1.0	

81-WA-37570R

Quartzite
Fine-grained dark grey-green quartzite around 10 m from 37569R across other side of biotite quartz monzonite dyke.

Cu	Pb	Zn	Ag	(ppm)
950	330	1260	13.5	

81-WA-37571R

Quartzite
Dark grey green quartzite with limonite stained fractures and weathered surface. Contains disseminated pyrite. This unit in contact with a biotite quartz-monzonite dyke at 016°, quartzite contains coarse-grained calcite in pods.

Cu	Pb	Zn	Ag	(ppm)
62	95	420	0.5	

81-WA-37572R

Graphitic Quartzite
Dark grey quartzite with disseminated pyrrhotite and pyrite. Limonitized weathered surface and fractures. Quartzite unit is cut by small quartz monzonite dykes averaging 0.2 m wide and quartz veins averaging 0.5 m wide.

Cu	Pb	Zn	Ag	(ppm)
23	30	40	0.3	

81-WA-37573R

Quartzite
Fine-grained dark grey-green quartzite with disseminated sphalerite. Unit is in contact with a biotite quartz monzonite dyke (1.0 m wide).

Cu	Pb	Zn	Ag	(ppm)
126	985	950	1.0	

81-WA-37574R

Paragneiss
Limonite-stained paragneiss with thin fractures.

Cu	Pb	Zn	Ag	(ppm)
99	22	52	1.5	

81-WA-37575R

Paragneiss
Limonite-stained, fine-grained paragneiss with 5% disseminated pyrite, quartz and feldspar thinly banded with chlorite (?) and biotite.

Cu	Pb	Zn	Ag	(ppm)
92	8	86	1.2	

81-WA-37576R

Calc-silicate Skarn
Fine-grained amphibole-diopside calc-silicate skarn with 3% disseminated pyrite and pyrrhotite. Weathered surface is limonitized. Fresh surface is green-grey. Zone is 0.2 m x 0.5 m between paragneiss (calc-silicate hornfels) and white quartzite. This zone is discontinuous but can be traced for 20 m.

Cu	Pb	Zn	Ag	(ppm)
46	7	49	0.3	

81-WA-37577R

Galena in quartz vein
Coarse galena in quartz vein. Quartz is euhedral and hematite stained. Vein is about 0.1 m x 1.0 m crosscutting quartzite unit which is in contact with impure marble (sample 37578R).

Cu	Ag (ppm)	Au (ppb)	Pb	Zn
700	90.0	<10	1.14%	2.00%

81-WA-37578R

Impure marble
Dark black manganese oxide stained weathered surface, grey fresh surface. Same outcrop as 37512R. This sample contains azurite, malachite, chalcopyrite (?) and covellite in small amounts (<2%).

Cu (ppm)	Pb	Zn	Ag
1950	2.14%	1.67%	0.70 oz/ton

81-WA-37579R

Epidote-tremolite-diopside-idocrase Calc-silicate Skarn
Medium-grained zoned epidote-tremolite-diopside-idocrase calc-silicate skarn. Pure carbonate layers are boudined. Large grains of phlogopite sitting inside boudins and in pyrrhotite layer.

Cu	Pb	Zn	Ag (ppm)
13	430	145	1.4

81-WA-37580R

Pyrrhotite Quartzite
Fine-grained dark green-grey pyrrhotite bearing impure quartzite with disseminated pyrite and possible chalcopyrite (minor).

Cu	Pb	Zn	Ag (ppm)
34	65	42	0.5

81-WA-37589R

"Breccia" calc-silicate skarn (diopside) contact with impure quartzite
Mineralization: Po
Some scheelite (<1%)

Cu	Pb	Zn	Ag	(ppm)
30	68	60	0.5	

81-WA-37590

Calc-silicate; "flam" structure (of diopside)
Mineralization: Po

Cu	Pb	Zn	Ag	(ppm)
20	24	52	0.1	

81-WA-37591

See 37531R.

Cu	Pb	Zn	Ag	(ppm)
27	19	70	0.1	

81-WA-37592R
(float)
subcrop?

Quartz vein (fracture filling) in fine-grained quartzite
Mineralization: coarse Ga in quartz vein (<1%); Po + fine Ga in quartzite (<1%?)

Cu	Pb	Zn	Ag	(ppm)
32	1300	630	25.0	

81-WA-37593R
(float)
subcrop?

Fine-grained Quartzite
Mineralization: Po (3%) (fine grain along layer); Cpy? (<1%)

Cu	Pb	Zn	Ag	(ppm)
166	45	130	1.5	

81-WA-37594R
(float talus?)

Altered Quartzite (in part vuggy)
Mineralization: medium-grained Po (5%) and altered fine-grained Ga + spha (2-3%), Py (massive)

Cu	Pb	Zn	Ag	(ppm)
54	520	9000	6.0	

81-WA-37595R

Layered Quartzite with biotite "banded"
Mineralization: Po (1%) in quartz layer (5 mm)

Cu	Pb	Zn	Ag	(ppm)
41	14	145	0.1	

81-WA-37596R

Fine quartzite in Calc-silicate (diopside) (thinly layered)
Mineralization: medium (massive) Po (4%)

Cu	Pb	Zn	Ag	(ppm)
138	18	75	1.5	

81-WA-37597R

Massive fine-grained quartzite, rusty (green, amph.)
Mineralizaton: Po
(skarnification of well layered quartzite)

Cu	Pb	Zn	Ag	(ppm)
750	7	130	10.0	

81-WA-37598R

Folded paragneiss
Well banded: Bi: 50%, Qtz: 30%, Feldspar: 20%
Mineralization: (in quartz layer)

Cu	Pb	Zn	Ag	(ppm)
67	5	145	0.3	

81-WA-37599R

Calc-silicate - Impure Limestone
Fine-grained amphibole + garnet and impure quartzite.
Manganese oxide stain.
Mineralization: Galena (3%) + Sphalerite? (fine-grained) diopside calc-silicate

Cu	Sb	As	Bi	(ppm)	Au	(ppb)	Pb	Zn	Ag
6550	2.8	5	0.1		<10		3.14%	2.30%	16.60 oz/ton

APPENDIX VII

PARTS OF:

ELECTRON MICROPROBE STUDY OF THE MINERALS IN NINE ROCK SAMPLES ASSOCIATED WITH SILVER MINERALIZATIONS

Claudia Gasparrini

October 29 1981

Prepared for:

CANADIAN O X Y
180 Attwell Drive,
4th Floor,
Rexdale, Ontario, M9W 6A9
Attention: R.M. Kuehnbaum

SAMPLE 81-CA-35586 Plates 9 and 10

Silver bearing minerals are tetrahedrite, $(Cu,Fe,Ag)_{12}Sb_4S_{13}$, most abundant, and acanthite, Ag_2S, distributed along fractures in the tetrahedrite and occasionally forming larger grains as in plate 9. The fractures in the tetrahedrite are filled by a secondary (?) mineral the chemical composition of which includes Sb, predominant, and minor amounts of Ag, Fe, Cu and S.

SAMPLE 81-CA-35514 No plates

No silver minerals were found in the section of this sample. Minerals observed are pyrite, partly altered to secondary Fe oxides, titanium oxides and silicates, and zircon.

SAMPLE 81-WA- 37513 MOX No plates

No silver minerals were found in the section of this sample. Minerals identified are galena, sphalerite and minor chalcopyrite. The chalcopyrite shows alteration rims of secondary minerals.

Some secondary iron oxide is also present.

SAMPLE 81-WA- 37578 MOX Plates 11 and 12

The sample consists of abundant chalcopyrite, bornite and secondary copper minerals including chalcocite and covellite. Both the chalcopyrite and bornite may show alteration rims of chalcocite-covellite. In some cases, the chalcocite-covellite completely replace the chalcopyrite and bornite (plate 12).

No minerals bearing Ag in major amounts were found. The element was detected in minor quantities (5 per cent and less) in the chalcocite-covellite and in even less quantities (0.5 to 1 per cent) in the bornite.

Secondary Fe oxide is relatively abundant (1-2 per cent of the section).

CANADIAN OXY

Canadian Occidental Petroleum Ltd.

RECEIVED 16 NOV 1981 MINING RECORDERS OFFICE WHITEHORSE, Y.T.

November 12, 1981

Mr. D. Jennings
Acting Mining Recorder
Whitehorse Mining District
Room 220, Federal Building
Whitehorse, Yukon
Y1A 2B5

Dear Sir:

As per the letter of R.M. Kuehnbaum of October 1st, 1981.

Please find enclosed a complete Statement of Expenditures for work done on the MOX claims with accompanying receipts and two complete copies of the 1981 report. The Application for Certificate of Work for 5 years extension and fees were previously submitted.

Yours very truly,

M.J. Crandall

M.J. Crandall
Geologist

MJC:SSM
Enclosure

55 cls. x 5 x 100.00 = $ 27,500.
55 cls. x 4 x 100.00 = $ 22,000.
55 cls x 1 x 100.00 = $5,500.00

Minerals Division — 180 Attwell Drive, 4th Floor, Rexdale, Ontario M9W 6A9
(416) 675-2312 Telex 06-989493

RECEIVED
16 NOV 1981
MINING RECORDERS OFFICE
WHITEHORSE, Y.T.

PROJECT WATSU

1981

Statement of Expenditures

Claims MOX 1-14, 16, 21-60

Record Numbers YA24721-34, 36, 41-80

1)	Salaries & Benefits	$ 27,510[1]
2)	Helicopter flying - 30.4 hours @ $412/hour	12,525[2]
3)	Geochemical Analyses	1,782[3]
	Sub Total	$ 41,817
4)	Administration @ 10%	4,183
	Total	$ 46,000

Notes:

1 Pro-rated on basis of 105 man-days worked on claims conducting geological/geochemical/geophysical surveys, at a unit cost of $262/man-day.

2 Helicopter flying completed by CanWest Aviation, Calgary, Alberta at a pro-rated unit cost of $412/hour (incl. fuel).

3 Geochemcal analyses completed by Chemex Labs of Vancouver, B.C., 430 soils at a unit cost of $3.10/sample; and 94 rocks at a unit cost of $4.80/sample.

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

Invoice # : I8113731
Date : 22-SEP-81
P.O. # : NONE
Project 120 WATBU-MO X

Invoice for analytical work reported on certificate(s) A8113731-001 to -003

Quantity	Analysed for code	description		unit price	amount
120	004 - Pb		ppm		
	005 - Zn		ppm		
	006 - Ag		ppm	3.25	390.00

Sample preparation and other charges :

112	201 - soil + sediment -80 mesh	0.60	67.20
8	203 - -35 mesh sieve + ring	1.50	12.00

TOTAL $ 469.20
Discount (20 %) $ 93.84

Please pay this amount ----> $ 375.36

TERMS -- NET 30 DAYS
2.0 % per month (24 % per annum) charged on overdue accounts

CTA MEMBER

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

To : CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

Invoice # : I8113733

Date : 15-SEP-81
P.O. # : NONE
Project Mix-WATBu

Invoice for analytical work reported on certificate(s) A8113733-001

Quantity	Analysed for code	description		unit price	amount
13	004 - Pb		ppm		
	005 - Zn		ppm		
	006 - Ag		ppm	3.25	42.25

Sample preparation and other charges :

13	201 - soil + sediment -80 mesh	0.60	7.80

TOTAL	$	50.05
Discount (20 %)	$	10.01
Please pay this amount ---->	$	40.04

ERMS -- NET 30 DAYS
.0 % per month (24 % per annum) charged on overdue accounts

CTA MEMBER CANADIAN TESTING

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

: CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

Invoice # : I8113732
Date : 15-SEP-81
P.O. # : NONE
Project [illegible]

nvoice for analytical work reported on certificate(s) A8113732-001 to -003

uantity	Analysed for code	description	unit price	amount
120	004 - Pb	ppm		
	005 - Zn	ppm		
	006 - Ag	ppm	3.25	390.00

Sample preparation and other charges :

118	201 - soil + sediment -80 mesh		0.60	70.80
2	203 - -35 mesh sieve + ring		1.50	3.00

TOTAL $ 463.80
Discount (20 %) $ 92.76

Please pay this amount ----> $ 371.04

RMS -- NET 30 DAYS
0 % per month (24 % per annum) charged on overdue accounts

CTA MEMBER CANADIAN TESTING ASSOCIATION

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

ɔ : CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.,
REXDALE, ONT.
M9W 6A9

Invoice # : I8113584
Date : 10-SEP-81
P.O. # : NONE
Project MOX CLAIM WATBU.

nvoice for analytical work reported on certificate(s) A8113584-001 to -006

uantity	Analysed for code	description		unit price	amount
219	004 - Pb		ppm		
	005 - Zn		ppm		
	006 - Ag		ppm	3.25	711.75

Sample preparation and other charges :

219	201 - soil + sediment -80 mesh	0.60	131.40

TOTAL	$ 843.15
Discount (20 %)	$ 168.63
Please pay this amount ---->	$ 674.52

RMS -- NET 30 DAYS
0 % per month (24 % per annum) charged on overdue accounts

CHEMEX LABS LTD.

212 BROOKSBANK AVE.
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE: (604)984-0221
TELEX: 043-52597

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

*** INVOICE ***

: CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION,
180 ATTWELL DRIVE, 4TH FLR.
REXDALE, ONT.
M9W 6A9

Invoice # : I8113730
Date : 15-SEP-81
P.O. # : NONE
Project WATSU - Mov

voice for analytical work reported on certificate(s) A8113730-001 to -003

antity	Analysed for code	description		unit price	amount
97	002 - Cu		ppm		
	004 - Pb		ppm		
	005 - Zn		ppm		
	006 - Ag		ppm	4.00	388.00

Sample preparation and other charges :

97	205 - Rock geochem - RING	2.00	194.00

TOTAL $ 582.00
Discount (20 %) $ 116.40

Please pay this amount ----> $ 465.60

RMS -- NET 30 DAYS
) % per month (24 % per annum) charged on overdue accounts

MEMBER
CANADIAN TESTING
ASSOCIATION

STATEMENT OF HELICOPTER EXPENSES

CANADIAN OCCIDENTAL SUMMER 1981 CONTRACT

CANWEST AVIATION

Total Rental	$ 48,000.00
Total hrs @ $195/hr x 273.5 hrs	53,332.50
Total fuel @ 22 gal/hr @ $2/gal x 261.1 hrs	11,488.40
TOTAL	$112,820.90

Pro-rated Cost/hr = $412.50

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2084

CHARTERER ____________ SHORT TERM CHARTER ☐ LONG TERM CHARTER ☐ DATE ____________ 19 ____

ADDRESS ____________ AIRCRAFT C - ____________

____________ PHONE ____________ PROJECT No. ____________

PILOT ____________ ENGINEER ____________ PURCHASE ORDER ____________

ITINERARY - REMARKS - DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Mox Clsim		1.9		
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REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
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WEATHER			FUEL & OIL	TOTAL REVENUE TIME	1.9
Clear			☐ OIL ☐ GAS ☐ TURBO		
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	214.2
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY:

Pilot's Signature

TO CHARTERER DAILY

Canwest Aviation Ltd.

DAILY FLIGHT REPORT

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2083

CHARTERER Canadian Occidental LTD

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

DATE [illegible] 19[illegible]

ADDRESS 100 [illegible] Dr 4th Floor

AIRCRAFT C - [illegible]

[illegible]

PHONE 625-2312

PROJECT No.

PILOT [illegible] C White

ENGINEER

PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
White Horse – [illegible]		.8		
[illegible]		1.6		
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REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
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WEATHER			FUEL & OIL	TOTAL REVENUE TIME	2.4		
Clear			☐ OIL ☐ GAS ☐ TURBO SUPPLIED BY CANWEST: ______ HRS. ______ GALS.				
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CHARTERER: ______ HRS. ______ GALS.	TOTAL TIME ON CONTRACT	212.3		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2085

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

CHARTERER Canadian Occidental Ltd DATE Aug 12 1981

ADDRESS 180 Attwell Dr 4th Floor AIRCRAFT C - GXZC

Rexdale Ont. PHONE 675-2310 PROJECT No.

PILOT [illegible signature] ENGINEER PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Wax Claim		1.8		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER				

WEATHER			FUEL & OIL	
Clear			☐ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME: 1.8
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ___ HRS. ___ GALS.	TOTAL TIME ON CONTRACT: 216.0
			SUPPLIED BY CHARTERER: ___ HRS. ___ GALS.	

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest AVIATION LTD.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2086

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

CHARTERER Canadian Occidental Ltd DATE Aug 13 19 81

ADDRESS 180 Attwell Dr 4th Floor AIRCRAFT C - G-XJB

Rexdale Ont PHONE 675-2310 PROJECT No.

PILOT Les C White ENGINEER PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Max Claim		1.4		
Whitehorse - Lapon - Return		1.9		
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REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
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WEATHER			FUEL & OIL				
Clear			☐ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME	3.3		
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.				
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	779.3		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2087

CHARTERER Canadian Occidental Ltd

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☑ DATE Aug 14 1981

ADDRESS 180 Attwell Dr 4th Floor AIRCRAFT C - GXJB

Rexdale Ont. PHONE 675-2812 PROJECT No. ______

PILOT Les C White ENGINEER ______ PURCHASE ORDER ______

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Mox Claim		2.0		
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REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
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WEATHER			FUEL & OIL	TOTAL REVENUE TIME	2.0		
Clear			☑ OIL ☐ GAS ☐ TURBO SUPPLIED BY CANWEST: 2 HRS. ______ GALS.				
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CHARTERER: ____ HRS. ______ GALS.	TOTAL TIME ON CONTRACT	221.3		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: S. Teter

Pilot's Signature Les C White

TO CHARTERER DAILY

Canwest Aviation Ltd.

DAILY FLIGHT REPORT

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2088

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

CHARTERER Canadian Occidental Ltd DATE Aug 15 19 84

ADDRESS 180 Attwell Dr 4th Floor AIRCRAFT C - GXTB

Rexdale Ont. PHONE 675-2310 PROJECT No.

PILOT [signature] ENGINEER PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Alex Claim		2.6		
Pick up Bill Sampson (BAT crew)		1.6		
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REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		

WEATHER			FUEL & OIL				
Clear			☑ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME	4.2		
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.				
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	226.5		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2089

CHARTERER Canadian Reclamation Ltd   SHORT TERM CHARTER ☐ LONG TERM CHARTER ☐ DATE Aug 16 19 81

ADDRESS 180 Attwell Dr. 4th Floor   AIRCRAFT C - CAXTR

Rexdale Ont.   PHONE 675-8810   PROJECT No.

PILOT K. C. Watt   ENGINEER   PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Wiox Claim		1.9		
Thatch & Hatch. Claim		5.1		
		.		
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REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
		.		

WEATHER			FUEL & OIL		
Clear			☐ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME	7.0
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.		
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	232.5

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2091

CHARTERER Canadian Occidental Ltd

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

DATE [illegible] 19 81

ADDRESS 180 Attwell Dr 4th Floor
Rexdale Ont

AIRCRAFT C - GXSR

PHONE 675-2811

PROJECT No.

PILOT [illegible]

ENGINEER

PURCHASE ORDER

ITINERARY - REMARKS - DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Flox Claim		3.4		
		.		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		

WEATHER			FUEL & OIL					
Clear			☑ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME	3.4		
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: 2 HRS. ____ GALS.				
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	235.9		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: D. [illegible]

Pilot's Signature [illegible]

TO CHARTERER DAILY

Canwest Aviation Ltd.

DAILY FLIGHT REPORT

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2092

CHARTERER Canadian Occidental Ltd

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☑

DATE Aug 19 1981

ADDRESS 180 Attwell Dr. 4th Floor
Rexdale Ont

AIRCRAFT C - GXSB

PHONE 675-2812

PROJECT No.

PILOT Les C White

ENGINEER

PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Mox Claim		3.3		
		.		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
		.		

WEATHER			FUEL & OIL	TOTAL REVENUE TIME	3 3		
Clear			☑ OIL ☐ GAS ☐ TURBO				
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	239.2		
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.				

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

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AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2093

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

CHARTERER [illegible] DATE [illegible] 19 [illegible]

ADDRESS [illegible] 4th Floor AIRCRAFT C – [illegible]

[illegible] Ont. PHONE [illegible] PROJECT No. ____

PILOT [illegible] ENGINEER ____ PURCHASE ORDER ____

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
[illegible]		1.7		
		.		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		

WEATHER			FUEL & OIL				
[illegible]			☐ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME	1.7		
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.				
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	246.9		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

Canwest Aviation Ltd.

DAILY FLIGHT REPORT

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2095

CHARTERER Canadian Occidental Ltd

☐ SHORT TERM CHARTER
☐ LONG TERM CHARTER

DATE [illegible] 19[illegible]

ADDRESS 180 Attwell Dr 4th Floor

Rexdale Ont

AIRCRAFT C - AXJA

PHONE 675-2910

PROJECT No.

PILOT [illegible]

ENGINEER

PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Thatch / Hatch Claims		2.0		
Watson General		2.0		
Max Claim		1.0		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
		.		
		TOTAL REVENUE TIME 5.0		
		TOTAL TIME ON CONTRACT 251.5		

WEATHER			FUEL & OIL
Clear			☐ OIL ☐ GAS ☐ TURBO
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [illegible signature]

Pilot's Signature [illegible signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2096

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

CHARTERER [illegible] LTD
DATE [illegible] 19[illegible]

ADDRESS [illegible] 5th Floor
AIRCRAFT C - GXTR

[illegible]
PHONE 675-2312
PROJECT No.

PILOT [illegible]
ENGINEER
PURCHASE ORDER

ITINERARY - REMARKS - DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
[illegible]		2.1		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
		.		
	TOTAL REVENUE TIME	2.1		
	TOTAL TIME ON CONTRACT	253.6		

WEATHER			FUEL & OIL
Clear			☐ OIL ☐ GAS ☐ TURBO
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY:

Pilot's Signature

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest AVIATION LTD

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2097

CHARTERER Canadian Occidental LTD

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☑ DATE Aug 24 19 81

AD..SS 180 Attwell Dr 4th Floor AIRCRAFT C - GXJB

Rexdale Ont PHONE 675-2310 PROJECT No.

PILOT Les C White ENGINEER PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Mox Claim		1.9		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
		.		
	TOTAL REVENUE TIME	1.9		
	TOTAL TIME ON CONTRACT	255.5		

WEATHER: Clear

CEILING | VISIBILITY | TEMP.

FUEL & OIL: ☑ OIL ☐ GAS ☐ TURBO

SUPPLIED BY CANWEST: ____ HRS. ____ GALS.

SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.

..HE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS .. CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY ..T FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE ..OR ..MINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: B. Tit

Pilot's Signature: Les C White

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2098

CHARTERER [illegible] LTD

SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐

DATE [illegible] 19

ADDRESS 180 Attwell Dr. 4th Floor
Rexdale Ont.

AIRCRAFT C - [illegible]

PHONE 675-2821

PROJECT No.

PILOT C. White

ENGINEER

PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
Hot 0 Spin		2.4		
		.		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
		.		
	TOTAL REVENUE TIME	2.4		
	TOTAL TIME ON CONTRACT	257.9		

WEATHER			FUEL & OIL
Clear / Smoke			☐ OIL ☐ GAS ☐ TURBO
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS.
			SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR [illegible]MINATION AT THE OFFICE OF CANWEST AVIATION LTD.

BY SIGNING THIS FLIGHT REPORT, I CERTIFY THAT I AM THE AUTHORIZED REPRESENTATIVE OF THE CHARTERER AND THE CHARTERER HEREBY AGREES TO PAY FOR ALL FLYING TIME SIGNED FOR BY ME, AS LAID OUT IN THE CARRIER'S TARIFF.

AGREED TO AND SIGNED FOR CHARTERER BY: [illegible]

Pilot's Signature [illegible]

TO CHARTERER DAILY

Canwest AVIATION LTD.

DAILY FLIGHT REPORT

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2099

CHARTERER Canadian [illegible] Ltd. SHORT TERM CHARTER ☐ LONG TERM CHARTER ☐ DATE [illegible] 19

ADDRESS 180 [illegible] DR. [illegible] Floor AIRCRAFT C - [illegible]

[illegible] PHONE 4[illegible]-2312 PROJECT No.

PILOT [illegible] ENGINEER PURCHASE ORDER

ITINERARY – REMARKS – DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
[illegible] Claim		2.0		
Thatch & Hatch		2.0		
Watso General		3.5		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		
WEATHER: Clear [illegible] / CEILING / VISIBILITY / TEMP. — FUEL & OIL: ☐ OIL ☐ GAS ☐ TURBO; SUPPLIED BY CANWEST: ___ HRS. ___ GALS.; SUPPLIED BY CHARTERER: ___ HRS. ___ GALS.	TOTAL REVENUE TIME	7.5		
	TOTAL TIME ON CONTRACT	265.4		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

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AGREED TO AND SIGNED FOR CHARTERER BY: [signature]

Pilot's Signature [signature]

TO CHARTERER DAILY

DAILY FLIGHT REPORT

Canwest Aviation Ltd.

675 AVIATION BOULEVARD N.E.
INTERNATIONAL AIRPORT
CALGARY, ALBERTA T2E 7G1

№ 2100

CHARTERER [illegible]
SHORT TERM CHARTER ☐
LONG TERM CHARTER ☐
DATE [illegible] 19

ADDRESS [illegible]
AIRCRAFT C - [illegible]

PHONE [illegible]
PROJECT No.

PILOT [illegible]
ENGINEER
PURCHASE ORDER

ITINERARY - REMARKS - DESCRIPTION OF JOB, ETC.	ZONE	HOURS	PAX.	FREIGHT
[illegible]		.9		
[illegible] Whitehorse		1.8		
		.		
		.		
		.		
		.		
		.		
REMARKS AND CREW EXPENSES CHARGEABLE TO CHARTERER		.		
		.		

WEATHER			FUEL & OIL				
[illegible]			☐ OIL ☐ GAS ☐ TURBO	TOTAL REVENUE TIME	2.7		
CEILING	VISIBILITY	TEMP.	SUPPLIED BY CANWEST: ____ HRS. ____ GALS. SUPPLIED BY CHARTERER: ____ HRS. ____ GALS.	TOTAL TIME ON CONTRACT	268.1		

THE CARRIAGE OF PASSENGERS, BAGGAGE AND GOODS INCLUDING EXTERNAL LOADS BY CANWEST IS SUBJECT TO THE TERMS, CONDITIONS AND LIMITATIONS OF LIABILITY SET FORTH IN ITS TARIFF FILED WITH THE A.T.C. AN EXTRACT OF WHICH IS AVAILABLE FOR EXAMINATION AT THE OFFICE OF CANWEST AVIATION LTD.

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AGREED TO AND SIGNED FOR CHARTERER BY:
Chris Richardson

Pilot's Signature [illegible]

TO CHARTERER DAILY


L 0+00
L 1+25 S
L 2+50 S
L 3+75 S
L 3+75 S
L 5+00 S
L 6+25 S
L 7+50 S
L 8+75 S
L 10+00 S
L 11+25 S
L 12+50 S
L 15+00 S
L 17+50 S
BL 0+00
A
B
C
D
mu-bi-QM
mu-(bi)-QM
bi-QM
bi-QM-m
QM
Pgn
CARIBOU CREEK
GEOLOGY LEGEND
UPPER CRETACEOUS OR YOUNGER
QV quartz vein
MID-CRETACEOUS
Intrusive Rocks
Qfp quartz (feldspar) porphyry
Ap aplite
Peg pegmatite
ms(±bi)QM muscovite (± biotite)-quartz monzonite
biQM biotite-quartz monzonite, biotite-granodiorite
biQM-m megacrystic (in part fluxion textured) biotite-quartz monzonite, megacrystic biotite-granodiorite
PROTEROZOIC
Metasedimentary Rocks
sk skarn-calc-silicate and quartzite rocks with no remnant fabric and/or bedding
cs well banded calc-silicate bearing metasediments and hornfelsed equivalents with garnet (gar) diopside (di), actinolite (act) and idocrase (ido)
qtzt quartzite, banded quartzite, minor quartz schist
qtzt_m micaceous quartzite
qtzt_po pyrrhotite bearing quartzite
qtzt_l thinly interlaminated impure recrystallized limestone and impure siliceous meta-sediments; quartzite >50% of unit
ls recrystallized limestone (marble), may contain thin bands of idocrase and other metasediments
ls_I thinly interlaminated impure recrystallized limestone
units containing ls_I
Pgn paragneiss, biotite-quartz-feldspar paragneiss; local minor diopside-calcite-quartz-gneiss (calc-gneiss)
SYMBOLS
Mineralization
po pyrrhotite
py pyrite
ga galena
sp sphalerite
Claim boundary
Picketed line
Line of section
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
GEOLOGY and ROCK
SAMPLE LOCATION
SCALE IN METRES
50 0 50 100 150 200
PLAN 1A
MJC/mjc/Nov, 1981
N
31° Magnetic North
MOX

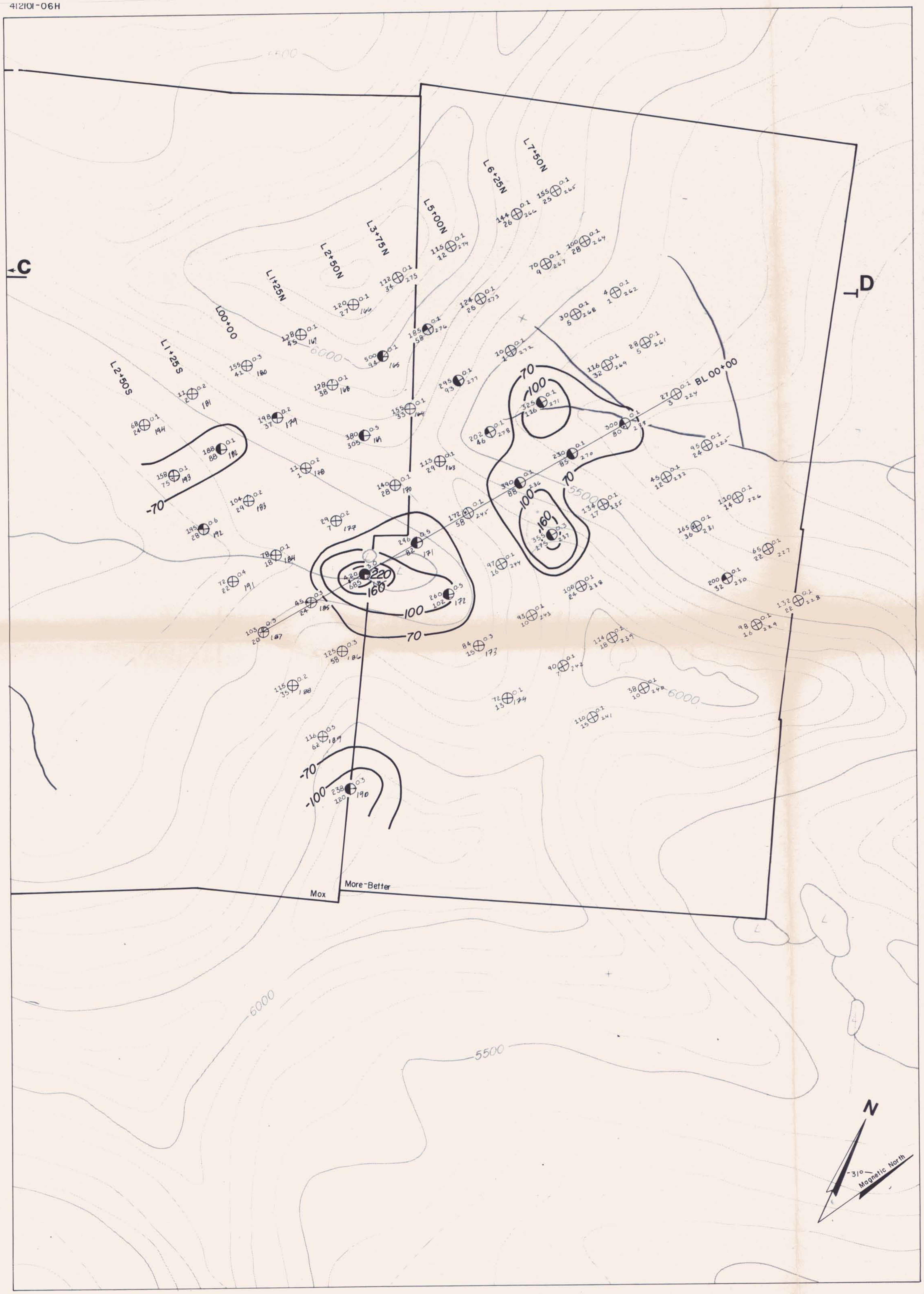
L 0 + 00
L 1 + 25 S
L 2 + 50 S
L 5 + 00 S
L 6 + 25 S
L 7 + 50 S
L 8 + 75 S
L 10 + 00 S
L 11 + 25 S
L 12 + 50 S
L 15 + 00 S
L 17 + 50 S
BL 0 + 00
A
B
C
D
MOX
MORE - BETTER
5500
6000
5000
Simplified form of PLAN 1a in this area
Claim boundary
Line of section
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX and MORE - BETTER CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
GEOLOGY and ROCK GEOCHEMISTRY
of MOX EAST and MORE - BETTER
SCALE IN METRES
100 50 0 100 200 300 400
PLAN 1b
MJM/ah/Oct.81
N
31°
Magnetic North


L00+00
L1+25S
L2+50S
L3+75S
L5+00S
L6+25S
L7+50S
L8+75S
L10+00S
L11+25S
L12+50S
L15+00S
L17+50S
BL 00+00
1A
1B
1C
2
3A
3B
4A
4B
5
6
A
B
C
D
CARIBOU
CREEK
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
SOIL GEOCHEMISTRY
Contoured Values
Pb
SCALE IN METRES
50 0 50 100 150 200
PLAN 2
MJC/ah/Sept.1981
N
31°
Magnetic North
LEGEND
All contours in ppm
70
100
160
220
2 Soil anomaly
Claim boundary
A D Line of section
x Mineralization
All values in ppm
Zn Ag Pb 81 WA sample number
ANOMALOUS
>180 >1.4 >80
PROBABLY ANOMALOUS
165-180 1.1-1.4 70-80

41Z(01-06F
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT, YUKON
N.T.S. 105-F
SOIL GEOCHEMISTRY
Contoured Values
Zn
SCALE IN METRES
50 0 50 100 150 200
PLAN 3
MJC/ah/Sept.1981
N
31°
Magnetic North
LEGEND
All contours in ppm
165
265
365
465
2 Soil anomaly
Claim boundary
A D Line of section
x Mineralization
All values in ppm
Zn Ag Pb 81 WA sample number
ANOMALOUS
>180 >1.4 >80
PROBABLY ANOMALOUS
165-180 1.1-1.4 70-80
BL 00+00
L00+00
L1+25S
L2+50S
L3+75S
L5+00S
L6+25S
L7+50S
L8+75S
L10+00S
L11+25S
L12+50S
L15+00S
L17+50S
1A
1B
1C
2
3A
3B
4A
4B
5
6
A
B
C
D
CARIBOU
CREEK
MOX


412101-066
BL00+00
L00+00
L1+25S
L2+50S
L3+75S
L5+00S
L6+25S
L7+50S
L8+75S
L10+00S
L11+25S
L12+50S
L15+00S
L17+50S
5
1A
1B
1C
2
3A
3B
4A
4B
6
A
B
C
D
CARIBOU
CREEK
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
SOIL GEOCHEMISTRY
Contoured Values
Ag
SCALE IN METRES
50 0 50 100 150 200
PLAN 4
MJC/ah/Sept.1981
N
31°
Magnetic North
LEGEND
All contours in ppm
1.1
2.8
4.0
8.0
12.0
2 Soil anomaly
Claim boundary
A D Line of section
x Mineralization
All values in ppm
Zn Ag Pb 81 WA sample number
ANOMALOUS
>180 >1.4 >80
PROBABLY ANOMALOUS
165-180 1.1-1.4 70-80
MOX

412101-06H



LEGEND

All contours in ppm

—70—

—100—

—160—

—220—

All values in ppm

Zn Ag / Pb 81 WA sample number

ANOMALOUS

>180 >1.4 / >80

PROBABLY ANOMALOUS

160-180 1.1-1.4 / 70-80

Claim boundary

A D Line of section

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
MOX and MORE-BETTER CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F

SOIL GEOCHEMISTRY
Contoured Values
Pb

N

Magnetic North

31°

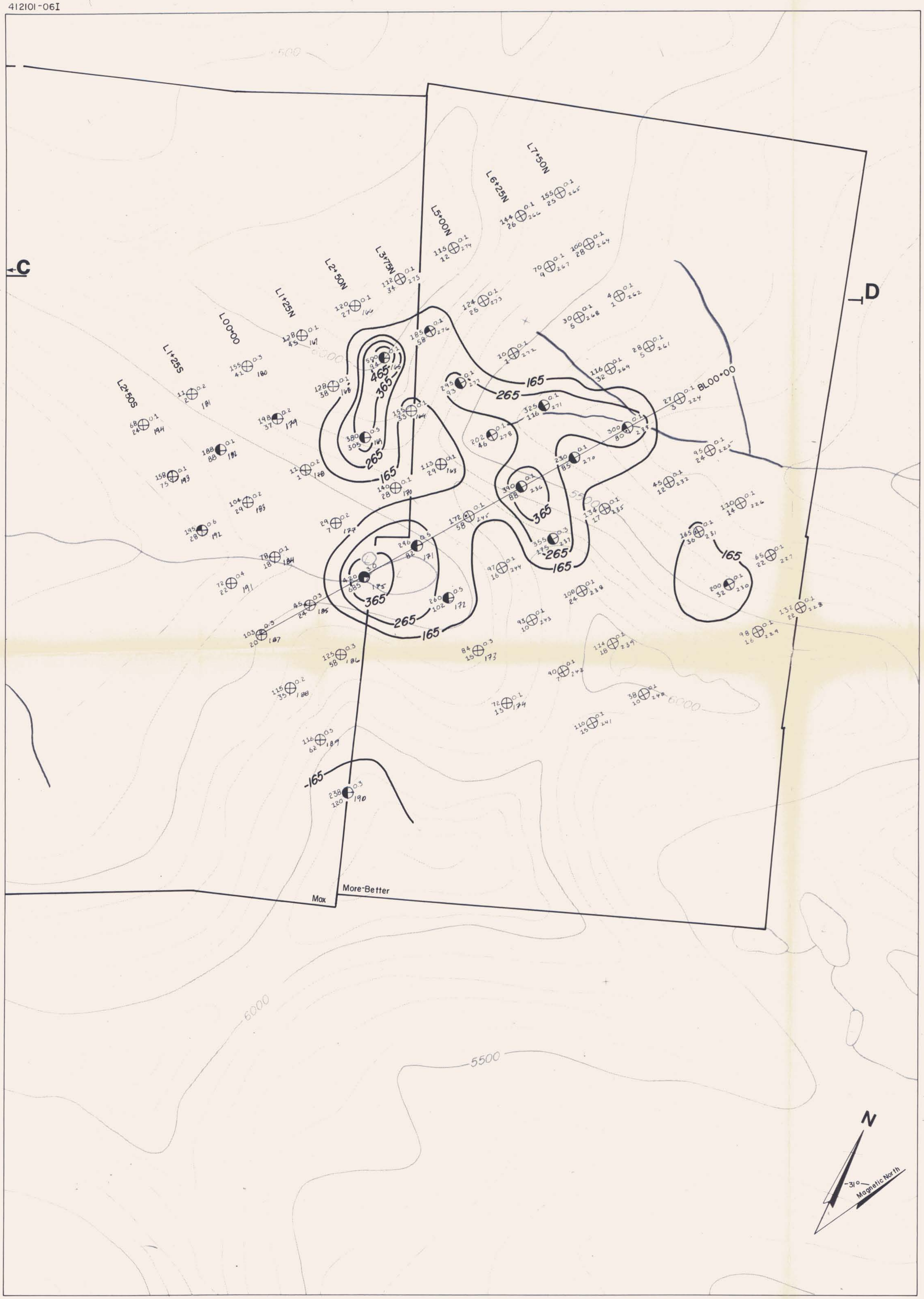
SCALE IN METRES

100 50 0 100 200 300 400

PLAN 5

MJC/ah/Sept.1981

412101-06I



LEGEND

All contours in ppm

—165—
—265—
—365—
—465—

All values in ppm

Zn Ag Pb 81 WA sample number

ANOMALOUS

>180 >1.4 >80

PROBABLY ANOMALOUS

160-180 1.1-1.4 70-80

Claim boundary

A D Line of section

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
MOX and MORE-BETTER CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F

SOIL GEOCHEMISTRY
Contoured Values
Zn

SCALE IN METRES

100 50 0 100 200 300 400

PLAN 6

MJC/ah/Sept 1981

LEGEND

All contours in ppm

—1.1—
—2.8—
—4.0—
—8.0—
—12.0—

All values in ppm

Zn Ag
Pb 81 WA sample number

ANOMALOUS

>180 >1.4
>80

PROBABLY ANOMALOUS

160-180 1.1-1.4
70-80

Claim boundary

A D Line of section

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PROJECT WATSU
MOX and MORE-BETTER CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F

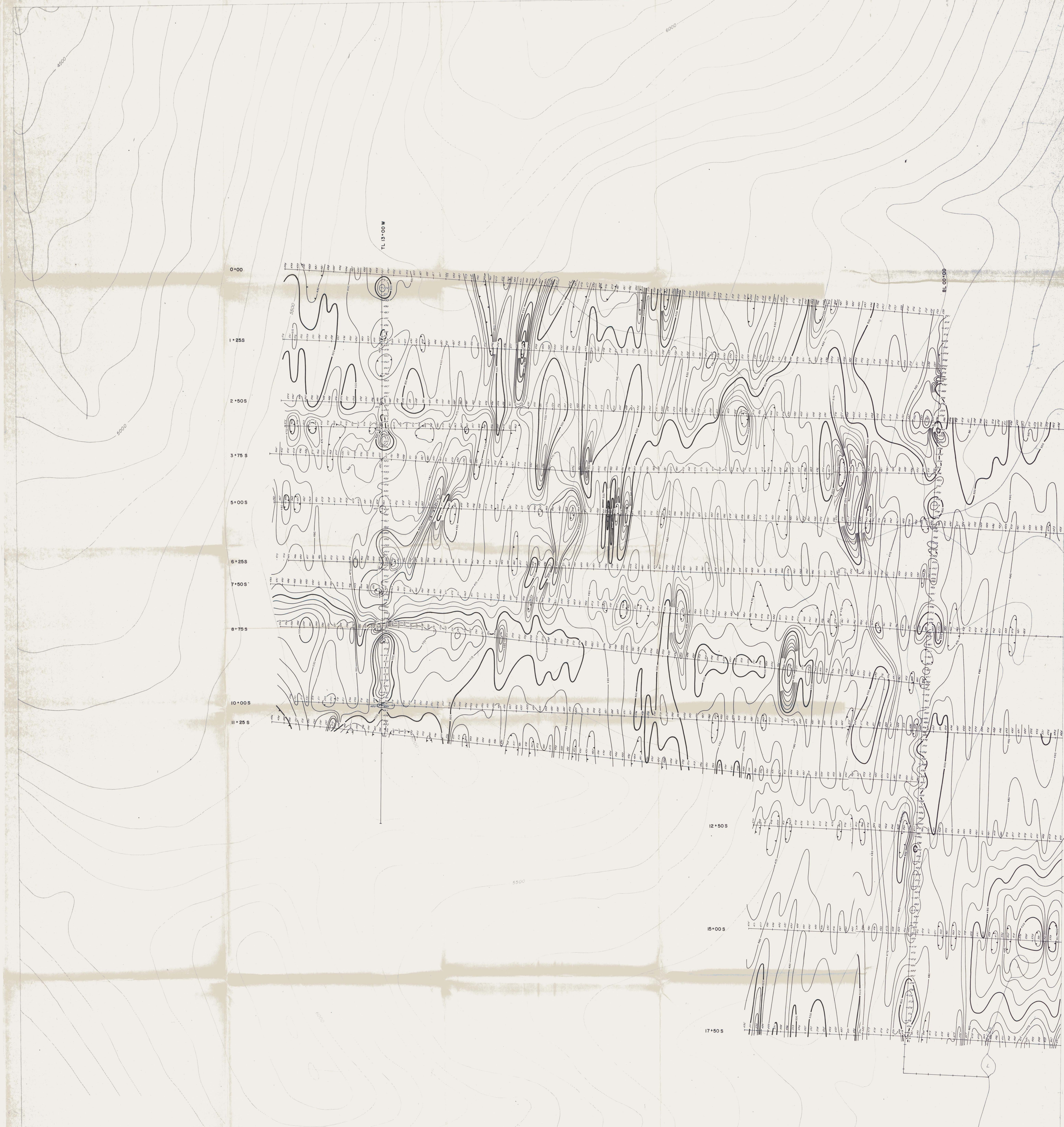
SOIL GEOCHEMISTRY
Contoured Values
Ag

SCALE IN METRES

100 50 0 100 200 300 400

PLAN 7

MJC/ah/Sept.1981



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PROJECT WATSU
MOX WEST CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F

MAGNETIC SURVEY
Total Field Contours

SCALE IN METRES
50 0 50 100 150 200

INSTRUMENT : G-816
Contour interval : 10 gammas (nT)
58000 gammas (nT) to be added for total field
Survey by P. Manojlovic

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PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
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VLF-EM SURVEY
Values of in-phase and quadrature components

SCALE IN METRES
50 0 50 100 150 200

PLAN 9

INSTRUMENT : GEONICS EM-16
TRANSMITTER: NLK, Seattle, Washington, f = 18·6 KHz

Quadrature Phase
In – Phase

Readings taken facing east
Survey and plotting by G. Mijac

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PROJECT WATSU
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VLF-EM SURVEY
Profiles of in-phase and quadrature components

SCALE IN METRES
50 0 50 100 150 200

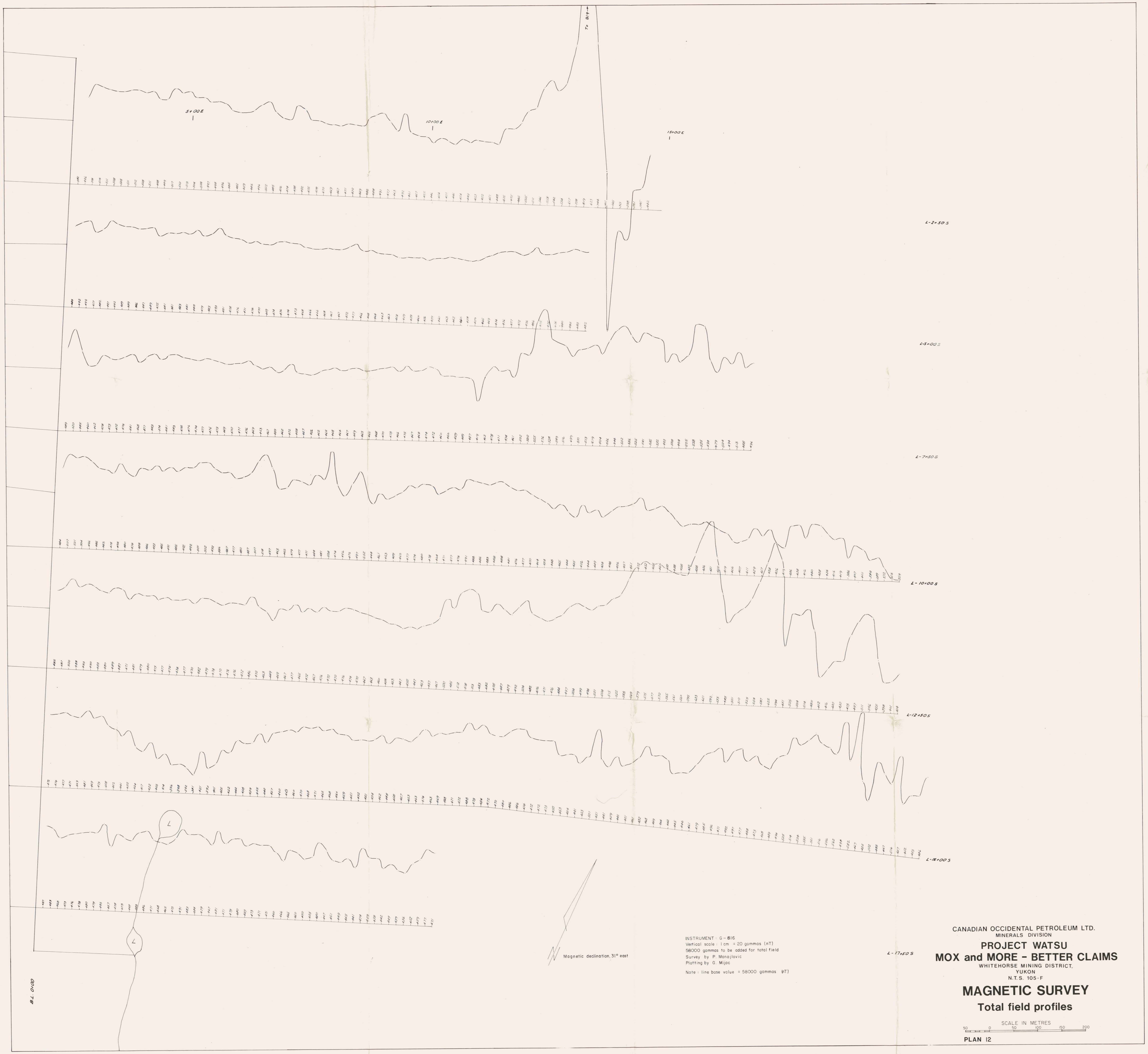
PLAN 10

N

INSTRUMENT : GEONICS EM-16
TRANSMITTER: NLK, Seattle, Washington, f = 18·6 KHz

+
—
Vertical Scale : 1 cm = 10 %
Survey and plotting by G. Mijac
In-phase
Quadrature phase
Readings taken facing east


TL 13+00 W
BL 0+00
0+00
1+25 S
2+50 S
3+75 S
5+00 S
6+25 S
7+50 S
8+75 S
10+00 S
11+25 S
12+50 S
15+00 S
17+50 S
4500
5000
6000
CARIBOU CREEK
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
VLF-EM SURVEY
Filtered in-phase contours
SCALE IN METRES
50 0 50 100 150 200
N
INSTRUMENT: GEONICS EM-16
TRANSMITTER: NLK, Seattle, Washington, f = 18·6 KHz
Contour interval: 5 %
Survey, plotting, and contouring by G. Mijac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MINERALS DIVISION
PROJECT WATSU
MOX and MORE - BETTER CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
MAGNETIC SURVEY
Total field profiles
SCALE IN METRES
50 0 50 100 150 200
PLAN 12
INSTRUMENT : G-816
Vertical scale : 1 cm = 20 gammas (nT)
58000 gammas to be added for total field
Survey by P. Manojlovic
Plotting by G. Mijac
Note : line base value = 58000 gammas (nT)
Magnetic declination, 31° east
L-2+50 S
L-5+00 S
L-7+50 S
L-10+00 S
L-12+50 S
L-15+00 S
L-17+50 S
5+00 E
10+00 E
15+00 E
BL 0+00

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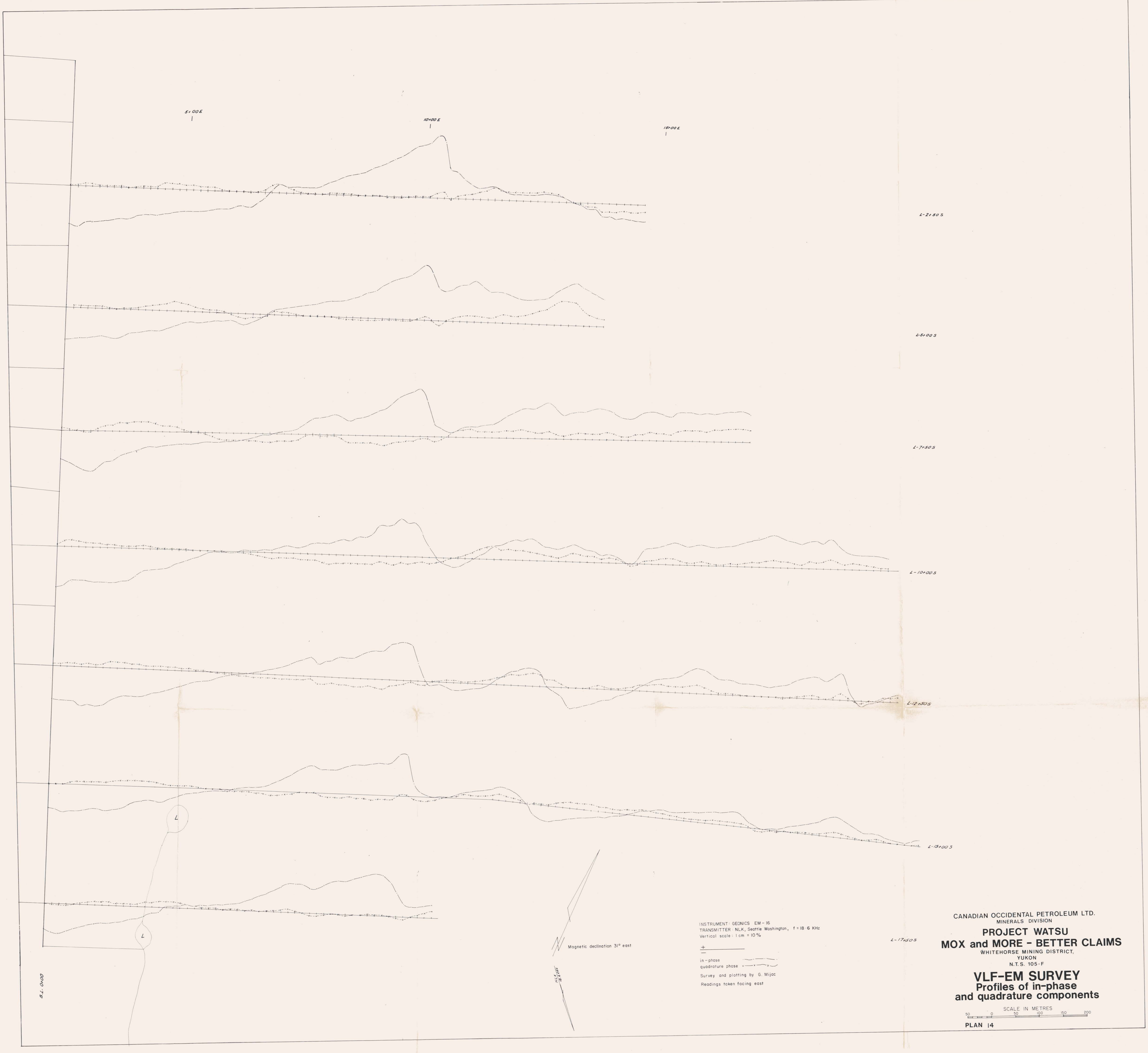
PROJECT WATSU
MOX and MORE - BETTER CLAIMS
WHITEHORSE MINING DISTRICT
YUKON
N.T.S. 105 F

VLF - EM SURVEY
Values of in - phase and quadrature components

PLAN 13



INSTRUMENT: GEONICS EM-16
TRANSMITTER: NLK, Seattle Washington, f = 18·6 KHz
Vertical scale: 1 cm = 10 %

+
—

in-phase
quadrature phase

Survey and plotting by G. Mijac

Readings taken facing east

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PROJECT WATSU

MOX and MORE - BETTER CLAIMS

WHITEHORSE MINING DISTRICT,
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VLF-EM SURVEY
Profiles of in-phase and quadrature components

SCALE IN METRES
50 0 50 100 150 200

PLAN 14

INSTRUMENT: GEONICS EM-16
TRANSMITTER: NLK, Seattle Washington, f = 18-6 KHz
Contour interval - 5 %
Survey, plotting, and contouring by G. Mijac

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YUKON
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VLF-EM SURVEY

Filtered in-phase contours

SCALE IN METRES
50 0 50 100 150 200

PLAN 15

LEGEND

Limit of magnetic unit and identification	3
Limit of magnetic body	
VLF-EM conductor axis and identification	V2
Lead-Zinc-Silver mineralization	+ Pb, Zn, Ag
Pyrrhotite	+ Po
Skarn	⊕ sk
Location of potential interest	(5)
Interpreted fault	〰 〰 〰

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PROJECT WATSU
MOX WEST CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
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VLF - EM and MAGNETIC SURVEY INTERPRETATION

SCALE IN METRES
50 0 50 100 150 200

PLAN 16A

Dwg. No. E.I.C. - 1126

MOX

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MINERALS DIVISION

PROJECT WATSU
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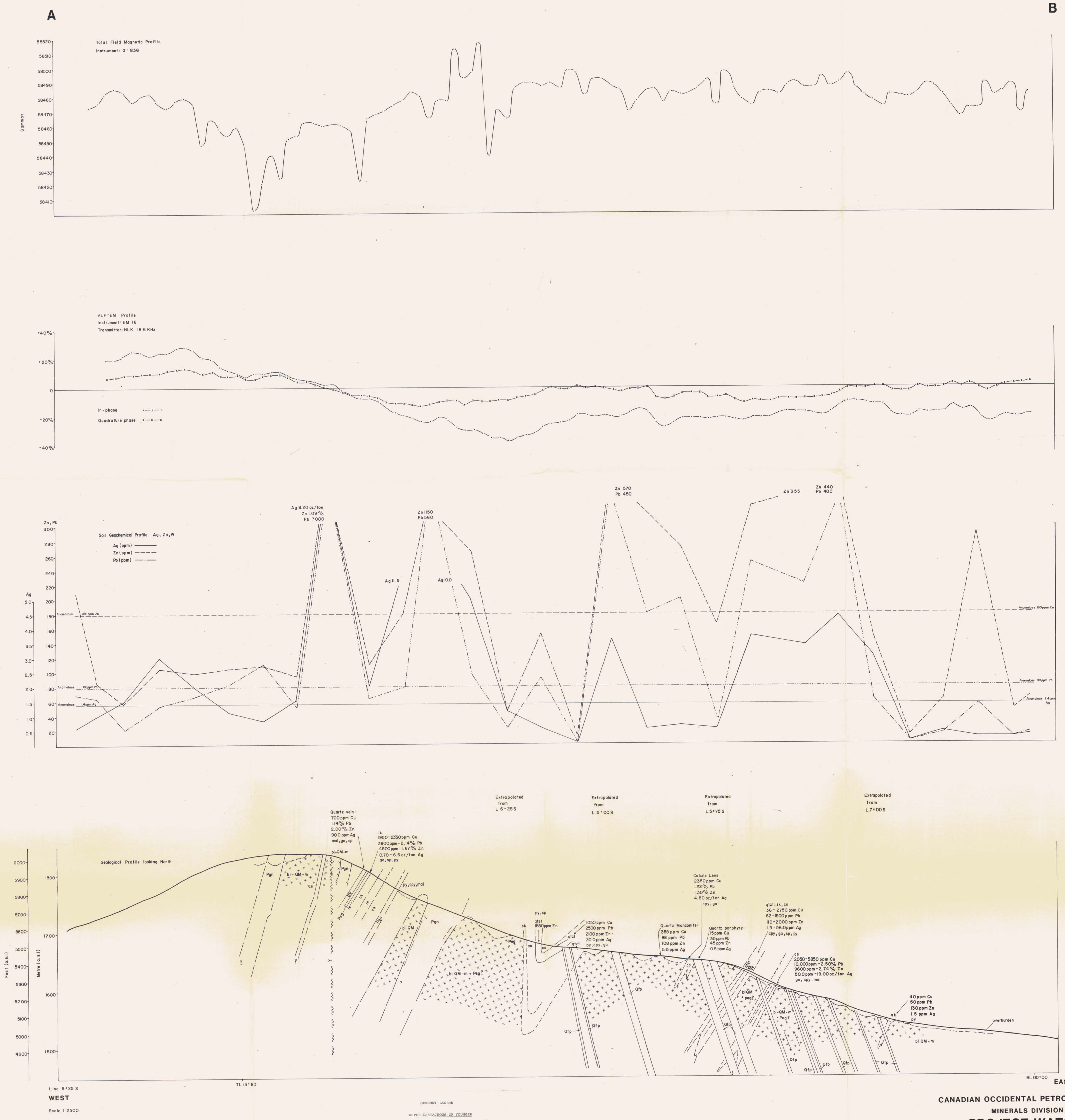
WHITEHORSE MINING DISTRICT
YUKON
N.T.S. 105 F
VLF - EM and MAGNETIC SURVEY INTERPRETATION

SCALE IN METRES
50 0 50 100 150 200

PLAN 16B Dwg.No.E.I.C. - 1127



GEOLOGY LEGEND

UPPER CRETACEOUS OR YOUNGER

QV	quartz vein

MID-CRETACEOUS

Intrusive Rocks

Qfp	quartz (feldspar) porphyry
Ap	aplite
Peg	pegmatite
ms(+bi)QM	muscovite (+ biotite)-quartz monzonite
biQM	biotite-quartz monzonite, biotite-granodiorite
biQM-m	megacrystic (in part fluxion textured) biotite-quartz monzonite, megacrystic biotite-granodiorite

PROTEROZOIC

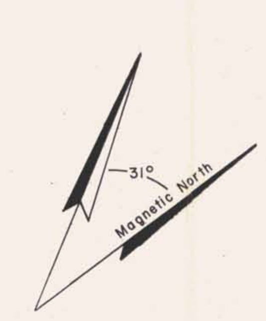
Metasedimentary Rocks

sk	skarn-calc-silicate and quartzite rocks with no remnant fabric and/or bedding
cs	well banded calc-silicate bearing metasediments and hornfelsed equivalents with garnet (gar) diopside (di), actinolite (act) and idocrase (ido), amphibole (amph)
qtzt	quartzite, banded quartzite, minor quartz schist
ls	recrystallized limestone (marble), may contain thin bands of idocrase and other metasediments
Pgn	paragneiss, biotite-quartz-feldspar paragneiss; local minor diopside-calcite-quartz-gneiss (calc-gneiss)

SYMBOLS

Mineralization

po	pyrrhotite
py	pyrite
ga	galena
sp	sphalerite
cpy	chalcopyrite
mal	malachite
———— — —	geological contact
〰	fault



CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

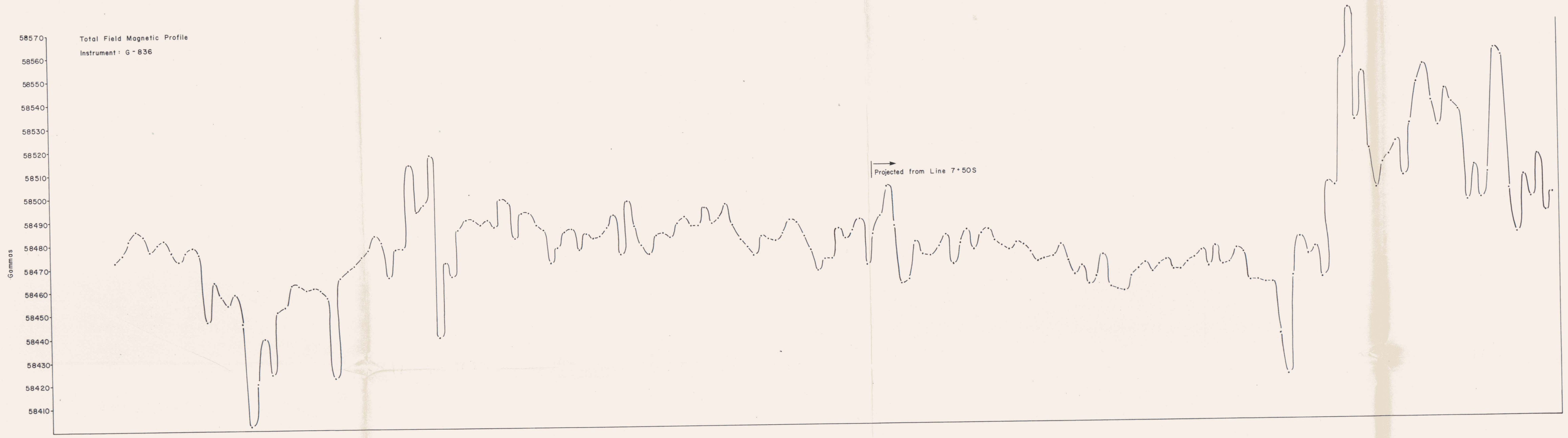
PROJECT WATSU
MOX CLAIMS

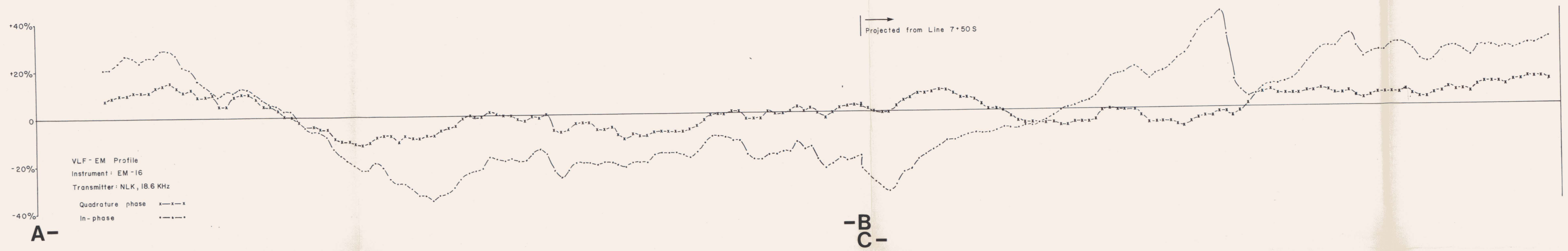
WHITEHORSE MINING DISTRICT
YUKON
N.T.S. 105 F

GEOLOGICAL, GEOCHEMICAL and GEOPHYICAL PROFILES A - B

PLAN 17 A

MJC/ah/Nov.1981





GEOLOGY LEGEND

UPPER*CRETACEOUS OR YOUNGER

QV	quartz vein

MID-CRETACEOUS

Intrusive Rocks

Qfp	quartz (feldspar) porphyry
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PROTEROZOIC

Metasedimentary Rocks

sk	skarn-calc-silicate and quartzite rocks with no remnant fabric and/or bedding
cs	well banded calc-silicate bearing metasediments and hornfelsed equivalents with garnet (gar) diopside (di), actinolite (act) and idocrase (ido), amphibole (amph)
qtzt	quartzite, banded quartzite, minor quartz schist
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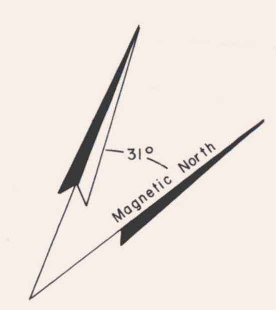
Pgn	paragneiss, biotite-quartz-feldspar paragneiss; local minor diopside-calcite-quartz-gneiss (calc-gneiss)

SYMBOLS

Mineralization

po	pyrrhotite
py	pyrite
ga	galena
sp	sphalerite
cpy	chalcopyrite
mal	malachite
———— — —	geological contact
〰	fault



CANADIAN OCCIDENTAL PETROLEUM LTD.

MINERALS DIVISION

PROJECT WATSU

MOX and MORE - BETTER CLAIMS

WHITEHORSE MINING DISTRICT

YUKON

N.T.S. 105 F

GEOLOGICAL and GEOPHYSICAL PROFILES A - D

PLAN 17 B

MJC/ah/Nov.,1981

41201-06T
L 0+00
L 1+25 S
L 2+50 S
L 3+75 S
L 3+75 S
L 5+00 S
L 6+25 S
L 7+50 S
L 8+75 S
L 10+00 S
L 11+25 S
L 12+50 S
L 15+00 S
L 17+50 S
TL 13+80 W
5
1B
1C
3B
3A
1A
2
4A
4B
A
9000 ppm Zn
1400 ppm Cu
6200 ppm Pb
6200 ppm Zn
1300 ppm Pb
25.0 ppm Ag
1850 ppm Zn
2650 ppm Zn
3450 ppm Cu
7500 ppm Pb
9600 ppm Zn
8.50 oz/ton Ag
2350 ppm Cu
1.22% Pb
1.30% Zn
4.80 oz/ton Ag
3750 ppm Cu
10000 ppm Pb
1.17% Zn
9.00 oz/ton Ag
2750 ppm Cu
1200 ppm Pb
830 ppm Zn
56.0 ppm Ag
5850 ppm Cu
1.25% Pb
1.30% Zn
11.00 oz/ton Ag
3.08% Pb
2.82% Zn
2.50% Pb
2.74% Zn
3450 ppm Cu
60.0 ppm Ag
1950-2350 ppm Cu
1.14%-2.14% Pb
1.67%-2.00% Zn
0.70-6.60 oz/ton Ag
1600-4450 ppm Cu
2.34%-2.45% Pb
2.57%-2.96% Zn
10.20 oz/ton Ag
1260 ppm Zn
13.5 ppm Ag
1100 ppm Zn
1750 ppm Cu
48.0 ppm Ag
45.0 ppm Ag
1050 ppm Cu
100 ppm Ag
5300 ppm Pb
6500 ppm Zn
985 ppm Pb
950 ppm Zn
300 ppm Cu
735 ppm Zn
GEOLOGY LEGEND
UPPER CRETACEOUS OR YOUNGER
QV quartz vein
MID-CRETACEOUS
Intrusive Rocks
Qfp quartz (feldspar) porphyry
Ap aplite
Peg pegmatite
ms(+bi)QM muscovite (+ biotite)-quartz monzonite
biQM biotite-quartz monzonite, biotite-granodiorite
biQM-m megacrystic (in part fluxion textured) biotite-quartz monzonite, megacrystic biotite-granodiorite
PROTEROZOIC
Metasedimentary Rocks
sk skarn-calc-silicate and quartzite rocks with no remnant fabric and/or bedding
cs well banded calc-silicate bearing metasediments and hornfelsed equivalents with garnet (gar) diopside (di), actinolite (act) and idocrase (ido), amphibole (amph)
qtzt quartzite, banded quartzite, minor quartz schist
qtzt m micaceous quartzite
qtzt po pyrrhotite bearing quartzite
qtzt 1 thinly interlaminated impure recrystallized limestone and impure siliceous meta-sediments; quartzite >50% of unit
ls recrystallized limestone (marble), may contain thin bands of idocrase and other metasediments
ls I thinly interlaminated impure recrystallized limestone
units containing ls I
Pgn paragneiss, biotite-quartz-feldspar paragneiss; local minor diopside-calcite-quartz-gneiss (calc-gneiss)
LEGEND
2 Soil anomaly
Soil Geochemistry
all values in ppm
Zinc
365
Lead
160
Silver
0.4
All values in ppm unless otherwise stated:
1980 Stream Sediment
location
anomalous values
1979 G.S.C.-URP Stream Sediment
location and values
1980 Heavy Minerals
location
probably anomalous levels (Sacks. 1979)
Rock Geochemistry (1981)
assays and high values
mineral occurrence
geological contact
outcrop
fault
antiform/synform
Line of section
Claim boundary
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
COMPILATION MAP
SCALE IN METRES
50 0 50 100 150 200
PLAN 18A
MJC/ah/Nov, 1981
N
31°
Magnetic North

42101-06T

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
MOX and MORE - BETTER CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F

COMPILATION MAP


412101-06A
MOX 1 YA 24721
MOX 2 YA 24722
MOX 3 YA 24723
MOX 4 YA 24724
MOX 5 YA 24725
MOX 6 YA 24726
MOX 7 YA 24727
MOX 8 YA 24728
MOX 9 YA 24729
MOX 10 YA 24730
MOX 11 YA 24731
MOX 12 YA 24732
MOX 21 YA 24741
MOX 22 YA 24742
MOX 23 YA 24743
MOX 24 YA 24744
MOX 25 YA 24745
MOX 26 YA 24746
MOX 27 YA 24747
MOX 28 YA 24748
MOX 29 YA 24749
MOX 30 YA 24750
MOX 31 YA 24751
MOX 32 YA 24752
MOX 41 YA 24761
MOX 42 YA 24762
MOX 43 YA 24763
MOX 44 YA 24764
MOX 45 YA 24765
MOX 46 YA 24766
MOX 47 YA 24767
MOX 48 YA 24768
MOX 49 YA 24769
MOX 50 YA 24770
MOX 51 YA 24771
MOX 52 YA 24772
L 0+00
L 1+25 S
L 2+50 S
L 3+75 S
L 3+75 S
L 5+00 S
L 6+25 S
L 7+50 S
L 8+75 S
L 10+00 S
L 11+25 S
L 12+50 S
L 15+00 S
L 17+50 S
BL 0+00
6000
CARIBOU CREEK
CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION
PROJECT WATSU
MOX WEST CLAIMS
WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F
BASE MAP
SCALE IN METRES
50 0 50 100 150 200
PLAN 0A
MJC/oh/Oct.81
N
LEGEND
Claim post
Claim boundary
Chained and picketed grid
Line and station

LEGEND

L00+00	Line and station number
	Chained and picketed grid
YA 24775	Tag number
MOX 55	Claim number
□	Claim post
━━	Claim boundary

N

31° Magnetic North

CANADIAN OCCIDENTAL PETROLEUM LTD.
MINERALS DIVISION

PROJECT WATSU
MOX and MORE-BETTER CLAIMS

WHITEHORSE MINING DISTRICT,
YUKON
N.T.S. 105-F

BASE MAP

SCALE IN METRES

100 50 0 100 200 300 400

PLAN OB

MJC/ah/Sept.81